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BIODIVERSITY (ACELLULAR LIFE/VARIETY OF LIFE)

1) CLASSIFICATION OF VIRUSES Where can viruses replicate? A) Animals B) Plants C) Bacteria D) All	D) All of these
2) _____ refers to removal or breakdown of capsid. A) Uncoating B) Assembly C) Integration D) Maturation	11) Viruses are classified into many groups on the basis of: A) Nucleic acid B) Capsid symmetry C) Host cell infectivity D) None of these
3) Cell theory does not explain: A) Fungi B) Virus C) Algae D) Protista	12) Viruses are _____ entity between living and non-living. A) Balanced B) Transitional C) Threshold D) None
4) In plants, tumors are induced due to: A) Bacteria B) Virus C) Fungi D) All of these	13) Viruses do not have: A) Fossil record B) Traces in history C) Reproductive ability D) Nucleic acid
5) It is a biological weapon: A) Radiation B) Chemical C) Virus D) All of these	14) Viruses use which of the following enzyme for break-down of bacterial cell wall? A) Lysozyme B) Lipase C) Protease D) Nuclease
6) These are largest animal viruses: A) HIV B) Poxviruses C) Covid-19 D) HBV	15) Which of the following has no nucleic acid? A) Bacteria B) Virus C) Prions D) Viroid
7) Viral proteins and genome in host cell are assembled at: A) Cytoplasm B) Cell wall C) Cell membrane D) Cell matrix	16) Which viruses enter the host cell as a whole? A) Plant virus B) Bacteriophages C) Animal virus D) None
8) Virus can bud from: A) RER B) Golgi complex C) Nuclear envelope D) All of these	17) Discovery of Viruses The branch that deals with the study of viruses is known as?
9) Virus transmission is affected by: A) Biotic factors B) Chemical factors C) Physical factors D) Both A and C	A) Entomology B) Virology C) Epidemiology D) Bacteriology
10) Virus when attack on unfamiliar organism, it is mutated many times and come as: A) More virulent and dangerous B) More mutated C) More transmissible	

18) According to Iwanowski what are soluble living germs?

- A) Bacteria B) Viruses
C) Fungi D) Both A and B

19) Earliest life form on earth is:

- A) Virion B) Viroid
C) Prion D) None

20) Louis Pasteur made vaccines for:

- A) Rabies B) Anthrax
C) Fowl cholera D) All of Above

21) Virus that was discovered in 1901:

- A) Yellow fever B) Tobacco mosaic
C) Bacteriophages D) Corona

22) When was the bacteriophage phenomena rediscovered by D'Herelle?

- A) 1918 B) 1917
C) 1920 D) 1990

23) When were bacteriophages discovered by Twort?

- A) 1915 B) 1920
C) 1910 D) 1820

24) **Structure of Viruses**

It is very stable and allows viruses to exist in water, air, and the ground:

- A) Nucleoproteins B) Nucleocapsid
C) Tail of virus D) None of the above

25) A chemical component that is not found in all viruses is:

- A) Protein B) DNA
C) Lipids D) RNA

26) A common polyhedral capsid shape of viruses is:

- A) Pentagon B) Cube
C) Icosahedron D) Pyramid

27) A structure which is located between the nucleocapsid and the envelope:

- A) Capsid B) Matrix protein

C) Envelop

D) Nucleocapsid

28) All of the following descriptions regarding viral multiplication and nucleic acids are true except that:

- A) Viruses contain DNA or RNA, not both
B) Viral mRNA, viral tRNA, and viral ribosomes are used in viral replication
C) Viruses replicate only in living cells
D) Viruses use the cell's biosynthetic machinery to synthesize copies of them

29) Causative agent of small pox is:

- A) DNA enveloped virus
B) RNA enveloped virus
C) DNA virus
D) RNA naked virus

30) HBV is:

- A) DNA enveloped virus
B) RNA enveloped virus
C) DNA Virus
D) RNA naked virus

31) Herpes simplex are caused by which virus?

- A) Adenovirus
B) Pox virus
C) Influenza Virus
D) Herpes virus

32) Icosahedral viruses have how many faces?

- A) 20 B) 30
C) 10 D) 40

33) Identify the true statement about virus:

- A) Viruses were discovered 2 billion years ago
B) Viruses came from outer space
C) Viruses evolved before bacteria
D) Viruses can infect all type of cells

34) In icosahedral, the capsomeres are

arranged in _____ triangles:

- A) 100 B) 200
C) 1000 D) None of these

35) In nucleus the ssDNA viral genome is converted to dsDNA by:

- A) DNA polymerase B) RNA polymerase
C) Cell enzymes D) Proteins

36) Infectious RNA without capsid:

- A) Virion B) Viroid
C) Prion D) Virus

37) It is incorrect about virus:

- A) Acellular nature B) DNA
C) RNA D) Metabolism

38) It is not true about viruses:

- A) Capsid has capsomeres
B) Both DNA and RNA together as genome
C) Some are enveloped
D) Many infect animals

39) It refers to the final changes within an immature virion that result in an infectious virus particle:

- A) Assembly B) Coating
C) Integration D) Maturation

40) Phage DNA incorporated into host DNA is referred as:

- A) T4 phage B) Provirus
C) Prophage D) Bacteriophage

41) Protein coat of a virus enclosing nucleic acid is called:

- A) Vector B) Capsid
C) Plasmid D) Genome

42) Protein coat of a virus enclosing nucleic acid is called?

- A) Vector B) Capsid
C) Plasmid D) Genome

43) Reverse transcriptase is a useful enzyme to have when:

- A) RNA virus converts its RNA to DNA
B) There are no host cells present
C) Nutrients are scarce
D) Spikes are forming in the new virus

44) The average diameter of large viruses is approximately:

- A) 100 to 160 nm B) 100 to 200 nm
C) 100 nm to 360 nm D) Always below than 100 nm

45) The complete, mature and infectious particle is known as:

- A) Capsid B) Virion
C) Bacteriophage D) Nucleus

46) The function of a viral capsid is?

- A) Protection against the viral genome from physical and enzymatic destruction
B) Providing binding sites that enable the virus to attach to specific receptor sites on the host cell
C) Serving as a vehicle of transmission from one host to another
D) All of the above

47) The genome of the virus includes:

- A) Deoxyribonucleic acid
B) Ribonucleic acid
C) Amino acids
D) Deoxyribonucleic acid or Ribonucleic acids

48) The numbers of capsomeres found in adenovirus capsid is:

- A) 162 B) 200
C) 252 D) 155

49) The numbers of capsomeres found in herpes virus capsid is:

- A) 162 B) 200
C) 234 D) 155

- 50)** The size of viruses is usually measured in:
A) Centimeters B) Micrometers
C) Nanometers D) Millimeters
- 51)** The viral DNA or RNA is protected by:
A) Shell of lipids
B) Shell of proteins
C) Shell of carbohydrates
D) Shell of amino acids
- 52)** Viral envelope is composed of:
A) Proteins B) Glycoproteins
C) Lipids and proteins D) All of the above
- 53)** Viroids lacks:
A) RNA
B) Enzyme
C) Protective protein coat
D) All of these
- 54)** Virus differ from bacteria by:
A) Having capsids B) Having DNA
C) Having RNA D) Having ribosomes
- 55)** Virus is composed of:
A) Nucleic acid and capsid
B) RNA only
C) Genome D) Capsid
- 56)** Viruses are limited in their host range because?
A) Can only replicate in certain types of cells
B) Certain cells are susceptible to viral infections
C) They can only enter cells that have proper/specific receptors
D) They can only enter cells with glycoproteins
- 57)** Viruses replicate on their own:
A) Too small
B) Lack metabolic machinery
C) Have no cell wall
D) All of these
- 58)** Viruses without nuclear envelope are called as:
A) Icosahedral vims B) Naked virus
C) Enveloped virus D) Bilayer virus
- 59)** What are the subunits of capsids?
A) Capsomeres B) Flagella
C) Hyphae D) Septa
- 60)** What does an icosahedral capsid consists of?
A) Hexagonal capsomeres
B) Pentagonal capsomeres
C) Triangular Capsomeres
D) Both A and B
- 61)** What does the size of virus ranges between?
A) 100 nm to 150 nm
B) 20 nm to 250 nm
C) 300 nm to 3000 nm
D) 3 nm to 30 nm
- 62)** What is a Provirus?
A) Free virus B) Free DNA
C) Primitive vims D) Integrated viral genome
- 63)** What is the approximate diameter of retroviruses?
A) 150 nm B) 100 nm
C) 200 nm D) 250 nm
- 64)** What is the shape of the TMV?
A) Rod B) Helical
C) Tadpole D) Spherical
- 65)** What is the size of Parvovirus?
A) 200nm B) 30nm
C) 20nm D) 100nm

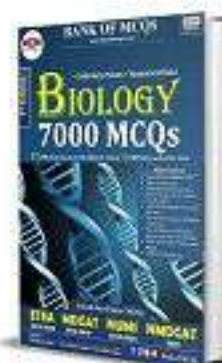
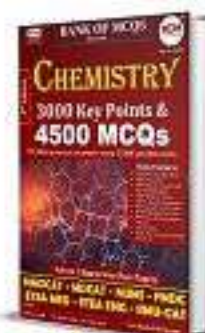
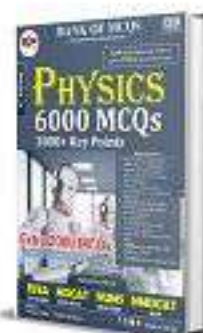
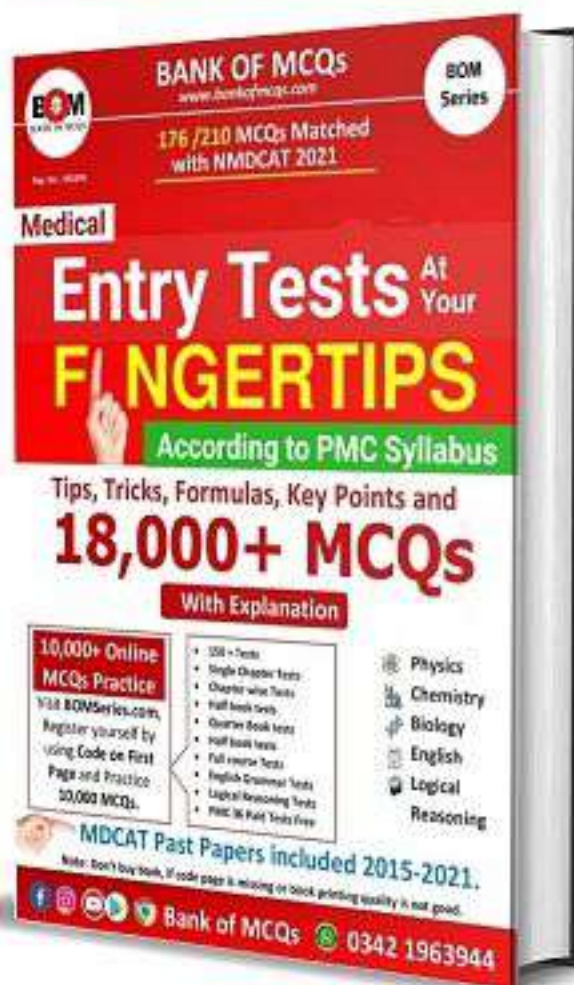
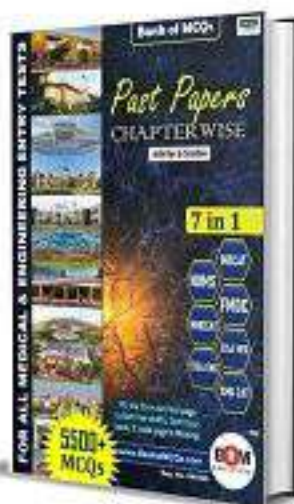
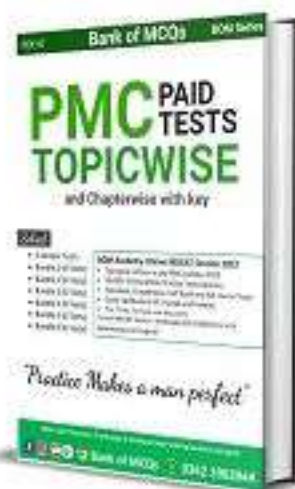
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| 66) What is the viral nucleocapsid made up of?
A) Genome and capsid
B) Capsid and spikes
C) Envelope and capsid
D) Capsomere | A) Capsomeres B) Size of virus
C) Whole capsid D) Internal proteins |
| 67) What molecule would you not expect to find in a retrovirus?
A) Adenine B) Thymine
C) Uracil D) Guanine | 74) Which of the following are the main functions of the capsid?
A) Determines the antigenic specificity of the virus
B) Protects genetic material from nuclease attack
C) Both A and B
D) None of the above |
| 68) What type of virus is the herpes simplex virus?
A) DNA enveloped virus
B) RNA enveloped virus
C) DNA virus
D) RNA naked virus | 75) Which of the following has morphology of a helical virus?
A) TMV B) T4 Phage
C) Poxvirus D) Herpes virus |
| 69) What type of virus is the smallpox virus?
A) DNA enveloped virus
B) RNA enveloped virus
C) DNA virus
D) RNA enveloped virus | 76) Which of the following is not a described type of virus?
A) Virus containing double strand DNA
B) Virus containing single strand DNA
C) Virus containing single strand RNA
D) Virus containing single strand RNA and single strand DNA |
| 70) What type of viruses are the paramyxoviruses?
A) DNA enveloped virus
B) RNA enveloped virus
C) DNA virus
D) Naked virus | 77) Which of the following is not true of a virion?
A) Reproduce independently
B) Contain DNA
C) Contain RNA
D) Extracellular |
| 71) What types of viruses is the poliovirus?
A) DNA enveloped virus
B) RNA enveloped virus
C) DNA naked virus
D) RNA naked virus | 78) Which of the following statement is not true of viruses?
A) Viruses have been successfully grown in pure cultures in test tubes
B) All viruses are obligate intracellular parasites
C) All viruses have either DNA or RNA as their genetic material
D) Viruses probably arose from small fragments of cellular chromosomes |
| 72) When a virus enters a cell and incorporates its RNA or DNA into host DNA, what is this stage called?
A) Lysogeny B) Fermentation
C) Symbiosis D) Synergism | 79) Which of the following statements are true about the viruses? |
| 73) Which factors may help to determine the antigenicity of a virus? | |



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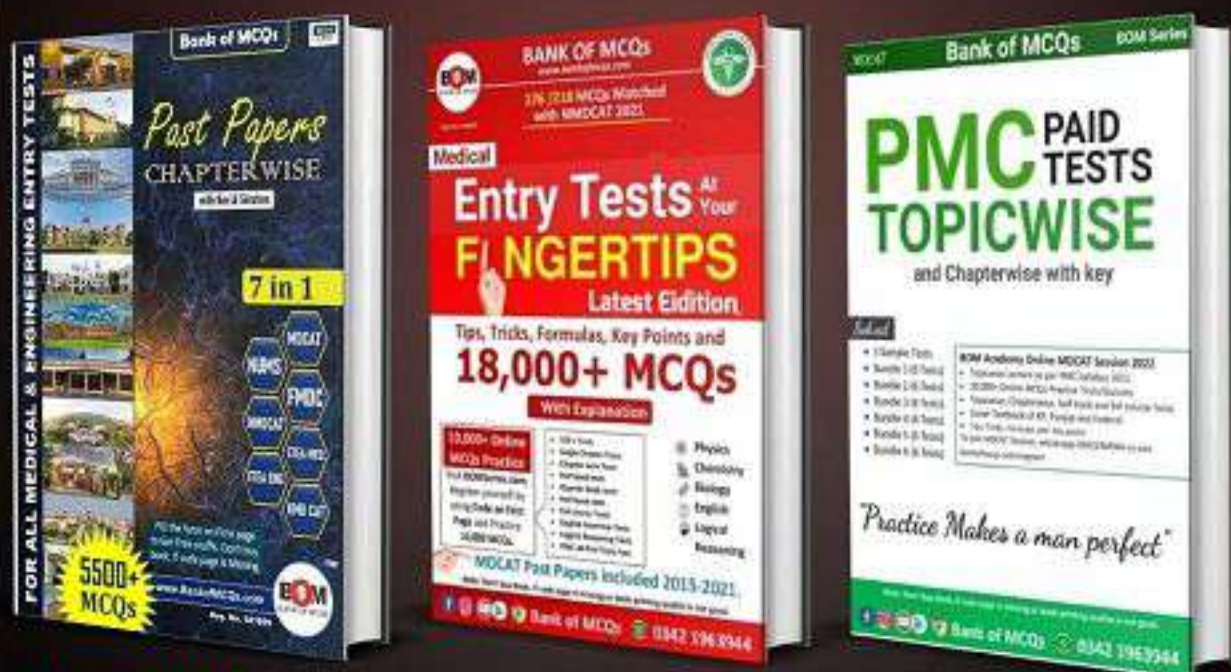


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<p>A) Free living B) Obligate parasites C) Both A and B D) None of the above</p>	<p>85) A person with viral load of HIV 1 if untreated leads to: A) Cancer B) Hepatitis C) Jaundice D) AIDS</p>
<p>80) Which of the following statements explains why viruses are only able to multiply in living cells? A) Their binary fission is controlled by host cell genes B) Virus do not possess the necessary components for self-replication C) DNA is only able to replicate inside living cells D) They have only enough genetic information for DNA replication</p>	<p>86) A remarkable feature of pox virus: A) Largest in size B) DNA genome C) Envelope D) None of these</p> <p>87) AIDS is caused: A) Human immunodeficiency virus B) Paramyxoviruses C) Influenza Virus D) Retroviruses</p>
<p>81) Which of the following virus is enveloped? A) Adenovirus B) Herpes virus C) Poliovirus D) None of these</p>	<p>88) AIDS was firstly reported in which types of individuals? A) Heterosexuals B) Homosexuals C) Both D) None</p>
<p>82) Which of the following viruses possess an envelope? A) Herpes virus B) Reovirus C) Polio virus D) Papillomavirus</p>	<p>89) All are HIV symptoms except: A) Sore throat, chills, fever, body aches B) Chills, fever, flu, muscle cramps C) Cardiac arrest, bloody stools, chills D) Rash, fatigue, mouth ulcers</p>
<p>83) Viral Disease (For Example AIDS) The Long chains of HIV-Proteins is cut down by proteases of: A) HIV B) Host proteases C) Both viral and host proteases D) None of these</p>	<p>90) All of the following are the current preventive methods of HIV infection except: A) Safe and protected lifestyle B) Use of sterile injections and needles C) Use of available vaccines D) Safe blood transfusion methods</p>
<p>84) _____ is associated with a number of tumors in humans: A) HSV-2 B) Varicella-zoster virus C) Oncoviruses D) Picomavirus</p>	<p>91) Chimpanzee has _____ instead of HIV. A) SIV B) CIV C) HBV D) HIV-2</p> <p>92) Edward Jenner prepared vaccine against: A) Small pox B) Mumps C) Measles D) Chicken pox</p>

- 93)** For attachment rabies virus bind to:
A) Complement receptor
B) Integrin ICAM-1
C) Acetylcholine receptor
D) Epidermal growth factor
- 94)** For the synthesis of mRNA, HIV uses:
A) Viral RNA polymerase
B) Cytoplasmic RNA polymerase
C) Host RNA polymerase
D) None of the above
- 95)** Genetically engineered vaccine is available for which of the following hepatitis virus?
A) HBV
B) HAV
C) HCV
D) Both A and B
- 96)** HAV is transmitted by:
A) Faeces
B) Sexual contact
C) Blood
D) All of these
- 97)** Hepatitis D also known as:
A) Serum hepatitis
B) Infectious hepatitis
C) Bacterial hepatitis
D) Delta hepatitis
- 98)** HIV differs from many viruses because it has high genetic:
A) Sensitivity
B) Complexity
C) Variability
D) Viability
- 99)** HIV mainly attacks on:
A) CD4 site of T cells
B) B cells
C) White blood cells
D) None of these
- 100)** How the HIV is transmitted?
A) Sexual contact
B) Blood
C) Breast feeding
D) All of the above
- 101)** In what year did WHO declare that smallpox was completely eradicated?
A) 1990
B) 2001
C) 1980
D) 1995
- 102)** In which year causative agent of AIDS was named?
A) 1986
B) 1980
C) 1992
D) 1970
- 103)** Influenza is caused by:
A) Adenovirus
B) Pox virus
C) Influenza Virus
D) Herpes virus
- 104)** Influenza virus protein HA binds with residues found on the surface of respiratory epithelial cells.
A) Uncoding protein
B) Sialic acid
C) Antigen P
D) Antigen HI
- 105)** is usual causative agent of genital herpes.
A) HSV-1
B) HSV-2
C) Both A and B
D) None of these
- 106)** It is true about Mumps:
A) Can affect testes and ovaries
B) Passive immunization is only treatment
C) Vaccine is not available for this
D) Widely spread
- 107)** Mad cow disease is caused by which of the following:
A) Prion
B) Virus
C) Bacteria
D) Both A and B
- 108)** Major cell infected by HIV:
A) T killer lymphocytes
B) T helper lymphocytes
C) T suppressor lymphocytes
D) T memory lymphocytes
- 109)** Mumps and Measles are caused by which of the following?
A) Adenoviruses
B) Pox viruses
C) Influenza viruses
D) Paramyxoviruses
- 110)** People with chronic hepatitis are at risk of:
A) kidney damage
B) Liver damage

C) Heart damage D) Lung damage

C) HBV

D) HDV

111) Pigs are reservoir of:

- A) HAV B) HBV
C) HCV D) HEV

112) Pox virus is different from all others due to:

- A) Structure B) Size
C) Nucleic acid D) All of above

113) Poxvirus has:

- A) Double stranded DNA
B) Single stranded DNA
C) Double stranded RNA
D) Both A and C

114) Prominent symptoms of AIDS:

- A) Pneumonia
B) Rapid weight loss
C) Extreme and unexplained tiredness
D) All of these

115) Retro viruses are characterized by:

- A) Lack envelope
B) Have no capsid
C) Reverse transcriptase enzyme
D) DNA genome

116) SIV is the abbreviation of:

- A) Simian immunodeficiency virus
B) Silurian immunodeficiency virus
C) Siberian immunodeficiency virus
D) Both A and C

117) The enzyme which plays important role in HIV pathogenesis:

- A) RNA polymerase I
B) DNA polymerase II
C) Reverse Transcriptase I
D) Reverse Transcriptase

118) The genetically engineered vaccine is not available for which of the following?

- A) HAV B) HCV

119) The Herpes virus is responsible for which of the following types of Herpes?

- A) Simplex B) Quadruplex
C) Triplex D) Duplex

120) The replication of the HIV nucleic acid depends on:

- A) Replicase B) Reverse transcriptase
C) Transcriptase D) Reverse replicase

121) There is no vaccine against HIV. What is the possible reason for this?

- A) Virus mutates rapidly
B) Vaccine is very expensive
C) Vaccine can be controlled by change in hygiene
D) None of these

122) This locks the HIV genome into capsid:

- A) Gag protein B) Env protein
C) Pol protein D) All of these

123) Three stages of HIV infection are:

- A) Acute infection Chronic infection
AIDS
B) AIDS Acute infection
Chronic infection
C) Chronic infection AIDS Acute infection
D) Acute infection AIDS Chronic infection

124) Viral genome is integrated into host genome by which of the following enzymes?

- A) Integrase
B) DNA incorporase
C) Reverse transcriptase
D) Protease

125) Virus for making viral DNA uses whose RNA polymerase:

- A) Host
- B) Viral
- C) Encoded by viral genome
- D) None

126) What is meant by HIV-Positive?

- A) A person has AIDS
- B) A person having two positive tests for HIV
- C) A person can transmit the HIV
- D) A person is safe from aids

127) When did experimental administration of the HIV virus begin?

- A) 2001
- B) 1999
- C) 2005
- D) 2000

128) Whenever a virus encounters an unfamiliar organism, the virus may undergo multiple mutations and emerge as a variant that produces:

- A) Severe and novel disease
- B) Novel disease
- C) Non mutated
- D) None of these

129) Where does the AIDS virus infect?

- A) RBCs
- B) Platelets
- C) Leukocytes
- D) None

130) Which can convert normal cells into cancer cells?

- A) Retrovirus
- B) Adenovirus
- C) Poliovirus
- D) All

131) Which of the following is more virulent?

- A) HIV-2
- B) HIV-1(a)
- C) HIV-1
- D) HIV-2 (a)

132) Which of the following is not a component of HIV?

- A) RNA
- B) Ribosomes

133) Which of the following is not a viral disease?

- A) Smallpox
- B) AIDS
- C) Tetanus
- D) Cowpox

134) Which of the following molecule facilitates the entry of HIV in human body?

- A) Liposomes
- B) Glycoprotein
- C) Polysaccharides
- D) Lipopolysaccharides

135) Which of the following statement correctly describes the tobacco mosaic virus?

- A) RNA virus
- B) DNA virus
- C) Bacteriophage
- D) dsDNA virus

136) Which specialized enzyme do retrovirus have?

- A) DNA polymerase
- B) Ligase
- C) Reverse transcriptase
- D) Helicase

137) Which virus causes the second major form of hepatitis?

- A) Hepatitis A
- B) Hepatitis B
- C) Hepatitis C
- D) Hepatitis D

138)

Out of Syllabus

Bacteriophages, or phages are also known as:

- A) Bacteria facilitator
- B) Bacteria eater
- C) Animal viruses
- D) Plant viruses

139) Bacteriophages have been used widely in genetic research, since they are the smallest and simplest biological entities capable of:

- A) Self-replication in host cell
- B) Duplication
- C) Self-duplication
- D) Multiplication in host cell

- 140)** Binary fission occurs in which stage of the bacteriophage life cycle?
A) Lysogenic cycle B) Lytic cycle
C) Both A and B D) None
- 141)** Binomial nomenclature was introduced by:
A) C. Linnaeus B) L. Margulis
C) J. Schleiden D) R. Whittaker
- 142)** During lytic cycle how many phages are released from infected host cell:
A) 100-300 B) 100-500
C) 100-200 D) 100-400
- 143)** How many bacteriophages are formed after 25 minutes of initial infection?
A) 250 B) 200
C) 150 D) 100
- 144)** In which step is lysozyme released by the bacteriophage?
A) Attachment B) Penetration
C) Injection D) Replication
- 145)** Pathogens inside body are killed by:
A) Antibodies B) Immune system cells
C) Interferon D) All of these
- 146)** The bacteriophage incorporates in the viral genome in which phase?
A) Lysogenic cycle B) Both
C) Lytic cycle D) None
- 147)** The phage that causes the lysogenic cycle is?
A) Virulent phage B) Lytic phage
C) Temperate phage D) Both A and B
- 148)** The phage that causes the lytic cycle is called:
A) Virulent phage B) Lytic phage
C) Temperate phage D) Both A and B
- 149)** The structure of which bacteriophage resembles a tadpole?
A) T2 B) T4
C) Both A and B D) None
- 150)** These viruses usually occur in two structural forms:
A) HIV B) HCV
C) Bacteriophage D) COVID-19
- 151)** They show complexity:
A) Influenza virus B) Herpes virus
C) T4 virus D) All of these
- 152)** Viral DNA, incorporated into bacterial DNA, is called:
A) T4 phase B) Bacteriophage
C) Prophage D) Lytic phage
- 153)** Viruses that attack bacteria are called:
A) Virophage B) Lysophage
C) Bacteriophage D) None of the above
- 154)** What is the first step in the replication of bacteriophage?
A) Replication B) Penetration
C) Attachment D) Injection
- 155)** What is the function of lysozyme released by bacteriophages?
A) Injecting DNA
B) Replication
C) Dissolve bacterial cell wall
D) All of these
- 156)** What type of the phage is a T2 Phage?
A) ssDNA Phage B) dsDNA phage
C) ssRNA Phage D) ds RNA Phage
- 157)** What was the correct classification according to Linnaeus?
A) Similar genera in one family
B) Similar species in one genus
C) Similar families in one order
D) All of above
- 158)** When the tobacco mosaic virus was successfully crystallized?

A) 1935

B) 1930

C) 1932

D) 1920

C) Collar

D) Head

159) Where does the bacteriophage replicate?

A) Human

B) Horse

C) Bacteria

D) Animal

160) Where the double stranded DNA of the bacteriophage is found?

A) Tail

B) Sheath

161) Which type of viruses infect E. coli bacteria?

A) T phages

B) P phages

C) Both A and B

D) None

Key

1. D	24. B	47. D	70. B	93. C	116. A	139. D
2. A	25. C	48. C	71. D	94. C	117. D	140. A
3. B	26. C	49. A	72. A	95. D	118. B	141. A
4. D	27. B	50. C	73. A	96. A	119. A	142. C
5. C	28. B	51. B	74. C	97. D	120. B	143. B
6. B	29. A	52. C	75. A	98. C	121. A	144. B
7. A	30. A	53. C	76. D	99. A	122. A	145. D
8. D	31. D	54. A	77. A	100. D	123. A	146. A
9. D	32. A	55. A	78. A	101. C	124. A	147. C
10. D	33. D	56. C	79. B	102. A	125. A	148. D
11. B	34. D	57. B	80. B	103. C	126. A	149. B
12. B	35. A	58. B	81. B	104. B	127. A	150. C
13. A	36. B	59. A	82. A	105. A	128. B	151. C
14. A	37. D	60. A	83. A	106. D	129. C	152. C
15. C	38. B	61. B	84. C	107. A	130. A	153. C
16. C	39. A	62. D	85. D	108. B	131. C	154. C
17. B	40. C	63. B	86. A	109. D	132. B	155. C
18. B	41. B	64. A	87. A	110. B	133. C	156. B
19. D	42. B	65. C	88. B	111. D	134. B	157. D
20. D	43. A	66. A	89. C	112. B	135. A	158. A
21. A	44. B	67. B	90. C	113. A	136. C	159. C
22. B	45. B	68. A	91. A	114. D	137. B	160. D
23. A	46. D	69. A	92. A	115. C	138. B	161. A

BIOENERGETICS

- 1) **Anaerobic respiration (respiration without oxygen)**
Fermentation products produced by the yeast are:
A) $H_2O + CO_2$ B) Methyl alcohol + CO_2
C) Methyl alcohol + CO_2 D) Ethyl alcohol + CO_2
- 2) In alcoholic fermentation pyruvic acid is broken down into?
A) Acetaldehyde B) Methyl alcohol
C) Ethyl alcohol D) Lactic Acid
- 3) In anaerobic respiration only % of the energy present within the chemical bond of glucose is converted into ATP.
A) 1 B) 2
C) 3 D) 4
- 4) In which of the following component of the body, lactic acid fermentation takes place?
A) Heart B) Brain
C) Liver D) Muscles
- 5) Lactic acid is produced as a result of:
A) Glycolysis B) Anaerobic respiration
C) Aerobic respiration D) ALL A, B, C
- 6) Pyruvate is broken down to in yeast.
A) Acetyl CoA B) Alcohol
C) Lactic acid D) All of these
- 7) Which of the following is not respiration?
A) Breakdown of glucose B) Formation of glucose
C) Release of energy D) Exchange of gases
- 8) **Electron transport chain**
Oxygen plays role in respiration.
A) It combines with acetyl-CoA at the start of the Krebs cycle
B) It plays no role
C) It is given off as a by-product during the oxidation of pyruvates
D) It is the final electron acceptor at the end of the electron transport chain
- 9) Cancer cells require large amounts of ATP. Which of the following produce high number of ATP?
A) Glycolysis B) Krebs cycle
C) Oxidative phosphorylation D) Electron transport chain
- 10) Coenzyme Q is oxidized by which coenzyme?
A) Coenzyme c B) Coenzyme q
C) Cytochrome b D) Cytochrome a
- 11) Cytochrome a is oxidised by which of the following in ETC?
A) Carbon dioxide B) Oxygen
C) ATP D) Cytochrome a3
- 12) Cytochrome b is reduced by:
A) Cytochrome c B) Coenzyme Q
C) NADH D) Cytochrome a

13) Cytochromes are electron transport intermediates containing:

- A) Myoglobin B) Haem
C) Globulin D) Fibrin

14) Electron transport chain occurs in:

- A) Inner membrane of mitochondria
B) Outer compartment of mitochondria
C) Thylakoid membrane D) Both A and C

15) Electrons from NADH accepted by oxygen forms how many ATPs?

- A) 2 B) 3
C) 4 D) 1

16) Enzymes for oxidative phosphorylation are present on:

- A) Cristae B) Inner compartment
C) Outer compartment D) Outer membrane

17) Final acceptor of electrons in respiratory chain is?

- A) NADH B) Cytochrome a₃
C) Water D) Oxygen

18) How does the electron transport system generate ATP?

- A) Symbiosis B) Chemiosmosis
C) Both A and B D) None of these

19) NADH is oxidized by:

- A) Co-enzyme Q B) Cytochrome b
C) Cytochrome c D) Cytochrome a

20) Terminal carrier of cytochrome complex present in ETC:

- A) Q B) C

C) a

D) None

21) What is the copper containing protein involved in the ETC in plants?

- A) Pq B) Pc
C) Pt D) Po

22) What is the end product of the ETC in animals?

- A) ATP B) Carbon dioxide
C) Water D) Both A and C

23) What is the product of the ETC in animals?

- A) Oxygen B) Carbon dioxide
C) Water D) All of these

24)

Glycolysis/glycolytic pathway/aerobic respiration

FADH₂ is produced during:

- A) Glycolysis B) The oxidation of pyruvates
C) Krebs cycle D) All of these

25) Acetyl CoA completely is oxidized to carbon dioxide and liberate:

- A) NADH and FAD B) NADP and FADP
C) ATP D) ATP, NADH and FADH

26) ATP synthase is located in the of the mitochondrion:

- A) Intermembrane space B) Outer membrane
C) Matrix D) Inner membrane

- 27)** Cellular respiration is essentially what type of process:
 A) Oxidation B) Reduction
 C) Redox D) None of the above
- 28)** Complete breakdown of glucose molecule takes place in which of the following?
 A) Alcoholic fermentation B) Lactic acid fermentation
 C) Aerobic respiration D) None of these
- 29)** End product of citric acid cycle:
 A) Pyruvate B) CO₂ and H₂O
 C) CO₂ D) Lactic acid
- 30)** FADH₂ is produced in?
 A) Glycolysis B) Pyruvic acid oxidation
 C) Krebs cycle D) None
- 31)** Fatty acid release considerable amount of energy in oxidation during:
 A) Calvin cycle B) Krebs cycle
 C) Dark reaction D) Light reactions
- 32)** From one pyruvate passing through Krebs cycle, how many NADH are formed?
 A) 1 B) 2
 C) 3 D) 4
- 33)** Glucose is converted to before entering Krebs cycle.
 A) Pyruvate B) Lactic acid
 C) Acetyl CoA D) Ethanol
- 34)** Glycolysis takes place in:
 A) Nucleus B) Cytosol
 C) Mitochondria D) Ribosomes
- 35)** Hans Krebs discovered .
 A) Glycolysis B) Fermentation
 C) Pyruvate oxidation D) Citric acid cycle
- 36)** Hexokinase is the enzyme found in
 A) Glycolysis and pentose pathway B) Pentose pathway only
 C) Glycolysis only D) Krebs cycle
- 37)** Hexokinase plays role in:
 A) Krebs cycle B) Electron transport chain
 C) Glycolysis D) Pyruvate oxidation
- 38)** How many carbons does citrate have in the Krebs cycle?
 A) 5 B) 6
 C) 8 D) 4
- 39)** If a molecule is reduced it gains:
 A) Energy B) Electrons
 C) Hydrogen protons D) All of above
- 40)** Oxaloacetate combines with which molecule to enter the Krebs cycle again?
 A) ATP B) NADPH
 C) FAD D) Acetyl CoA
- 41)** Oxaloacetate contains how many carbon atoms?
 A) 4 B) 5
 C) 6 D) 2
- 42)** Phosphofructokinases enzyme converts fructose-6-phosphate into:

<p>A) Fructose-1, 4-phosphate B) Fructose-1,6-bisphosphate C) Bisphosphate D) Fructose</p>	<p>50) Where does the first stage of cellular respiration occur? A) Cytosol B) Membrane surface C) Nucleus D) All of these</p>
<p>43) Succinate is oxidized and form: A) FAD B) FADH C) FADH₂ D) NADH₂</p>	<p>51) Which process can take place in the presence and absence of oxygen? A) Glycolysis B) Pyruvic acid oxidation C) Krebs cycle D) Electron transport chain</p>
<p>44) The pay-off phase of glycolysis conserve: A) Molecules of glucose B) ATP C) Molecules of fructose D) water</p> <p>45) What are products of respiration in plants? A) CO₂ and H₂O B) CO₂, H₂O and ATP C) C₆H₁₂O₆ and H₂O D) None</p>	<p>52) Light dependent and light independent phases/reactions Which of the following organisms have the greatest problem with photorespiration? A) C₄ plants B) Heterotrophs C) C₃ plants D) CAM plants</p>
<p>46) What energy rich organic compound is produced as a result of the Calvin cycle? A) NADPH B) CO₂ C) ATP D) Glucose</p>	<p>53) ATP molecules are consumed during which process? A) Glycolysis B) Light dependent phase C) Krebs cycle D) None</p>
<p>47) What is formed at the end of the preparatory phase of glycolysis? A) G3P B) Dihydroxyacetone phosphate C) Pyruvate D) Both A and B</p>	<p>54) Calvin cycle is: A) Inhibited by light B) Supported by light C) Independent of light D) Dependent upon light</p>
<p>48) What is the coenzyme that facilitates the oxidation of fumarate? A) FAD B) PADH₂ C) NAD D) NADPH</p>	<p>55) Carbon dioxide is fixed in A) Light reaction B) Dark reaction C) Aerobic respiration D) Anaerobic respiration</p>
<p>49) What is the final product of the Krebs cycle? A) Malate B) Succinate C) Oxaloacetate D) Fumarate</p>	

- 56)** Chlorophylls are found embedded in the _____ membranes.
 A) Stroma B) Grana
 C) Thylakoid D) Intergrana
- 57)** Cooperation of the two photosystems of the chloroplast is required for _____.
 A) ATP synthesis
 B) Reduction of NADP
 C) Cyclic photophosphorylation
 D) Oxidation of the reaction center of photosystem I
- 58)** Enzymes for light-dependent reactions are present in:
 A) Outer membrane of the chloroplast
 B) Inner membrane of the chloroplast
 C) Stroma of the chloroplast
 D) Thylakoid membranes of the chloroplast
- 59)** Find out the correct sequence for movement of electrons during the light dependent reaction:
 A) p680, p700, water, NADP B) Water, p700, NADP, p680
 C) p700, p680, NADP, water D) Water, p680, p700, NADP
- 60)** For every 3 molecules of carbon dioxide in Calvin cycle how much G3P is produced?
 A) 6 B) 2
 C) 4 D) 8
- 61)** How many carbon atoms are present in Ribulose phosphate?
 A) 5 B) 4
 C) 6 D) 3
- 62)** How many molecule/s of carbon dioxide enter the Calvin cycle to produce one molecule of carbohydrate?
 A) 2 B) 3
 C) 4 D) 1
- 63)** How many number of carbon atoms are present in a molecule of RUBISCO?
 A) 4 B) 6
 C) 5 D) 7
- 64)** How much net gain of G3P is obtained after one Calvin cycle?
 A) 3 B) 6
 C) 2 D) 1
- 65)** In photosynthesis dark reaction, is called so because:
 A) It occurs in dark
 B) It does not require light energy
 C) It cannot occur during daytime
 D) It occurs more rapidly at night
- 66)** In which stage of photosynthesis, ATP and NADPH are converted to ADP+Pi and NADP+?
 A) Light dependent reaction B) Light independent reaction
 C) Both of these D) None of above
- 67)** It moves in cyclic manner in cyclic photophosphorylation:
 A) Oxygen B) Electrons
 C) ATP D) NADPH
- 68)** Light reaction takes place in/on:
 A) Chloroplast B) Stroma
 C) Thylakoids D) Grana
- 69)** Location of dark reactions in chloroplast:
 A) Inner membrane B) Grana
 C) Stroma D) Thylakoid
- 70)** Molecular formula of chlorophyll b is:
 A) C₅₅ H₁₀ O₄ N₆ Mg B) C₅₅ H₇₀ O₆ N₅ Mg

C) C55 H71 O6 N4 Mg H70 O6 N4 Mg	D) C55	C) Chemiosmosis	D) Electron transport chain
71) Molecular oxygen is released during: A) Calvin cycle Light reactions in photosynthesis C) Krebs cycle Glycolysis	B) D)	79) The most important photosynthetic pigment is: A) Chlorophyll a Chlorophyll b C) Xanthophyll Carotenes	B) D)
72) NADPH2 provides which of the following? A) Assimilatory power C) Chemical energy and B	B) Energized electron D) Both A and B	80) The part of chloroplast where CO2 is fixed to manufacture sugar is? A) Stroma C) Thylakoid membrane	B) Grana D) Outer membrane
73) Out of the 6 molecules of G3P, how many molecules are used to make glucose? A) 1 C) 3	B) 3 D) 4	81) The path of electrons through the two photosystems is called? A) S scheme C) Z scheme	B) X scheme D) Y scheme
74) Photosystem I absorbs maximum wavelength of light? A) 700 C) 750	B) 600 D) 770	82) The reaction of carbon dioxide and RUBP is catalyzed by? A) ATP synthase C) RuBisCo dehydrogenase	B) Globulin D) NADH
75) Photosystems are located in: A) Stroma Chloroplast envelope C) Thylakoid membranes Intergranum	B) D)	83) The stage of photosynthesis that actually produces sugar is. A) Calvin cycle Photosystem I C) Photosystem II reaction	B) D) The light
76) RuBisCO converts addition of with RUBP to glyceraldehyde 3-phosphate. A) ATP C) NADH	B) O2 D) CO2	84) The water splitting step of photosynthesis is called? A) Chemiosmosis C) Photolysis Photosynthesis	B) Hydrolysis D)
77) The ATP synthesis in plants during the ETC is called? A) Photophosphorylation C) Chemiosmosis these	B) Photolysis D) All of	85) What are the different stages of the Calvin cycle? A) Carbon fixation C) Reduction	B) RUBP D) A and C
78) The G3P is the end product of: A) Krebs cycle Calvin cycle	B)		

- 86)** What does ATP provide during photosynthesis?
 A) Mechanical energy B) Physical energy
 C) Chemical energy D) All of these
- 87)** When is sugar formed in photosynthesis?
 A) Light independent reactions
 B) Light dependent reactions
 C) Both A and B
 D) None of these
- 88)** Which enzyme is found in the thylakoid membrane that facilitates chemiosmosis?
 A) ATP ligase B) ATP kinase
 C) ATP synthase D) ATP dehydrogenase
- 89)** Which molecule passes the mitochondrial membrane to begin the Krebs cycle?
 A) ATP B) Acetyl CoA
 C) NADH D) ADP
- 90)** Which one is a light gathering structure?
 A) Antenna complex B) Reaction center
 C) Photosystem D) None of these
- 91)** Which one of these occur in dark reactions of photosynthesis?
 A) Formation of ATP B) Release of oxygen
 C) Release of hydrogen D) Synthesis of PGAL
- 92)** Which reaction is catalysed by the enzyme RuBisCO?
 A) Carboxylation of ribulose biphosphate (RuBP)
 B) Conversion of triose phosphate (TP) to ribulose phosphate (RuP)
 C) Oxidation of glycerate-3-phosphate (GP)
 D) Reduction of glycerate-3-phosphate (GP)
- 93)** Which statement correctly outlines some of the main events in photosynthesis?
 A) A 5C carbohydrate accepts carbon dioxide and is then reduced by NADPH derived from photosynthesis
 B) A 3C carbohydrate is regenerated and reduced by hydrogen molecules derived from photophosphorylation
 C) Photolysis uses light to produce reduced NADP and oxygen which are used to reduce a 3C carbohydrate
 D) Photolysis produces NADPH and ATP which are used to reduce a 5C carbohydrate
- 94)** Which two reactions occur during photophosphorylation?
 A) ATP is hydrolyzed and NADP is reduced
 B) ATP is hydrolyzed and NADPH is oxidized
 C) ATP is synthesized and NADP is reduced
 D) ATP is synthesized and NADPH is oxidized
- 95)** **Oxidative phosphorylation /cyclic and non- cyclic phosphorylation**
 Cooperation of the two photosystems of the chloroplast is required for :
 A) ATP synthesis

<p>B) Reduction of NADP+</p> <p>C) Cyclic photophosphorylation</p> <p>D) Oxidation of the reaction center of photosystem I</p>	<p>C) Chlorophyll b D) All of these</p>
<p>96) It is most energy rich compound:</p> <p>A) FADH₂ B) ATP</p> <p>C) NADH D) GTP</p>	<p>103) Carotenoids perform protective function in which of the following organism?</p> <p>A) Animal B) Plants</p> <p>C) Both A and B D) None of these</p>
<p>97) The synthesis of ATP in the presence of oxygen is called:</p> <p>A) Respiration B) Calvin cycle</p> <p>C) Oxidative phosphorylation D) Chemiosmosis</p>	<p>104) Chlorophyll b is found in which organism?</p> <p>A) Green plants B) Green algae</p> <p>C) Animals D) Both A and</p>
<p>98) Where does the molecular mechanism of oxidative phosphorylation take place?</p> <p>A) Cytosol B) Mitochondria</p> <p>C) Nucleus D) All of these</p>	<p>105) Chlorophyll is insoluble in?</p> <p>A) Carbon tetrachloride B) Carbon chloride</p> <p>C) Organic Solvents D) None of these</p>
<p>99) Photosynthesis</p> <p>Photosystem II has molecules which absorbs maximum light of:</p> <p>A) 680 nm B) 100 nm</p> <p>C) 700 nm D) 670 nm</p>	<p>106) Chlorophyll molecule contains which of the following as a central metal ion?</p> <p>A) Fe²⁺ B) Zn²⁺</p> <p>C) Cu²⁺ D) Mg²⁺</p>
<p>100) About what % of photosynthesis is carried by terrestrial plants, while rest occurs in ocean, lakes, and ponds</p> <p>A) 40 B) 10</p> <p>C) 20 D) 30</p>	<p>107) Early organisms used _____ as a source of hydrogen.</p> <p>A) Water B) Hydrogen sulphide</p> <p>C) Hydrogen cyanide D) Hydrogen potassium permanganate</p>
<p>101) Autotrophs live best in _____ environment:</p> <p>A) Wet B) Terrestrial</p> <p>C) Organic D) Inorganic</p>	<p>108) Excretory products of autotrophic plants:</p> <p>A) CO₂ B) O₂</p> <p>C) H₂O D) All of these</p>
<p>102) Bacteriochlorophylls do not include which of the following?</p> <p>A) Chlorophyll a B) Chlorophyll c</p>	<p>109) First action spectrum was obtained by using:</p> <p>A) Algae B) Fungi</p> <p>C) Bacteria D) Spirogyra</p>

- 110)** If more oxygen is present, the RuBisCO starts:
 A) Respiration B) Photorespiration
 C) Carboxylase D) None of these
- 111)** In all plants the major sites of photosynthesis are:
 A) Leaf B) Stems
 C) Roots D) Branches
- 112)** Magnesium is important for the synthesis of which of the following?
 A) Chlorophyll B) Protein synthesis
 C) Glucose metabolism D) All of these
- 113)** Molecular formula of chlorophyll a is?
 A) C₅₅ H₁₀ O₄ N₆ Mg B) C₅₅ H₇₀ O₆ N₅ Mg
 C) C₅₅ H₇₁ O₆ N₄ Mg D) C₅₅ H₇₂ O₅ N₄ Mg
- 114)** Photosynthesis is process in which compounds of carbon and hydrogen are reduced to carbohydrate like (glucose) using light energy.
 A) Organic B) Energy poor
 C) Energy rich D) Reduced
- 115)** Photosynthesis is absent in:
 A) Seaweeds B) Mushrooms
 C) Purple sulphur bacteria D) Angiosperms
- 116)** Quantitative study of energy relationships in biological systems obeys:
 A) Bioenergetics
 B) Laws of thermodynamics
 C) Laws of thermochemistry
 D) Laws of chemical energetic
- 117)** Rate of photosynthesis does not depend upon:
 A) Quality of light B) Intensity of Light
 C) Duration of Light D) Temperature
- 118)** The electrons from Ferredoxin (Fd) to NADP⁺ are transferred by which enzyme?
 A) NADP Oxidase B) NADP reductase
 C) ATP synthase D) Both A and B
- 119)** The first action spectrum was obtained by:
 A) T.W Engelmann B) Malleus
 C) TW Inws D) W Stapes
- 120)** The graph that shows relative effectiveness of different wavelengths in photosynthesis is?
 A) Actin spectrum B) Action spectrum
 C) Absorption spectrum D) Emission spectrum
- 121)** The organisms able to use sunlight directly as a source of energy are:
 A) Plants B) Animals
 C) Fungi D) Omnivores
- 122)** The part of chlorophyll molecule that is embedded in the core of thylakoid membrane is:
 A) Hydrophilic B) Hydrophobic
 C) Both of these D) None of these
- 123)** The percentage of light absorbed by the leaf is:

<p>A) 0.2 C) 0.05 0.01</p>	<p>B) 0.15 D)</p>
<p>124) The point at which there is no net exchange of gases between leaves and atmosphere is known as?</p> <p>A) Neutral point Compensation point C) Parallel point Competitive point</p>	<p>130) What does NADPH₂ provide during photosynthesis?</p> <p>A) Energized electron Uncharged electron C) Energy D) All of these</p>
<p>125) These all are inorganic compounds except:</p> <p>A) NO₂ C) H₂O H₂SO₄</p>	<p>B) C₆H₁₂O₆ D)</p> <p>131) What is generated during noncyclic flow of photosynthesis?</p> <p>A) ATP NADPH C) Oxygen D) All of these</p>
<p>126) Van Neil's hypothesis about the production of oxygen during photosynthesis was based on the study and investigations on?</p> <p>A) Bacteria C) Protonema Cyanobacteria</p>	<p>B) Algae D)</p> <p>132) What is reduced during sugar production in photosynthesis?</p> <p>A) NADH C) Oxygen these</p> <p>B) DNA D) None of these</p>
<p>127) Water insoluble photosynthetic pigment:</p> <p>A) Chlorophyll a Chlorophyll b C) Carotenoids D) All of these</p>	<p>133) What is the color of xanthophyll pigment?</p> <p>A) Yellow C) Orange</p> <p>B) Red D) Blue</p> <p>134) What type of plant cells carry out photosynthesis?</p> <p>A) Sclerenchymatous cells Parenchymatous cells C) Chlorenchymatous cells Both B and C</p>
<p>128) Wavelength of light that is mainly absorbed by the plants:</p> <p>A) Orange C) Green and B</p>	<p>B) Red D) Both A</p> <p>135) Which cells absorb carbon dioxide in leaf?</p> <p>A) Neutrophil cells C) Mesophyll cells</p> <p>B) Basophil cells D) All of these</p>
<p>129) What do two peaks in action spectrum represent?</p> <p>A) Light absorption Consumption of carbon dioxide C) Light emission and B</p>	<p>B)</p> <p>136) Which chemical reactions occur during the process of photosynthesis?</p> <p>A) Oxidation Reduction C) Both A and B</p> <p>B)</p> <p>D) None of these</p>

137) Which is the correct order of energy transfer from accessory pigments to main photosynthetic pigment?

- A) Carotenoids, Chlorophyll a, Chlorophyll B
- B) Chlorophyll b, Carotenoids, Chlorophyll A
- C) Carotenoids, Chlorophyll b, Chlorophyll A
- D) Chlorophyll a, Chlorophyll b, Carotenoids.

138) Which of the following statement about the head of a chlorophyll molecule is incorrect?

- A) It is a porphyrin ring or tetrapyrrole ring structure
- B) It is flat, square and light absorbing
- C) Composed of carbon and nitrogen atoms with magnesium as central metal ion, D) It is hydrophobic

139) Which one is not an energy releasing process?

- A) Glycolysis
- B) Photosynthesis
- C) Respiration
- D) Krebs cycle

140) Which pair of areas within a chloroplast will show the steepest pH gradient between them?

- A) DNA and stroma
- B) Ribosome and stroma
- C) Stroma and the space between the outer and inner membrane
- D) Stroma and the thylakoid interior space

141) Which type of light causes the highest rate of photosynthesis?

- A) Blue
- B) Red
- C) Orange
- D) Violet

142)

Production of ATP

It is false about ATP:

- A) It is a RNA nucleotide
- B) It provides energy for cellular reactions
- C) It is produced by endoplasmic reticulum
- D) All of these

143) Breaking of terminal phosphate of ATP releases about Kcal of energy?

- A) 6.1
- B) 6.3
- C) 7.1
- D) None of these

144) One of the most important molecules found in living organisms is ATP. What is its major function?

- A) Energy source of the cell
- B) Coenzyme
- C) Cofactor
- D) Both A and B

145) Primary function of ATP is:

- A) Act as catalyst
- B) Allosteric modulation of enzymes
- C) Energy source
- D) To store energy

146) Which one is dollar of the cell?

- A) ATP
- B) DNA
- C) Chromosome
- D) Enzyme

147)

Role of light, water, CO₂/Factors affecting photosynthesis

At which times there is no net gaseous exchange between leaves and the atmosphere?

- A) Day
- B) Night
- C) Dawn and Dusk
- D) Midnight

148) Photosynthetic pigments are organized in form of?



- A) Clusters
C) Photosystems
b

- B) Stacks
D) Both a and b

- A) Leaf
Flower
C) Seed
Plant

- B)
D)

149) Which of the following is a compensation point?

- A) Leaves respire and utilize O₂ and release CO
C) Rate of photosynthesis increases, so do the O₂ production, with a net release of oxygen coupled with the uptake of CO?
D) Rate of respiration becomes more than rate of photosynthesis. 16 Net yield of H₂O in Photosynthesis is

151) Which cells regulate the opening and closing of the stroma?

- A) Neutrophil cells
C) Mesophyll cells
B) Guard cells
D) Basophil cells

150)

Out of Syllabus

Evolution of pollen tube is parallel to the evolution of which of the following?

Key

1. D	18. B	35. D	52. C	69. C	86. C	103. C
2. C	19. A	36. A	53. A	70. D	87. A	104. D
3. B	20. C	37. C	54. C	71. B	88. C	105. D
4. D	21. B	38. D	55. B	72. B	89. B	106. D
5. B	22. C	39. D	56. C	73. A	90. A	107. B
6. B	23. C	40. D	57. B	74. A	91. D	108. B
7. B	24. C	41. A	58. D	75. C	92. A	109. D
8. D	25. D	42. B	59. D	76. D	93. A	110. B
9. C	26. D	43. C	60. A	77. A	94. C	111. A
10. C	27. C	44. B	61. A	78. B	95. B	112. A
11. D	28. C	45. B	62. B	79. A	96. C	113. D
12. B	29. B	46. D	63. C	80. A	97. C	114. B
13. B	30. C	47. D	64. D	81. C	98. B	115. B
14. D	31. B	48. A	65. B	82. C	99. A	116. B
15. B	32. C	49. C	66. B	83. A	100. B	117. A
16. A	33. A	50. A	67. B	84. C	101. D	118. B
17. D	34. B	51. A	68. C	85. D	102. D	119. A

120.	B
121.	A
122.	B
123.	D
124.	B

125.	B
126.	A
127.	D
128.	B
129.	B

130.	A
131.	D
132.	D
133.	A
134.	B

135.	C
136.	C
137.	C
138.	D
139.	B

140.	D
141.	B
142.	C
143.	D
144.	A

145.	C
146.	A
147.	C
148.	C
149.	B

150.	C
151.	B

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BIOLOGICAL MOLECULES

- | | |
|--|--|
| <p>1) Introduction to biological molecules
Which of the following is a trace element?
A) Hydrogen B) Copper
C) Oxygen D) Carbon</p> | <p>b</p> |
| <p>2) How are high energy phosphate bonds broken down in ATP?
A) Anabolism B) Catabolism
C) Hydrolysis D) All of these</p> | <p>7) Which of the following is a chemical link between catabolism and anabolism?
A) AMP B) ADP
C) ATP D) All of these</p> |
| <p>3) In catabolic reaction free the
A) Fatty acids, polysaccharides
B) Proteins, amino acids
C) Lipids, glucose D) None of these</p> | <p>8) Which one is the basic element found in all organic compounds?
A) Oxygen B) Carbon
C) Hydrogen D) All of these</p> |
| <p>4) Interconversion of carbohydrates, proteins and lipids in living cells are an example of:
A) Coordinated catabolic activities
B) Coordinated anabolic activities
C) Both A and B
D) None of these</p> | <p>9) Water
Specific heat of vaporization of water is:
A) 774 Kcal/kg B) 874 Kcal/kg
C) 574 Kcal/kg D) 674 Kcal/kg</p> |
| <p>5) Reactions in which simple substances are combined to form complex substances are called?
A) Metabolic reactions B) Catabolic reactions
C) Anabolic reactions D) Both B and C</p> | <p>10) In living organisms, the lubricant which provides protection against damage resulting from friction is?
A) Water B) Carbohydrates
C) Lipids D) Proteins</p> |
| <p>6) The branch of biology which deals with the study of chemical compounds and the chemical processes in the living organisms is called?
A) Chemistry B) Molecular Biology
C) Biochemistry D) Both a and</p> | <p>11) Liposomes are:
A) Drug carriers B) Water in middle
C) Sac of phospholipids D) ALL A, B, C</p> <p>12) The attraction between water molecules and cell wall of xylem is termed as:
A) Cohesion B) Tension
C) Adhesion D) Imbibition</p> <p>13) The number of calories required to raise the temperature of 1g of water from 15 to 16 °C is called?
A) Specific Heat of Vaporization
B) Specific heat capacity</p> |

C) Caloric heat a and b	D) Both	with the fate of: A) ATP Amino acid C) Glucose	B) D) All of these
14) What percentage of water is found in brain cells? A) 50 C) 85	B) 80 D) 90	22) Cellulose on hydrolysis yields: A) α D-Glucose C) β D-Glucose Glucose	B) α L-Glucose D) β L-Glucose
15) Carbohydrates Glycogen is an example of: A) Phospholipid Polysaccharides C) Carbohydrates C	B) D) Both B and C	23) Glucose is also called as: A) Dextrose C) Grape sugar None	B) Lymph D)
16) $(CH_2O)_n$ is a general formula of: A) Monosaccharides Oligosaccharides C) Polysaccharides Carbohydrates	B) D)	24) Glycogen is most abundantly present in: A) Liver C) Kidneys B	B) Muscles D) Both A and B
17) 3 What type of atom is carbon atom? A) Divalent C) Trivalent Tetravalent	B) Monovalent D)	25) Glycogen is present in all body except A) Brain C) Blood	B) Heart D) Tissues
18) A complex substance which on hydrolysis yields polyhydroxy aldehyde or ketone subunits is called? A) Lipid Carbohydrate C) Protein D) All of these	B) D)	26) Glycogen is present in all body except: A) Brain C) Heart	B) Tissues D) Blood
19) Alpha 1-4 glycosidic linkage is present in: A) Maltose C) Cellulose	B) Sucrose D) Cellobiose	27) Glycogen on hydrolysis gives: A) Glucose C) Fructose	B) Galactose D) Ribose
20) Animal starch is called: A) Cellulose C) Glycogen	B) Agar D) Chitin	28) Glycosidic bond is present between: A) Monosaccharides Carbon atoms C) Amino acids Fatty acids	B) D)
21) Carbohydrate catabolism is concerned		29) How many monosaccharide units do oligosaccharides yield upon hydrolysis? A) 2 C) 10	B) 5 D) All of these
		30) In the molecular formula $C_x(H_2O)_y$, the value of x ranges from? A) 1000 C) 3 to 7000	B) 2000 D) 3000 and

more	these
31) It is not a monosaccharide: A) Fructose B) Glucose C) Sucrose D) All are monosaccharides	40) These are crystalline, water soluble, forming pyranose rings A) Monosaccharides B) Polysaccharides C) Oligosaccharides D) Disaccharides
32) It is _____ is valuable for diabetic control. A) Green vegetable B) Grapes C) Rice D) All of these	41) This is non-reducing sugar: A) Maltose B) Sucrose C) Cellobiose D) Lactose
33) Rarely occurring monosaccharides observed in some bacteria is? A) Tetroses B) Hexoses C) Pentoses D) Trioses	42) To synthesis 10g of glucose, how much energy is essentially required? A) 727 Kcal B) 712 Kcal C) 717 Kcal D) 719 Kcal
34) Ribose is a monosaccharide constituent of many _____. A) Enzymes B) Coenzymes C) Vitamins D) Antibiotic	43) Unit of carbohydrate is: A) Monosaccharides B) Amino acids C) Fatty acids D) All
35) Sucrose is present in: A) Sugar cane B) Milk C) Almonds D) None	44) What percentage of glucose is normally found in human blood? A) 0.008 B) 0.0008 C) 0.018 D) 0.08
36) The 5 carbon sugar present in the heart muscle is: A) Lyxose B) Ribose C) Xylose D) Glucose	45) When the glucose level in blood comes down, glucose is synthesized from _____. A) Fats B) Glycogen C) Amino acids D) DNA
37) The covalent bond between two monosaccharide subunits is called? A) Phosphodiester bond B) Peptide bond C) Ionic bond D) Glycosidic bond	46) Which are the most physiologically significant disaccharides? A) Maltose B) Sucrose C) Lactose D) All of these
38) The functional group that best represents ketoses is? A) CO B) COOH C) HCOH D) HOH	47) Which bond provides stability to complex carbohydrate molecule? A) C --- - H B) C --- - N C) C --- - O D) C --- - C
39) The smallest monosaccharide is: A) Triose B) Pentose C) Tetrose D) None of	48) Which is true regarding open chain structure of glucose? A) There are six asymmetric carbons

B) There are five asymmetric carbons	A) Beta alanine	B) Glutamine
C) There are four asymmetric carbon	C) Tyrosine	D) Histidine
D) There are three asymmetric carbon		
49) Which of following cannot be hydrolyzed?	57) Abundant protein in human body:	
A) Polysaccharides	A) Rubisco	B) Collagen
B) Monosaccharides	C) Cellulose	D) Albumin
C) Oligosaccharides		
D) Sucrose	58) An enzyme containing 2 chains of polypeptide has:	
50) Which of the following constitute large organic molecules?	A) Primary structure	
A) Cellulose	B) Primary and secondary structure	
B) Glucose	C) Primary, secondary, tertiary and quaternary structure	
C) Amino acids	D) It has all structures	
D) All of these	59) An insulin molecule is made up of how many polypeptide chains?	
51) Which of the following is a trisaccharide?	A) 1	B) 2
A) Mannose	C) 3	D) 4
B) Galactose		
C) Maltose	60) Antibodies play important role against microorganisms and other pathogens to which type of proteins do they belong?	
D) Raffinose	A) Globular	B) Functional
52) Which of the following is soluble in hot water?	C) Fibrous	D) Both A and B
A) Starch		
B) Glycogen	61) Avidin is a protein that:	
C) Amylose	A) Binds egg white with biotin	
D) Amylopectin	B) Binds egg white with egg albumin	
53) Which of the following is the most complex sugar?	C) Both A and B	
A) Monosaccharides	D) This protein do not belong to egg white	
B) Oligosaccharides		
C) Polysaccharides	62) Coagulated protein is:	
D) Carbohydrates	A) Insoluble	B) Non folded
54) Which one gives blue color?	C) Nonfunctional	D) All of above
A) Starch		
B) Glycogen	63) Enzymes that are integral part of ribosomes are involved in the synthesis of which of the following molecules?	
C) Cellulose	A) Lipids	B) Protein
D) None of these	C) Carbohydrates	D) All of these
55) Which one of the following biomolecules is most abundant in animals?		
A) Starch	64) Globular structure of protein is due to:	
B) Cellulose	A) Primary structure	B)
C) Glycogen		
D) All of these		
56)		
Proteins		
This amino acid not found in proteins is		

Secondary structure C) Tertiary structure Quaternary structure	D)
65) How many bond/s are in a dipeptide? A) 1 B) 3 C) 2 D) 4	75) The high content of which amino acid confers resistance, stability and insolubility to hairs, nails and skin: A) Glycine B) Alanine C) Methionine D) Cysteine
66) How many types of amino acids form proteins in human body? A) 25 B) 70 C) 20 D) 400	76) The molecular basis of sickle cell anemia was found by: A) F. Sanger B) Beadle C) Tatum D) Ingram
67) In glycine, R group of amino acids is replaced by? A) COOH B) CH ₂ C) CH ₂ D) None of these	77) The protein contains bonds: A) Inorganic bonds B) Peptide bonds C) Glycosidic bonds D) Covalent bonds
68) It is protein in nature: A) Fats /cholesterol B) ATP C) Glycogen D) Ligase	78) The total number of amino acids that have been found in tissues and cells are? A) 250 B) 200 C) 20 D) 170
69) Keratinized epithelium is present in: A) Hair B) Skin C) Bone D) Muscle	79) Vegetative source of protein: A) Egg B) Soyabean C) Pulses D) Both B and C
70) Most abundant protein in blood: A) Collagen B) Hemoglobin C) Actin D) Rubisco	80) What are the distinguishing features of fibrous proteins? A) Elastic B) Non-crystalline C) Disorganized D) Both A and B
71) Number of essential amino acids is? A) 10 B) 20 C) 9 D) 110	81) What are the distinguishing features of fibrous proteins? A) Non-crystalline B) Elastic C) Disorganized D) Both A and B
72) Protein constitutes of what percentage of the total dry weight found in cells? A) 50 B) 55 C) 40 D) 65	82) What are the main distinguishing features of globular proteins? A) Crystalline B) Elastic
73) Proteins are polymers of: A) Amino acids B) Fatty acids C) Nucleotides D) None of these	
74) Proteins are the polymers of? A) Amino acids B) Fatty acids C) Nucleotides D) None of these	

C) Functional A and C	D) Both	Secondary structure C) Tertiary structure Quaternary structure	D)
83) What type of bonding in proteins maintains the integrity of the helical secondary structure? A) Hydrogen bonds C) Disulfide linkages A and B	B) Ionic bonds D) Both A and B	90) Which structure of protein gives information about the folding of a protein? A) Primary structure Tertiary structure C) Secondary structure Quaternary structure	B) D)
84) What type of protein is Fibrin? A) Functional Structural C) Enzymatic of these	B) D) All	91) Word Protein is derived from: A) Latin C) Roman B) Greek D) English	
85) Which of the following is important secondary structure in proteins? A) α -helix C) β -pleated sheet parallel A and B	B) β -pleated sheet D) Both A and B	92) Lipids A fatty acid is composed of . A) Acid group at one end C) Amino group at one end Amino group at both ends	B) Acid groups at both ends D)
86) Which of the following is not an amino acid? A) Histidine C) Glutamic acid	B) Lactic acid D) Glycine	93) A compound produced as a result of a chemical reaction of an alcohol with an acid in which water molecule is released is called? A) Monosaccharide C) Nucleic acid B) Fatty acid D) Neutral lipid	
87) Which of the molecules is formed by peptide bond? A) Ammonia C) Water above	B) Iron D) None of the above	94) A sample of RNA is sequenced and found to contain 22% adenine. Which of the following conclusions can also be drawn about the sample? A) 22% uracil C) 22% cytosine guanine	B) 22% thymine D) 22%
88) Which structural organization is most common in globular proteins? A) Primary structure Secondary structure C) Tertiary structure Quaternary structure	B) D)	95) A triglyceride is: A) Protein C) A simple sugar B) Nucleic acid D) Lipid	
89) Which structure of protein gives information about number and sequence of amino acids? A) Primary structure	B)	96) Choline is component of: A) Phospholipids B) Phosphatidic acid	

C) Terpenoids	D) Waxes	104 In water, hydrophobic interactions of phospholipids are:	
97) Essential fatty acids show all the characters except		A) In heads	B) In tails
A) Lipotropism	B) Blood clotting factors	C) Both A and B	D) None
C) Used for energy production	D) None of these	105 Lecithin contains	
98) Fatty acid contains:		A) Ethanolamine	B) Choline
A) Alcohol and esters		C) Serine	D) Betaine
B) Carboxylic and alkyl groups		106 Lipids have great functional significance in the human body. What are the main functions of the lipids?	
C) Carboxylic group and isoprenoid		A) Energy source	B) Structure of membrane
D) Phospholipids and alkyl groups		C) Mechanical protection	D) All of these
99) Fatty acids containing 18 C atoms and a single double bond are?		107 Lipids show solubility in which of the following solvents?	
A) Saturated	B) Unsaturated	A) Water	B) Ether
C) Oleic acid	D) Palmitic acid	C) Inorganic solvents	D) All solvents
100 For a protein molecule of 2000 amino acids, the mRNA will have a length of how many nucleotides?		108 Lipids show solubility in which of the following solvents?	
A) 3000	B) 2000	A) Water	B) Ether
C) 6000	D) 5000	C) Inorganic solvents	D) All solvents
101 Glycerol is component of:		109 Liposomes are:	
A) Fatty acids	B) Acylglycerols	A) Vesicles	B) Have water
C) Phospholipids	D) Both B and C	C) Drug carrier of the above	D) All
102 Hydrophilic substances are and hydrophobic substances are .		110 Most abundant intracellular free nucleotide is:	
A) Water loving, Water fearing		A) UTP	B) FAD
B) Polar, Non-polar		C) NAD	D) ATP
C) Soluble in water, Soluble in lipid		111 Nitrogenous bases such as choline and serine are significant part of which of the following?	
D) All are correct		A) Sphingolipids	B) Phospholipids
103 In contrast to eukaryotic mRNA, prokaryotic mRNA:		C) Phosphodiester	D) none of these
A) Can be polycistronic	B) Is synthesized with introns	112 Oils are:	
C) Can only be monocistronic	D) Has a poly A tail		

- A) Saturated fatty acids
 B) Unsaturated fatty acids
 C) Glycerides with unsaturated fatty acids
 D) Glycerides with saturated fatty acids
 RNA

113 RNA does not contain:

- A) Adenine B) Hydroxy methyl cytosine
 C) Phosphate D) Thymine

114 Saponification number describes

- A) Unsaturation in fat
 B) Average molecular weight of fatty acid
 C) Acetyl number
 D) Acid number

115 Serine is a component of:

- A) Lipid B) Haemoglobin
 C) Phospholipid D) Waxes

116 Steroid are naturally:

- A) Lipoproteins B) Proteins
 C) Lipids D) A and B

117 Sterols are:

- A) Lipid B) Protein
 C) Carbohydrates D) All of these

118 These are properties of lipids:

- A) Insoluble in water and soluble in fat solvent.
 B) High energy content
 C) Structural component of cell membrane
 D) All of these

119 Which of the following is a phospholipid?

- A) Sterol B) Cholesterol
 C) Lecithin D) Steroid

120)

Conjugated molecules (glycolipids, glycoproteins)

Lipoproteins rich in cholesterol are:

- A) Chylomicrons B) VLDL
 C) LDL D) HDL

121 Glycosphingolipid are made up of

- A) Sphingolipids
 B) Alcohol and fatty acids
 C) Carbohydrate and sphingolipids
 D) Carbohydrates and fatty acids

122 HDL is synthesized in:

- A) Adipose tissue B) Liver
 C) Intestine D) Liver and intestine

123 In DNA molecules, Adenine pairs with which of the following nucleic acid bases?

- A) Guanine B) Thymine
 C) Cytosine D) Uracil

124 Nontoxic vitamins include which of the following?

- A) Vitamin c B) Vitamin b
 C) Both A and B D) None of the above

125)

Out of syllabus

The oldest mineral discovered so far is which of the following, which dates back to 4.4 billion years:

- A) Iron B)
 Cadmium
 C) Diamond D) Zircon

126 Reactions in which simple substances are combined to form complex substances are called:

- A) Metabolic reactions B) Catabolic reactions
 C) Anabolic reactions D)
 None of these

127 The basic framework structure of all types of membranes are:

- A) Glycolipids B)

Glycoproteins

C) Lipoproteins

D)

Nucleoproteins

C) Glycerols

D) Glycolipids

128 The number of water-soluble vitamins is:

A) 3

B) 6

C) 9

D) 12

129 Which of the following is a water-soluble vitamin?

A) Riboflavin

B)

Vitamin c

C) Niacin1

D) All of these

130 Which of the following is water soluble vitamin?

A) A

B) B

C) D

D) K

131 Which of the following makes protective coatings around the plant organs

A) Lipids

B) Waxes

132 Which of the following statement is not true for compounds like glycoprotein and glycolipids?

A) They are conjugated molecules of carbohydrates

B) Both have role in the extracellular matrix of animals

C) They are components of biological membranes.

D) Both are produced and secreted by endoplasmic reticulum

Key

1.	B	19.	A	37.	D	55.	C	73.	A	91.	B	109.	D
2.	C	20.	C	38.	A	56.	A	74.	A	92.	A	110.	D
3.	B	21.	C	39.	A	57.	B	75.	D	93.	D	111.	B
4.	C	22.	C	40.	A	58.	C	76.	D	94.	A	112.	B
5.	C	23.	A	41.	B	59.	B	77.	B	95.	D	113.	D
6.	C	24.	D	42.	C	60.	D	78.	D	96.	A	114.	D
7.	C	25.	C	43.	A	61.	A	79.	D	97.	B	115.	C
8.	D	26.	D	44.	D	62.	D	80.	D	98.	B	116.	C
9.	C	27.	A	45.	B	63.	B	81.	D	99.	C	117.	A
10.	A	28.	A	46.	D	64.	C	82.	D	100.	C	118.	D
11.	D	29.	D	47.	C	65.	A	83.	A	101.	D	119.	C
12.	C	30.	C	48.	C	66.	C	84.	B	102.	D	120.	C
13.	B	31.	C	49.	B	67.	D	85.	D	103.	A	121.	C
14.	C	32.	A	50.	A	68.	D	86.	B	104.	B	122.	A
15.	B	33.	A	51.	D	69.	B	87.	D	105.	B	123.	B
16.	A	34.	B	52.	C	70.	B	88.	C	106.	D	124.	C
17.	D	35.	A	53.	C	71.	C	89.	A	107.	D	125.	D
18.	B	36.	A	54.	A	72.	A	90.	B	108.	B	126.	C

127.

C

128.

D

129.

D

130.

B

131.

B

132.

D

CELL STRUCTURE AND FUNCTION

- | | |
|---|--|
| <p>1) Cell wall
Cellulose is the major component of?
A) Primary wall B) Secondary wall
C) Middle lamella D) All of these</p> <p>2) A cell without cell wall is termed as:
A) Tonoplast B) Protoplast
C) Symplast D) Epiblast</p> <p>3) A plant cell wall is mainly composed of which of the following?
A) Protein B) Starch
C) Cellulose D) Lipid</p> <p>4) Cell wall is secreted by:
A) Cell membrane B) Vacuole
C) Cytoplasm D) Protoplast</p> <p>5) Cell wall of fungi contains:
A) Cellulose B) Chitin
C) Peptidoglycan D) Glycogen</p> <p>6) Components of secondary cell wall:
A) Cellulose, hemicellulose, pectin
B) Cellulose, hemicellulose, lignin
C) Cellulose only
D) Magnesium and calcium salts and pectin</p> <p>7) Rectangular shape of plant cells is due to:
A) Cell wall B) Cell membrane
C) Vacuole D) Cytoskeleton</p> <p>8) Secondary cell wall of sclerenchyma cells is impregnated with?</p> | <p>A) Cellulose B) Lignin
C) Murein D) Pectin</p> <p>9) The cementing material between adjacent plant cells.
A) Cellulose B) Hemicellulose
C) Middle lamella D) All of the above</p> <p>10) The first layer of cell wall which is formed is called?
A) Primary wall B) Secondary wall
C) Middle lamella D) All of these</p> <p>11) The outermost layer in a typical plant cell would be
A) Primary cell wall B) Secondary cell wall
C) Middle lamellae D) Cell surface membrane</p> <p>12) Which has high affinity for water?
A) Lignin B) Cellulose
C) All of them D) None of these</p> <p>13) Which of the following is non-living component of plant cell?
A) Nucleus B) Cell wall
C) Cell membrane D) All of these</p> <p>14) Cytoplasm and cell organelles
Ribosomes combined with mRNA are called?
A) Lysosome B) Nucleosome
C) Polysome D) Polysomic</p> |
|---|--|

- 15)** 60S and 40S subunit combine to form what size particle?
A) 80S B) 90S
C) 100S D) 110S
- 16)** Enzymes that are integral part of ribosomes are involved in the synthesis of which of the following molecules?
A) Lipids B) Proteins
C) Carbohydrates D) All of these
- 17)** If 3 ribosomes attach to single mRNA at different points then how many similar proteins will form?
A) 1 B) 2
C) 3 D) No similar protein
- 18)** It helps in attachment of two ribosomal units:
A) Calcium ions B) Magnesium ions
C) Chloride ions D) Sodium ions
- 19)** Ribonucleoprotein particle are the name of?
A) RNA B) DNA
C) Nucleus D) Eukaryotic ribosomes
- 20)** Ribosomes are chemically composed of which of the following?
A) Protein B) DNA
C) RNA D) Both A and C
- 21)** The soluble part of the cytoplasm is known as?
A) Cytosol B) Polysomes
C) Cisternae D) Chitin
- 22)** What is the approximate ratio of RNA and protein in a ribosome?
A) 1:1 B) 2:1
C) 1:2 D) 1:3
- 23)** Which of the following is synthesized by free floating ribosomes of cytoplasm in humans?
A) DNA polymerase B)
Salivary amylase
C) Pancreatic amylase D)
Salivary lipase
- 24)** Which of the following organelles is not bound by a membrane?
A) Ribosomes B) ER
C) Mitochondria D) Nucleus
- 25)** **Nucleus**
_____ is the heaviest particulate of the cell.
A) Golgi apparatus B) Cytoplasm
C) Mitochondria D) Nucleus
- 26)** _____ is responsible for making ribosomal RNS (rRNA)
A) Nucleus only B) Nucleus & nucleolus only
C) Nucleolus only D) None of above
- 27)** All chromosomes other than sex chromosomes are called:
A) Autosomes B)
Allosomes
C) Microsomes D)
None of them
- 28)** An animal has 80 chromosomes in its gametes, how many chromosomes will be seen in the animal's muscle cells?
A) 120 B) 240
C) 40 D) 160
- 29)** Double membranous organelle having pores:
A) Chloroplast B)
Mitochondria
C) Nucleus D) Cell

membrane

30) Factory of ribosomal synthesis is?

- A) Cytoplasm B) Nucleus
C) Endoplasmic reticulum D)

31) If an organism has a diploid number of 36, what is its haploid number?

- A) 12 B) 9
C) 18 D) 22

32) Somatic cells of humans have how many pairs of chromosomes in total?

- A) 10 B) 23
C) 24 D) 48

33) The 23rd pair of chromosomes in man is:

- A) Polymorphic B) Heteromorphic
C) Homomorphic D) Automorphic

34) The number of nuclear pores is highly variable in eukaryotic cells because of?

- A) Cell size
B) Number of chromosomes Level of gene expression
C) Size of the nucleus
D) Maturation

35) The soluble sap of the nucleus in a plant cell is called?

- A) Cytoplasm B) Protoplasm
C) Protoplast D)

36) Which of the following cell structure contains the highest concentration of RNA?

- A) Centriole B) Mitochondria
C) Nucleolus D) Nucleus

37) Which of the following cells do not possess a nucleus?

- A) Sieve tube cells B) Bacteria
C) Red blood cells D) All of the above

38) Which statement about the nucleolus is not true?

- A) No membranous boundary
B) Composed of two regions
C) Site of synthesis for rRNA
D) Hereditary centre

39)

Endoplasmic reticulum

Which of the following is not a function of Smooth Endoplasmic Reticulum (SER)?

- A) Synthesis of steroid hormones from cholesterol.
B) Detoxification of harmful drugs.
C) Synthesis of phospholipids for plasma membrane.
D) Synthesis of membrane proteins

40) _____ are storage bodies for intracellular calcium.

- A) RER B) SER
C) Vacuoles D) Golgi complex

41) _____ extend from nucleus and touch cell membrane.

- A) SER B) RER
C) Gogli apparatus D) Both A and B

42) Cytoplasmic streaming movement causes flow of all of the following except?

- A) Glucose and salts B) Mitochondria
C) Golgi D) RER

- 43)** Function of Smooth Endoplasmic Reticulum (SER) is .
 A) Synthesis of intracellular proteins.
 B) Synthesis of lipids.
 C) Synthesis of extracellular enzymes.
 D) Synthesis of extracellular proteins
- 44)** If a radioactive amino acid is given to an organism, the organelle that shows radioactivity very first time:
 A) Golgi complex B) Mitochondria
 C) Nucleus D) RER
- 45)** It is not found in composition of ER:
 A) Carbohydrates B) Lipids
 C) Proteins D) DNA
- 46)** Network of tubules continuous with nuclear membrane:
 A) RER B) SER
 C) Both A and B D) None
- 47)** Sarcoplasm is different from cytoplasm:
 A) It contains sarcoplasmic reticulum
 B) It contains glycogen
 C) It contains glycogen and oxygen binding protein, myoglobin
 D) All of these
- 48)** Sarcoplasmic reticulum cells are those cells that contain:
 A) SER less B) SER more
 C) RER less D) RER more
- 49)** Smooth endoplasmic reticulum is not involved in:
 A) Hormone secretion B) Detoxification
 C) Conversion of mRNA to amino acids
 D) Lipoproteins and glycoproteins formation
- 50)** Spherical or tubular membranes which separate the material present in endoplasmic reticulum from that of cytoplasmic material are called?
 A) Cytosol B) Cisternae
 C) Lysosomes D) Cristae
- 51)** Which of the following is a mesh of interconnected membranes involved in protein synthesis and transport?
 A) ER B) Cytoskeleton
 C) Golgi apparatus D) All of these
- 52)** Which of the following is false about the sarcoplasmic reticulum?
 A) The sarcoplasmic reticulum is a specialized smooth endoplasmic reticulum
 B) The sarcoplasmic reticulum releases calcium ions into the cytoplasm of the muscle cell
 C) A change in membrane potential causes the sarcoplasmic reticulum to become more permeable to calcium ions
 D) The sarcoplasmic reticulum is found
- 53)** Which of the following is not a function of SER?
 A) Synthesis of steroid hormones of cholesterol
 B) Detoxification of harmful drugs
 C) Synthesis of phospholipids for plasma membrane
 D) Synthesis of membrane proteins
- 54)** Which of the following is not the function of endoplasmic reticulum?
 A) Transport of material
 B) Mechanical support
 C) Synthesis of conjugated molecules
 D) All of these
- 55)** Which of the following is not the function of endoplasmic reticulum?
 A) Transport of material

<p>B) Mechanical support C) Synthesis of conjugated molecules D) All of these</p>	
<p>56) Which one of the following is involved in lipid metabolism? A) RER B) Golgi apparatus C) Chloroplast D) None</p>	<p>present in axons C) A lot of mitochondria are present in dendrites D) A lot of mitochondria are present in dendron</p>
<p>57) Mitochondria ADP is regenerated by mitochondria into which of the following? A) AMP B) ATP C) ADP D) All of these</p>	<p>63) plays role in respiration. A) Mitochondria B) Chloroplast C) Ribosome D) Golgi apparatus</p>
<p>58) Diameter of mitochondria ranges between: A) 0.5-1 μm B) 0.5-1 nm C) 100-200 μm D) 100-200 nm</p>	<p>64) The outer and inner membranes of mitochondria are? A) Structurally and functionally different B) Structurally different but functionally similar C) Structurally and functionally similar D) Structurally similar but functionally different</p>
<p>59) Enzymes in mitochondrial matrix help in which of the following metabolic processes? A) Krebs cycle B) Aerobic respiration C) Fatty acid metabolism D) ALL A, B, C</p>	<p>65) Which of the following combination is an example of self-replicating organelles? A) Mitochondria and Ribosomes B) Mitochondria and Chloroplast C) Mitochondria and Vacuole D) Mitochondria and Nucleus</p>
<p>60) F1 particles are present in: A) Chloroplast B) Mitochondria C) Ribosome D) All of these</p>	<p>66) Which of the following is double membranous organelle? A) Nucleus B) Mitochondria C) Chloroplast D) All A, B, C</p>
<p>61) Inner membrane convulsions of the mitochondria are called? A) Grana B) Cnstaе C) Thylakoid membrane D) Intergrana</p>	<p>67) Which of the following is not a character of mitochondria? A) It contains F 1 particles B) It is double membranous C) is a self-replicating organelle D) Number of mitochondria is constant</p>
<p>62) It is a true statement: A) A lot of mitochondria are present in axons B) Less number of mitochondria are</p>	<p>68) Which of the following is not present in mitochondria? A) Enzymes B) Coenzymes</p>

C) Ribosomes
Thylakoid

D)

69)

Golgi apparatus/Golgi complex /Golgi bodies

Golgi complex was discovered by which scientist?

- A) Robert Brown B) Camillo Golgi
C) De Duve D) Robert Hooke

70) Golgi complex is responsible for the formation of secretory granules in _____ cell.

- A) Stomach B) Liver
C) Pancreatic D) Muscle

71) Pancreas produces secretory granules that help in digestion. These granules after passing through endoplasmic reticulum are pinched off from the surface of Golgi apparatus?

- A) Forming phase B) Maturing phase
C) Any of these D) None of these

72) Proteins and lipids are converted into glycolipids and glycoproteins by adding carbohydrates by?

- A) Ribosomes B) Cytoplasm
C) Golgi apparatus D) Endoplasmic reticulum

73) Shape of the maturing phase of the Golgi apparatus is?

- A) Biconcave B) Convex
C) Spherical D) Concave

74) Which is incorrectly matched:

- A) Golgi apparatus - intercellular digestion
B) Cell membrane - cell recognition
C) SER - Carbohydrate metabolism
D) RER - protein synthesis

75) Which organelle form cell membrane?

- A) Cell wall B) SER
C) RER D) Golgi body

76)

Lysosomes

What are Autophagosomes?

- A) Those lysosomes which eat parts of their own cells to generate energy.
B) Those lysosomes which eat old and worn-out cellular organelles.
C) Lysosomes which help in extracellular digestion
D) Both A and B

77) A disease caused by the absence of a lysosomal enzyme responsible for lipid catabolism:

- A) Tay-Sach's disease B) Phenylketonuria
C) Klinefelter's syndrome D) Down's syndrome

78) Lysosomes are formed by:

- A) RER B) SER
C) Golgi complex D) Mitochondria

79) Lysosomes are known as "suicidal bags" because of?

- A) Parasitic activity B) Presence of food vacuoles
C) Hydrolytic activity D) Catalytic activity

80) Phagocytosis, autophagy and extracellular digestion are the functions of?

<p>A) Lysosomes Mitochondria C) Golgi apparatus D) All of these</p>	<p>B) C) Chloroplast D) Golgi apparatus</p>
<p>81) The cells which lack lysosomes would have difficulty in which of the following? A) Digesting food B) Moving cytoplasm C) Protein packaging D) Storage of energy</p>	<p>87) Enzymes for light dependent reaction are present in: A) Thylakoid membrane of chloroplast B) Lumen of grana C) Stroma D) Outer membrane</p>
<p>82) The process of self-digestion of selective nonfunctional organelle by cells through the actions of enzymes originating from the cell is called? A) Pinocytosis B) Endocytosis C) Autophagy D) Cytotoxicity</p>	<p>88) Enzymes in Calvin cycle are found in which cell organelle? A) Smooth endoplasmic reticulum B) Chloroplast C) Mitochondrion D) Golgi complex</p>
<p>83) Which of the following cell organelle does not contain DNA? A) Nucleus B) Mitochondria C) Lysosomes D) Chloroplast</p>	<p>89) In the plants, 50 or more thylakoids piled upon each other to form? A) Granum B) Centrosome C) Stroma D) Multinucleate</p>
<p>84) Plastids/chloroplasts The type of plastids found in roots of plants: A) Chloroplasts B) Chromoplasts C) Leucoplasts D) All of them</p>	<p>90) Plants store food in: A) Chloroplast B) Chromoplasts C) Leucoplast D) Both A and B</p>
<p>85) Colour of petals is due to: A) Chloroplast B) Plastid C) Chromoplast D) Leucoplast</p>	<p>91) Stacked of thylakoids in chloroplasts is called? A) Grana B) Stroma C) Nucleus D) None of these</p>
<p>86) Double membranous structure having coins like stacks of membranes are known as: A) Mitochondria B) Nucleus</p>	<p>92) The dense fluid filled region in the chloroplast is called? A) Grana B) Stroma C) Thylakoid D) Intergrana</p> <p>93) The matrix surrounding the grana in the inner membrane of the chloroplast is called? A) Cytosol B) Frets C) Stroma D) Intergranal</p>

lamellae

- 94) Which of the following organelle is involved in the release of oxygen?
 A) Mitochondria B) Chloroplast
 C) Ribosomes D) Both A and B

- 95) Which type of cell would be the most appropriate for the study of chloroplasts?
 A) Conducting cell B) Pericycle cell
 C) Photosynthetic cell D) All of these

- 96) Yellowing and brown end of leaf is because of deficiency of:
 A) Chlorophyll B) Nitrogen
 C) Potassium D) Iron

- 97) **Vacuoles**
 The membrane around the vacuole is known as?
 A) Tonoplast B) Elaioplast
 C) Cytoplasm D) Amyloplast

- 98) The largest organelle in a mature living plant cell is?
 A) Chloroplast B) Nucleus
 C) Central vacuole D) Mitochondria

- 99) Under microscopic examination, which cellular structure would differentiate a plant cell from an animal cell?
 A) Ribosomes B) Cell membrane
 C) Cytoplasm D) Cell vacuole

- 100) Which of the following organelles are found in both plant and animal cells?
 A) Vacuole B) Peroxisomes
 C) Cell wall D) None of these

- 101) Which one of the following is not double membranous structure?
 A) Vacuole B) Mitochondria
 C) Chloroplast D) Nucleus

102)

Prokaryote and eukaryote

Which combination of organelles is usually present in both animal and plant cells?

- A) Golgi complex, plastids, mitochondria
 B) Plastids, mitochondria, endoplasmic reticulum
 C) Golgi complex, endoplasmic reticulum, centrioles
 D) Mitochondria, endoplasmic reticulum, ribosomes

- 103) Eukaryotes can share which of the following structures with prokaryotes?
 A) Cell wall B) Golgi
 C) Mitochondria D) Nucleoid

- 104) The presence of which of the following feature would best indicate a eukaryotic cell?
 A) Cilia B) Plasma membrane
 C) Organelles D) Ribosomes

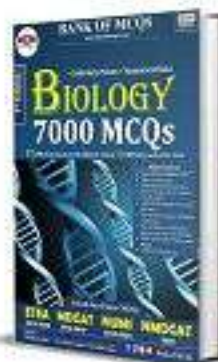
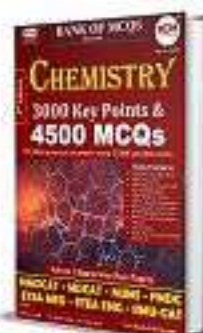
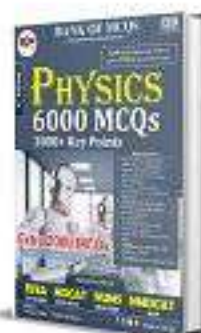
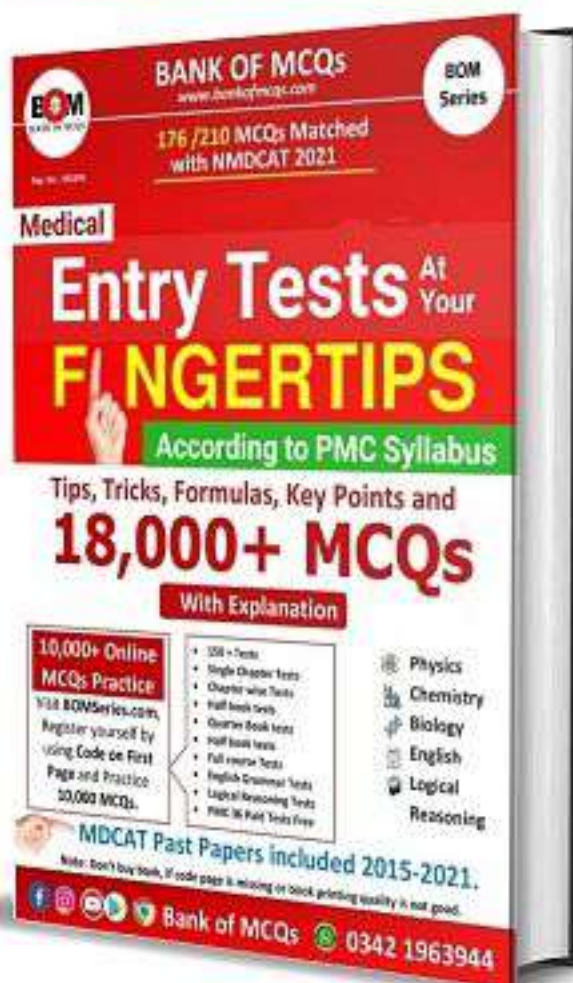
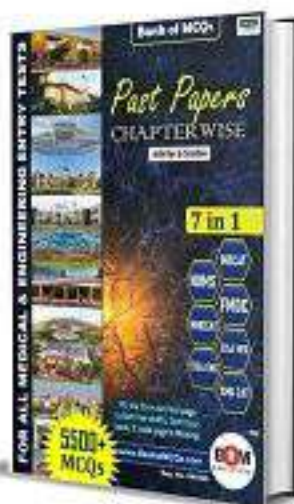
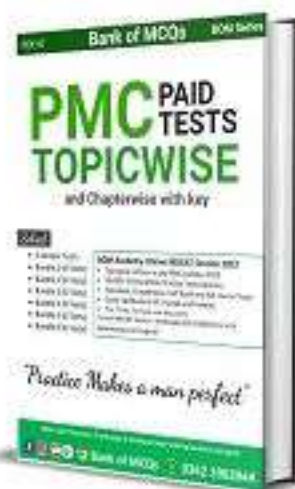
- 105) Unlike eukaryotes, prokaryotes have no membrane-bound organelles. How, then, are prokaryotes able to generate energy?
 A) Prokaryotes do not generate energy



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- B) Prokaryotes produce energy via photosynthesis
 C) Prokaryotes have specialized mitochondria
 D) Prokaryotes generate proton gradients across their plasma membranes

106 Which of the following components of an animal cell is not observed in a bacterial cell?

- A) Nucleus B) Ribosomes
 C) Cell membrane D) DNA

107 Which statement describes an incorrect difference between a plant cell and bacterial cell?

- A) Bacterial cell has 70S ribosomes whereas a plant cell has 80S ribosomes.
 B) Bacterial cell divides by binary fission whereas a plant cell divides by mitosis.
 C) Bacterial cells do not have a nuclear membrane whereas plant cells have.
 D) None of the above

108 Which structure differentiates eukaryotic from a prokaryotic cell?

- A) Ribosomes B) Cell wall
 C) Cell membrane D) Golgi complex

109)

Fluid mosaic model

The structure of plasma membrane is mainly held together by:

- A) Proteins B) Carbohydrates
 C) Phospholipids D) All of the above

110 According to fluid mosaic model, the plasma membrane is composed of which

of the following?

- A) Phospholipid B) Intrinsic proteins
 C) Extrinsic proteins D) All of these

111 Carbon dioxide passes through plasma membrane of cells by:

- A) Active transport B) Passive transport
 C) Facilitated diffusion D) Passive diffusion

112 Cell membrane contains:

- A) Lipoproteins and glycolipids
 B) Phospholipids and proteins
 C) Lipoproteins and phospholipids
 D) All of these

113 Cell membrane is chemically composed of lipids and .

- A) Protein B) Carbohydrates
 C) Both A and B D) None of these

114 Damage to one of the following immediately kills the cell whether it is prokaryotic or eukaryotic?

- A) Nucleus B) Mitochondria
 C) Cell membrane D) All of these

115 Diffusion is opposite to

- A) Osmosis B) Effusion
 C) Affusion D) None of these

116 Distribution of intrinsic proteins in the plasma membrane is?

- A) Random B) Symmetrical
 C) Asymmetrical D) None of these

- 117** Fatty acids move through the plasma membrane by which transport method?
 A) Passive transport B) Non-facilitated transport
 C) Active transport D) Facilitated transport
- 118** Fibers of extracellular matrix are attached to plasma membrane.
 A) Phospholipids B) Glycolipids
 C) Proteins D) Carbohydrates
- 119** Fluidity of cell membrane is due to:
 A) Lipid bilayer
 B) Proteins partially and fully embedded in it
 C) Phospholipids slide past each other and proteins embedded in it in mosaic manner
 D) All of these
- 120** Glycolipids and glycoproteins have structural role in which matrix structure of animal and bacterial cell?
 A) Extracellular B) Intracellular
 C) Both A and B D) Plasma membrane
- 121** Glycolipids in the plasma membrane are located at?
 A) Inner leaflet of the plasma membrane
 B) The outer leaflet of the plasma membrane
 C) Evenly distributed in the inner and outer leaflets
 D) Varies to cell types
- 122** How is the ATP molecule used by the cell?
 A) Synthesis of complex compounds
 B) Active transport
 C) Muscular contraction
 D) All of these
- 123** Hydrophobic character in plasma membrane is exhibited by:
 A) Fatty acids in tail B) Phospholipid head
 C) Intrinsic protein D) Extrinsic protein
- 124** Ions cannot cross which part of the plasma membrane?
 A) Phospholipid bilayer B) Channel proteins
 C) Both A and B D) None of the above
- 125** It is not a role of cell membrane:
 A) Initiation of cell division
 B) Transport of material
 C) Transmission of nerve impulse
 D) Site for receptors
- 126** Movement of the material across the cell membrane which does not require expenditure of metabolic energy is called?
 A) Active transport B) Passive transport
 C) Diffusion D) Both B and C
- 127** Phosphatidylserine residues in the plasma membrane are located at?
 A) The outer leaflet of the plasma membrane
 B) Inner leaflet of the plasma membrane
 C) Evenly distributed in the inner and outer leaflet
 D) None of these
- 128** Plasma membrane by volume is mainly made up of:
 A) Proteins B) Phospholipids

C) Glycoproteins Carbohydrates	D)	C) Cell membrane Mitochondria	D)
129 Protein for cell membrane are made by:		136 What percentage of protein is found in the cell membrane?	
A) Rough endoplasmic reticulum		A) 20-40	B) 40-50
B) Smooth endoplasmic reticulum		C) 60-80	D) 90
C) Nucleus		137 What was the unit membrane model?	
D) Mitochondria		A) Plasma membrane has lipid bilayer	
130 Secretion of insulin from beta cells of pancreas is an example of which membrane function?		B) Proteins are embedded in the lipid bilayer	
A) Endocytosis	B)	C) Plasma membrane has charged pores for transport of materials which cannot penetrate through the lipid bilayer	
Phagocytosis		D) All of the above	
C) Exocytosis	D)	138 Which among the following defines GPI anchored proteins?	
Pinocytosis		A) Integral proteins of the plasma membrane	
131 Self-repairing is present in:		B) Proteins that bind to ion gated channels in plasma membrane	
A) Cell wall	B) Cell	C) Proteins which randomly bind to lipids of plasma membrane	
membrane		D) Peripheral proteins of plasma membrane	
C) Capsule	D) Slime	139 Which is not an example of transmembrane transport between different subcellular compartments?	
132 The basic framework structure of all types of membranes re :		A) Transport from the stroma into thylakoid space	
A) Glycolipids	B)	B) Transport from the cytoplasm into the lumen of the endoplasmic reticulum	
Glycoproteins		C) Transport from mitochondrial intermembrane space into the mitochondrial	
C) Lipoproteins	D)	D) Transport from the endoplasmic reticulum into the Golgi complex	
Nucleoproteins		140 Which of the following substance is most favorable structural component of biological membranes?	
133 The fluid mosaic model of plasma membrane proposes that membranes are:			
A) Solid	B) Semi-solid		
C) Fluid	D) Liquid		
134 Transverse diffusion (flip-flop) is the movement due to which of the following molecules?			
A) Cholesterol molecule	B)		
Phospholipid			
C) Protein	D) Amino acid		
135 What part of the cell serves as an intracellular highway?			
A) ER	B) Golgi		
apparatus			

- A) Hydrophilic carbohydrates B) Hydrophobic fats
C) Both A and B D) None of these

141 Which of the modes of cellular transport requires energy?

- A) Active transport B) Passive transport
C) Osmosis D) Diffusion

142 Which of the statement about cell membrane is not true?

- A) It contains protein molecules embedded in lipid bilayer
B) It is a differentially permeable membrane
C) It contains charged pores thus ions being charged particles across cell membrane much easier than neutral particles
D) It may get infolded to engulf solid or liquid material

143 Which of the statements correctly describes why ions are unable to cross the plasma membrane without channel proteins?

- A) They are unable to cross the hydrophilic phosphate heads of the lipid bilayer
B) They are unable to cross the hydrophobic tails of the lipid bilayer
C) They are unable to cross both the phosphate heads and fatty acid chains of the lipid bilayer
D) They are too big to cross the plasma membrane

144 Which one is not cytoplasmic body?

- A) Mitochondria B) Vacuole
C) Cell membrane D) Ribosome

145 Which statement is true about lipid bilayer of plasma membrane?

- A) Permeable to large ionic polar molecule
B) Permeable to small ionic molecule
C) Permeable to only polar molecule
D) None of the above

146 Why phospholipids are major part of the lipid bilayer in plasma membranes?

- A) They have a nitrogenous base in the head region
B) They have fatty acids in the tail region
C) They are amphipathic in nature
D) They have a phosphate group in the head region

147)

Out of Syllabus

What would be the resolving power of the objective length in a microscope, if the eyepiece is of 10X and total magnification is 40X?

- A) 4 B) 10
C) 40 D) 400

148 A cell with fully elastic wall is placed in hypertonic solution. What will not occur?

- A) Change in cell size and shape
B) The whole cell will shrink
C) Cytoplasm shrinks from the cell wall and undergoes plasmolysis
D) Decreases in cell size

149 A chromosome in which a centromere stays at one end is called?

- A) Metacentric B) Telocentric
C) Acrocentric D) All of these

150 Cells have energy in the form of:

- A) Chemical and electrical B) Mechanical
C) Kinetic D) Chemical

151 Cellular organelles that interact with hydrogen peroxide are called?

- A) Glyoxysomes B) Lysosomes
C) Ribosomes D) Peroxisomes

152 Centrioles are composed of how many triplets of microtubules?

- A) 6 B) 9
C) 12 D) 15

153 Compound Microscope was first used by:

- A) A) V. Leeuwenhoek B) Pasture
C) Janssen and Hans D) None of these

154 Cytoskeleton provides:

- A) Motility, maintenance, synthesis
B) Maintenance, synthesis only
C) Movement. Maintenance only
D) None of above

155 Magnifying power of electron microscope as compared to eye is?

- A) 500 X B) 100 000 X
C) 500 000 X D) 250 000 X

156 Omnis cellula a cellula is hypothesized by:

- A) Schleiden B) Lorenz Oken
C) Louis Pasteur D) Rudolph Virchow

157 Size of eukaryotic cell is:

- A) 10-20 μm B) 10-100 μm
C) 100-200 μm D) 20-40 μm

158 The function of the centrosome is?

- A) Osmoregulation B) Secretion
C) Protein synthesis D) Formation of spindle fibres

159 The human naked eye can differentiate between two points which are how much apart?

- A) 1 mm B) 0.1 mm
C) 2 dm D) 1 dm

160 The image represent by compound microscope is:

- A) Real B) Virtual inverted
C) Virtual D) Real inverted

161 The isolation of different cellular components to determine their chemical composition can be achieved by?

- A) Cell differentiation B) Chromatography
C) Cell fractionation D) All of these

162 The long unbranched, slender tubulin protein is called?

- A) Microtubules B) Intermediate filament
C) Actin D) All of these

163 The rigidity of leaves and younger parts of the plants is contributed by?

- A) Microtubules B) Mitochondria
C) Actin D) Glyoxysomes

164 What is the correct sequence of steps in cell fractionation?

- A) Homogenization, centrifugation, separation
B) Separation, homogenization, centrifugation
C) Centrifugation, homogenization, separation
D) Homogenization, separation, centrifugation

165 Which of the following is involved in the conversion of fats to carbohydrates by oxidation of fats?

- A) Peroxisomes B) Microsomes
C) Lysosomes D) Glyoxysomes

166 Which of the following is not a tenet of the Cell Theory?

- A) Cells carry genetic information in the form of DNA
B) Cells are the basic functional unit of

life

C) Cells arise from pre-existing cells

D) All cells have membrane-bound organelles

167 Which of the following statement is incorrect about Glyoxysomes?

A) They contain enzymes which help in conversion of fatty acids into carbohydrate

B) They are abundant in soybeans but absent in pea

C) They are single membranous organelles

D) They are present throughout life of a plant and provide them with energy

through Glyoxylate cycle

168 Who opposed the idea that cell is an empty space bounded by thick wall?

A) Lorenz oken B) Schwann

C) Robert Hook D) Rudolph Virchow

Key

1.	A	22.	A	43.	B	64.	A	85.	C	106.	A
2.	B	23.	A	44.	D	65.	B	86.	C	107.	D
3.	C	24.	A	45.	D	66.	D	87.	A	108.	B
4.	D	25.	D	46.	A	67.	D	88.	B	109.	C
5.	B	26.	C	47.	D	68.	D	89.	A	110.	D
6.	B	27.	A	48.	B	69.	B	90.	C	111.	B
7.	A	28.	D	49.	C	70.	C	91.	A	112.	D
8.	B	29.	C	50.	B	71.	B	92.	B	113.	C
9.	C	30.	C	51.	A	72.	C	93.	C	114.	C
10.	C	31.	C	52.	D	73.	D	94.	B	115.	D
11.	A	32.	B	53.	D	74.	A	95.	C	116.	A
12.	B	33.	B	54.	C	75.	D	96.	A	117.	A
13.	B	34.	C	55.	C	76.	D	97.	A	118.	C
14.	C	35.	C	56.	D	77.	A	98.	C	119.	A
15.	A	36.	C	57.	B	78.	C	99.	D	120.	D
16.	B	37.	D	58.	A	79.	C	100.	A	121.	B
17.	A	38.	D	59.	D	80.	A	101.	A	122.	D
18.	B	39.	D	60.	B	81.	A	102.	D	123.	A
19.	D	40.	B	61.	B	82.	C	103.	A	124.	A
20.	D	41.	D	62.	A	83.	C	104.	C	125.	A
21.	A	42.	D	63.	A	84.	C	105.	D	126.	D

127.	B	134.	B	141.	A	148.	C	155.	D	162.	A
128.	B	135.	C	142.	C	149.	B	156.	D	163.	A
129.	A	136.	C	143.	B	150.	D	157.	B	164.	B
130.	C	137.	A	144.	C	151.	D	158.	D	165.	D
131.	B	138.	D	145.	D	152.	B	159.	B	166.	A
132.	C	139.	C	146.	C	153.	A	160.	D	167.	B
133.	C	140.	B	147.	A	154.	A	161.	C	168.	C

Nervous system

- Brachial plexus supply to:
 - Heart
 - Upper limbs
 - Lower limbs
 - Abdomen
- Central nervous system consists of:
 - Brain and spinal cord
 - Cerebrum and spinal column
 - Spinal nerves only
 - Cerebellum and brain stem only
- Nervous system is absent in:
 - Sycon
 - Euplectella
 - Jelly fish
 - Both a and b
- One of the actions of the parasympathetic nervous system is?
 - Inhibits peristalsis
 - Sweat secretion
 - Constriction of Pupils
 - Dilates Bronchioles
- Parasympathetic system causes:
 - Digestion of food
 - Accelerated heart beat
 - High metabolism
 - Rapid muscle movement
- The abundant inhibitory neurotransmitter found in the CNS is called?
 - Gamma-glutamyltransferase
 - Gamma-linolenic acid
 - Gamma-Aminobutyric acid
 - None of these
- The autonomic nervous system functions?
 - Act on external environment
 - Regulate the internal environment
 - Transmit motor information to brain
 - None of these
- The response of the sympathetic nervous system is known as:
 - Autonomic response
 - Flight response
 - Somatic response
 - Reflex response
- Which of the following does not form part of the central nervous system?
 - Brain
 - Spinal cord
 - Brain stem
 - Spinal nerves

- 10)** Which part of the nervous system controls actions like walking and running?
 A) Somatic nervous system
 B) Parasympathetic nervous system
 C) Sympathetic nervous system
 D) Peripheral nervous system
- 11)** **Transmission of action potential between cells-synapse**
 The main transmitter for synapses that lie outside the central nervous system is?
 A) Adrenaline B) Serotonin
 C) Dopamine D) Acetylcholine
- 12)** **Hormones**
 What is the chemical nature of antidiuretic hormone?
 A) It is a protein
 B) It is an amino acid derivative
 C) It is made from cholesterol
 D) It is a lipoprotein
- 13)** Cortisol brings about an increase in blood glucose level mainly by its production from protein and
 A) Glucagon B) Insulin
 C) Estrogen D) Progesterone
- 14)** Decreased production of parathyroid leads to:
 A) Increase in calcium levels B) Increase in vitamin B12
 C) Decrease in calcium levels D) Decrease in vitamin B12
- 15)** Deficiency in the production of parathormone causes which of the following disease?
 A) Brittle bones B) Soft bones
 C) Rickets D) Tetany
- 16)** Deficiency of cortical hormones causes:
 A) Cushing syndrome B) Addison's disease
 C) Dwarfism D) Cretinism
- 17)** FSH is released from:
 A) Pituitary gland B) Hypothalamus
 C) Brain D) Blood
- 18)** Goiter develops in which case?
 A) Hyperthyroidism B) Hypothyroidism
 C) Both A & B D) None of the above
- 19)** In females testosterone is produced from:
 A) Graffian follicle B) Adrenal cortex
 C) Adrenal medulla D) None
- 20)** In humans placenta is established by:
 A) Hypothalamus B) Progesterone
 C) Thalamus D) Estrogen
- 21)** Insufficient thyroxine in adults leads to:
 A) Dwarfism B) Myxedema
 C) Cretinism D) Grave's disease
- 22)** It is not secreted by placenta:
 A) Progesterone B) Estrogen
 C) Human placental lactogen D) LH
- 23)** Primary hormone is:
 A) STH B) FSH
 C) LH D) Prolactin
- 24)** Tetany is considered to be the result of a
 A) Hyperglycemia B) Hypercalcemia
 C) Hypoglycemia D) Hypocalcaemia
- 25)** Thyroid hormone increases metabolic rate by:
 A) Breakdown of nucleic acids B) Breakdown of vitamins
 C) Breakdown of proteins D) Breakdown of carbohydrates

26) Thyroid stimulating hormone is produced by:

- A) Anterior lobe of thyroid
- B) Exterior lobe of pituitary gland
- C) Posterior lobe of pituitary gland
- D) Anterior lobe of pituitary gland

27) Vascularization in endometrium is induced by:

- A) LH
- B) Estrogen
- C) FSH
- D) ICSH

28) When vasopressin is not secreted, the condition that occurs is called?

- A) Acromegaly
- B) Diabetes mellitus
- C) Dwarfism
- D) Diabetes insipidus

29) Which disease is represented by excess MSH secretion?

- A) Addison's
- B) Alzheimer's
- C) Parkinson's
- D) Cohn's

30) Which of the following is not a gonadotrophic hormone?

- A) Estrogen
- B) LH
- C) FSH
- D) Prolactin

31) Which of the following is taken from blood by the liver due to insulin?

- A) Glucagon
- B) Glucose
- C) Glucocorticoid
- D) All of these

32) Which of the following is the effect of STH?

- A) Growth of body metabolism
- B) Body metabolism
- C) Glucose breakdown
- D) Heat production

33)

Endocrine glands

The pea-shaped gland attached to the brain's hypothalamus is known as:

- A) Iodopsin glands
- B) Thyroid gland

- C) Rhodopsin glands
- D) Pituitary glands

34) Thymus is found in human body.

- A) In the medulla oblongata
- B) In the mediastinum if the upper thorax
- C) Both A & B
- D) None

35) Largest endocrine gland is .

- A) Pancreas
- B) Pituitary
- C) Thyroid
- D) Thymus

36)

Feedback Mechanism

Reflexes and reflex arc

Which of these does not participate in reflex actions?

- A) Motor neuron
- B) Effector
- C) Pituitary
- D) Spinal cord

37) A neural pathway that controls an action reflex is called:

- A) Nerve cell
- B) Reflex arc
- C) Receptor cells
- D) Mixed nerve

38) All of the following about reflex action are true except:

- A) It is voluntary
- B) It is found in higher animals
- C) It is involuntary
- D) All of these

39) An involuntary and nearly instantaneous movement in response to a stimulus is called:

- A) Reflex
- B) Reflex arc
- C) Neuron
- D) Synapse

40) Monosynaptic refers to the presence of how many chemical synapse/s?

- A) 1
- B) 2
- C) 3
- D) 4

41) Most reflex arcs are:

- A) Monosynaptic reflex
- B) Polysynaptic reflex
- C) Hemi Synaptic Reflex
- D) None of these

- 42) Reflex action is controlled by:
A) Peripheral nervous system B) Central nervous system
C) Autonomic nervous system D) Circulatory system
- 43) Reflex action is the simplest form of response in:
A) Higher Animals B) Smaller animals
C) Simpler animals D) Lowest animals
- 44) Reflex arc comprises of:
A) Motor nerve B) Sensory nerve
C) Both A and B D) Mixed nerve
- 45) The patellar reflex and the Achilles reflex are examples of:
A) Monosynaptic reflex B) Blood and water
C) Hemi Synaptic reflex D) Blood and fluid
- 46) The path taken by the nerve impulses in a reflex is called:
A) Nerve cell B) Reflex arc
C) Receptor cells D) Mixed nerve
- 47) The shortest way by which impulses travel from the receptor to the effector is called?
A) Synapse B) Reflex actin
C) Reflex arc D) Voluntary response
- 48) The stretch reflex, the Golgi tendon reflex, the crossed extensor reflex and the withdrawal reflex are included in:
A) Stretch reflex B) Spinal reflex
C) Golgi tendon reflex D) Crossed extensor reflex
- 49) The term that should be last in the reflex sequence is:
A) Receptor B) Effector
C) Sensory neuron D) Motor neuron
- 50) Which of the following is an example of superficial reflex?
A) Ankle jerk B) Knee jerk
C) Abdominal reflex D) Both A & B
- 51) Which of the following is made up of an afferent pathway from a receptor and an efferent pathway to an effector?
A) Nerve cell B) Reflex arc
C) Receptor cells D) Mixed nerve
- 52) Which part of the nervous system is responsible for controlling reflex action?
A) Corpus callosum B) Pons
C) Vermis D) Spinal cord
- 53) Which type of reflex affect inner organs?
A) Autonomic reflex arc
B) Somatic reflex arc
C) Both A and B D) None of these
- 54) **Levels of the spinal cord and its main functions**
Gray matter is primarily composed of:
A) Axons B) Synapse
C) Neuron somas D) None of these
- 55) Choose the region of spinal cord:
A) Cervical B) Thoracic
C) Lumbar D) All of these
- 56) How many laminae present in the spinal cords grey matter?
A) 10 B) 8
C) 12 D) 9
- 57) In the peripheral nervous system, the nerves that arise from spinal cord and brain are called?
A) Frontal nerves B) Temporal nerves
C) Cranial nerves D) Spinal nerves
- 58) Number of pairs of spinal nerves are:
A) 31 B) 12
C) 13 D) None

- | | |
|---|--|
| <p>59) Out of 31 pairs of spinal nerves, how many pairs of coccygeal nerves are there?
 A) 1 B) 5
 C) 10 D) 12</p> | <p>A) Pleura B) Meninges
 C) Synapse D) None of these</p> |
| <p>60) Out of 31 pairs of spinal nerves, how many pairs of lumbar nerves are there?
 A) 5 B) 10
 C) 15 D) 20</p> | <p>69) The spinal cord is continuous with which part of the brain?
 A) Cerebrum B) Medulla oblongata
 C) Cerebellum D) Pons</p> |
| <p>61) Out of 31 pairs of spinal nerves, how many pairs of sacral nerves are there?
 A) 5 B) 10
 C) 12 D) 15</p> | <p>70) The spinal cord is divided into how many different regions?
 A) 2 B) 6
 C) 4 D) 8</p> |
| <p>62) Out of 31 pairs of spinal nerves, how many pairs of thoracic nerves are there?
 A) 8 B) 10
 C) 12 D) 15</p> | <p>71) The spinal cord is part of:
 A) Brain
 B) Central nervous system
 C) Peripheral nervous system
 D) Somatic division</p> |
| <p>63) The dorsal root of spinal cord is:
 A) Sensory B) Motor
 C) Mixed D) All A, B and C are correct</p> | <p>72) The ventral root of the spinal cord contains axons of:
 A) Sensory neuron B) Motor neuron
 C) Mixed neuron D) Spinal neuron</p> |
| <p>64) The material in brain and spinal cord contains cell bodies and dendrite of nerve cells is:
 A) White matter B) Blue matter
 C) Brown matter D) Gray matter</p> | <p>73) What is the length of spinal cord?
 A) 10-20 cm B) 20-30 cm
 C) 40-50 cm D) 60-90 cm</p> |
| <p>65) The medulla oblongata is found on which of the following regions?
 A) Top of brain B)
 C) Behind the hypothalamus D)
 Behind the thalamus</p> | <p>74) What is the most important structure between body and brain?
 A) Neck B) Spinal cord
 C) Blood vessels D) Skeleton</p> |
| <p>66) The shape of grey matter is:
 A) Spherical B) Mosquito
 C) Butterfly D) Rectangular</p> | <p>75) White matter has:
 A) Myelinated sheath B) Non-myelinated sheath
 C) Myelinated neuron D) Non-myelinated neuron</p> |
| <p>67) The spinal cord acts as a link between body parts and .
 A) Brain B) Skull
 C) Heart D) Lungs</p> | <p>76) White matter is primarily composed of:
 A) Axons B) Synapse
 C) Neuron somas D) None of these</p> |
| <p>68) The spinal cord and spinal nerve roots are wrapped within three layers called:</p> | <p>77)</p> <div style="background-color: black; color: white; padding: 5px; text-align: center;"> Parts of the brain with their main functions </div> <p>Regulation of is not a function of</p> |

hypothalamus in humans.

- A) Body temperature B) Blood water potential
C) Urine osmolarity D) Circadian rhythms & emotions

78) Brain part that coordinates skeletal muscles:

- A) Cerebrum B) Cerebellum
C) Amygdala D) Medulla

79) Breathing and heart rate is controlled by which of these?

- A) Corpus callosum B) Hippocampus
C) Medulla D) Thalamus

80) Central nervous system is present in:

- A) Asymmetrical animals B) Bilaterally symmetrical animals
C) Radial symmetrical animals D) Both B and C

81) Hindbrain includes:

- A) Medulla, pons and cerebellum.
B) Medulla, cerebellum and hypothalamus.
C) Cerebellum, medulla and brainstem.
D) All of the above.

82) It acts as a relay center connecting hindbrain with the forebrain:

- A) Forebrain B) Midbrain
C) Hindbrain D) Limbic system

83) It is not correct about cerebrospinal fluid:

- A) Present between meninges
B) Provides protection
C) Fills central canal of spinal cord
D) pH is below 7

84) Medulla, pons and cerebellum are found in which brain part?

- A) Corpus callosum B) Midbrain
C) Forebrain D) Hindbrain

85) Midbrain is also known as:

- A) Pons B) Mesencephalon
C) Medulla D) All of these

86) Sensory areas that receive impulses from the skin are contained by which of the following?

- A) Frontal lobe B) Parietal lobe
C) Occipital lobe D) Temporal lobe

87) The auditory relay center is found in:

- A) Corpus callosum B) Hindbrain
C) Forebrain D) Midbrain

88) The brain area responsible for screening all incoming sensory data is:

- A) Hypothalamus B) Thalamus
C) Cerebellum D) Cerebral cortex

89) The brain is mainly divided into _____ parts.

- A) 2 B) 3
C) 4 D) 5

90) The brain is protected by:

- A) Sacrum B) Cranium
C) Humerus D) Scapula

91) The brain part involved in conscious activities is:

- A) Cerebral cortex B) Limbic system
C) Brain stem D) Thalamus

92) The brain portion that is reduced in humans is:

- A) Forebrain B) Midbrain
C) Hindbrain D) Limbic system

93) The cerebrospinal fluid is similar in composition to _____.

- A) Amniotic fluid B) Pleural fluid
C) Synovial fluid D) Blood plasma

94) The communication between the two hemispheres is the function of:

<p>A) Corpus callosum B) Hindbrain C) Cerebellum D) Cerebrum</p>	<p>102) The lighter, inner section of the brain is called: A) White matter B) Gray matter C) Reflex arc D) Medulla</p>
<p>95) The composition of brain stem is: A) Spinal cord, axon, vertebra B) Cerebrum, cerebellum, pons C) Medulla, pons, midbrain D) Thalamus, midbrain, pons</p>	<p>103) The part of forebrain which lies below the cerebrum is? A) Hypothalamus B) Thalamus C) Cerebellum D) Cerebral cortex</p>
<p>96) The darker, outer portion of the brain is called: A) White matter B) Gray matter C) Reflex arc D) Medulla</p>	<p>104) The thalamus and the hypothalamus are located in which region of the brain? A) Brain stem B) Cerebrum C) Cerebellum D) Diencephalon</p>
<p>97) The diencephalon comprises of: A) Pons and medulla B) Thalamus and limbic system C) Pons and medulla D) Hypothalamus and limb</p>	<p>105) Which brain part is responsible for our basic and primitive emotions? A) Limbic system B) Thalamus C) Hypothalamus D) Cerebrum</p>
<p>98) The embryonic hindbrain gives rise to which structures in brain? A) Diencephalon B) Midbrain C) Cerebrum and basal ganglia D) Cerebellum, pons and medulla oblongata</p>	<p>106) Which fluid bathes the neurons of brain and spinal cord and provides cushions against the bumps and jolts? A) Blood B) Interstitial fluid C) Intracellular fluid D) Cerebrospinal fluid</p>
<p>99) The functional parts of forebrain are: A) Thalamus and limbic system B) Thalamus and cerebrum C) Cerebrum, limbic system and thalamus D) Cerebrum and limbic system</p>	<p>107) Which is involved in long term memory? A) Cerebrum B) Hypothalamus C) Hippocampus D) Thalamus</p>
<p>100) The largest part of forebrain which controls the intelligence, emotions and skeletal muscles is classified as? A) Hypothalamus B) Thalamus C) Cerebellum D) Cerebrum</p>	<p>108) Which lobe is involved in short-term memory, speech, musical rhythm and some degree of smell recognition? A) Frontal B) Parietal C) Temporal D) Occipital</p>
<p>101) The left side of the body is controlled by: A) Left cerebral hemisphere B) Right cerebral hemisphere C) Hippocampus D) Corpus callosum</p>	<p>109) Which of the following is involved in sleeping and waking? A) Thalamus B) Brain stem C) Hypothalamus D) Cerebellum</p> <p>110) Which of the following is not the function of medulla oblongata?</p>

- A) Breathing B) Swallowing
C) Connection between brain and spinal cord
D) Heart beat

111) Which of the following is required for learning?

- A) Medulla B) Thalamus
C) Hypothalamus D) Hippocampus

112) Which of the followings is related to hypothalamus?

- A) Sleep-wake cycle B) Water balance
C) Thermoregulation D) All of these

113) Which of these is involved in coordinated movements of the body?

- A) Cerebellum B) Cerebrum
C) Medulla D) Pons

114) Which part increase the surface area of forebrain?

- A) Cerebral cortex B) Infundibulum
C) Corpus callosum D) None of the above

115) Which part of the brain connects the cerebrum with the spinal cord?

- A) Forebrain B) Cerebrum
C) Cerebellum D) Brainstem

116) Which portion of the brain is primarily responsible for transmitting the information to other parts of the nervous system?

- A) White matter B) Gray matter
C) Medulla D) All A, B and C

117)

Nerve impulse

Terminal branches of axons end in:

- A) Myelin sheath B) Dendrites of the next neuron
C) Synaptic cleft D) Postsynaptic membrane

118) Acetylcholine is:

- A) Enzyme B) Metabolic intermediate
C) PNS neurotransmitter D) CNS neurotransmitter

119) In myelinated neurons the impulse jumps from node to node, what is this transmission called?

- A) Myelinated impulse B) Jumping impulse
C) Saltatory impulse D) All of these

120) Nerve cells transmit messages faster when they have:

- A) Many dendrites B) Myelinated axons
C) Non-myelinated axons D) Many genes

121) Repolarization is restored when:

- A) Sodium ions diffuse in B) Potassium diffuses out
C) Potassium diffuses in D) Sodium diffuses out

122) Resting membrane potential is:

- A) -80 mv B) -70 mv
C) 50 mv D) -85 mv

123) Resting potential in nerve cells is maintained by:

- A) Sodium pumps B) Potassium pumps
C) Calcium pumps D) None of the above

124) The sites where nerve impulse is transmitted from the nerve endings to the skeleton muscle cell membranes?

- A) Z discs B) Dendrites
C) Sarcomeres D) Neuromuscular junctions

125) What is the approximate value of the active membrane potential?

- A) 0.17V B) -50mv
C) 0.05 V D) Both A and B

126) What is the condition of the neurons under resting membrane potentials?

- A) Inner surface of neuron is more positive
- B) Both of these surfaces are equally positive
- C) Outer surface of neuron is more positive
- D) All of these

127)

Steps involved in nervous coordination

Stretch receptors are present in of the tetrapods.

- A) Hepatic arteries B) Carotid arteries
- C) Renal arteries D) Pulmonary arteries

128) After leaving the spinal cord, the spinal nerve gets divided into nerve fibers, connecting to which of the following?

- A) Receptors B) Effectors
- C) Midbrain D) All parts of the body

129) Components of neural arc:

- A) 5 B) 6
- C) 7 D) 4

130) Receptors are:

- A) Brain B) Muscle and glands
- C) Eye and nose D) Nerve cells

131) Stimulus of deep pressure is detected by:

- A) Pacinian corpuscles B) Krause end bulb
- C) Meissner's corpuscles D) Merkel's endings

132) Stretch receptors are present in _____ of tetrapods.

- A) Muscles only B) Organs only
- C) Both A and B D) Bone only

133) Synaptic vesicles discharge which of the following chemical at the neuromuscular junction?

- A) Acetylcholine B) Adrenaline
- C) Estradiol D) Testosterone

134) The sensory neuron has pain-sensitive endings in _____.

- A) Hypothalamus B) Bones
- C) Skin D) Muscles

135) Which types of the receptors are present in the ear?

- A) Chemoreceptors B) Photoreceptors
- C) Thermoreceptors D) Mechanoreceptors

136)

Neurons (Structure and Types)

One of the functions of the neuroglial cells is to protect and support which of the following?

- A) Nephrons B) Myoid cells
- C) Neurons D) none of these

137) _____ carry information towards the soma of neuron.

- A) Dendrites B) Axon
- C) Perikaryon D) Both A and B

138) A motor neuron and all the muscle fibers it supplies is called:

- A) Motor unit B) Neuromuscular junction
- C) Neural unit D) Microtubules

139) Cytoplasm and ribosomes are present in which part of neuron?

- A) Dendrite B) Cell body
- C) Axon D) All of these

140) Interneuron is also known as:

- A) Relay neuron B) Sensory neuron

C) Mixed neuron D) Synapse

141) It carries impulses away from neuron:

- A) Axon B) Dendrites
C) Soma D) Dendron

142) Motor neuron are multipolar but:

- A) Less branched B) More branched
C) No branched D) None

143) Nicotine may induce:

- A) Vomiting B) Diarrhoea
C) Tetanus D) Both A & B

144) Node of Ranvier are also known as:

- A) Myelin sheath B) Neurofibril node
C) Myofibril node D) None

145) Staining part of neuron is called:

- A) Axon B) Dendrites
C) Cell body D) A and C

146) The concentrations of the cell bodies of the neurons called?

- A) Axons B) Introns
C) Ganglia D) Dendrites

147) The gap in the myelin sheath between adjacent Schwann cells is called?

- A) Dendrite B) Soma
C) Node of Ranvier D) Stroma

148) The neurons responsible for converting various external stimuli that come from the environment into corresponding internal stimuli is called:

- A) Motor B) Sensory
C) Both A and B D) Mixed

149) The neurons that interpret and receive information and stimulate motor neurons are what type of neuron?

- A) Sensory neurons B) Motor neurons
C) Interneurons D) Rotator neurons

150) Which form brain and spinal cord?

- A) Sensory neurons B) Motor neurons
C) Interneurons D) Dendrites

151) Which is not a neurotransmitter?

- A) Nor-epinephrine B) L-Dopa
C) Dopamine D) None

152) Which of the following statement about neuron is incorrect?

- A) They not only conduct impulses but also generate them
B) They are not the only cellular component of nervous system
C) They may show limited regenerative capabilities
D) Like all the living cell, when they mature and divide to form similar cells

153)

Positive feedback mechanism

Which of the following is not an example of positive feedback?

- A) A forest fire slowly expands outward, which provides it with even more fuel to burn.
B) During childbirth, oxytocin creates a stimulus which causes the hypothalamus to release more oxytocin.
C) As more buffalo begin to run in a herd, the overall level of panic increases. This results in even more buffalo running.
D) As blood calcium levels increase, parathyroid hormone (PTH) is reduced.

154)

Negative feedback mechanism

One of these processes does not happen as a result of negative feedback mechanism in humans?

- A) Secretion of insulin by pancreas in response to increased blood glucose concentration.

- B) Secretion of oxytocin in response to dilation of cervix during childbirth.
 C) Secretion of glucagon by pancreas in response to decreased blood glucose concentration.
 D) All of the above.

- A) Epilepsy B) Alzheimer's disease
 C) Parkinson's disease D) Lou Gehrig's disease

155)

Out of Syllabus

When cocaine is used as a stimulant, it interferes with the CNS at the reuptake of which hormone?

- A) Testosterone B) Dopamine
 C) Serotonin D) Adrenaline

156)

A crawling snail when we tap glass retract into its shell, tapping has no effect. This form of learning is:

- A) Habituation B) Imprinting
 C) Insight learning D) Latent learning

157)

Brain tumors are due to:

- A) Neuroglial cells B) Neurons
 C) Epithelial cells D) Connective tissues

158)

Commercial use of cytokinins:

- A) Keeping flower fresh B) Keeping lettuce fresh
 C) Break seed dormancy D) All of these

159)

Disorders caused due to disturbance in nerve impulse generation and transmission is called?

- A) Nerve impulse disorder B) Nervous disorder
 C) Transmission disorder D) Functional disorder

160)

Experience has no influence on which type of behavior?

- A) Kinesis B) Imprinting
 C) Habituation D) Insight learning

161)

In which condition, brain produced more impulses than normal:

162) Memory loss occurs in which disease?

- A) Parkinson B) Alzheimer
 C) Epilepsy D) All of these

163) Most of brain tumors are caused by:

- A) Mutation in DNA of proteins involved in glycolysis
 B) Mutation in DNA of proteins involved in cell cycle regulation
 C) Mutation in DNA of proteins involved in fatty acid metabolism
 D) Mutation in DNA of proteins involved in extracellular transport

164) The promoter of leaf senescence is?

- A) Gibberellins B) Cytokinins
 C) Auxins D) Absciscic acid

165) Type of behavior that evolves during life cycle of individual:

- A) Learning B) Instinctive
 C) Both A and B D) None

166) Which of the following is not a function of Absciscic acid?

- A) Inhibits stem and root growth during drought.
 B) Closing of stomata during wilting.
 C) Inhibits flowering in long-day plants
 D) Promotes bud initiation during growth season

167) Which plant hormone promotes abscission?

- A) Auxins B) Gibberellins
 C) Cytokinins D) Absciscic acid

168) Which statement is incorrect about ethylene production?

- A) Climacteric is burst of respiratory activity in fruit ripening

- B) It is associated with ethane production
 C) It helps in fruit ripening
 D) It helps in fruit set

Key

1)	B	29)	A	57)	A	85)	B	113)	A	141)	A
2)	A	30)	A	58)	A	86)	B	114)	A	142)	A
3)	D	31)	B	59)	A	87)	D	115)	D	143)	D
4)	C	32)	A	60)	A	88)	D	116)	C	144)	D
5)	A	33)	D	61)	A	89)	B	117)	C	145)	C
6)	C	34)	B	62)	C	90)	B	118)	C	146)	C
7)	B	35)	A	63)	A	91)	A	119)	C	147)	C
8)	B	36)	C	64)	D	92)	B	120)	B	148)	B
9)	D	37)	B	65)	B	93)	D	121)	B	149)	C
10)	A	38)	A	66)	C	94)	A	122)	B	150)	C
11)	D	39)	A	67)	A	95)	C	123)	D	151)	B
12)	A	40)	A	68)	B	96)	B	124)	D	152)	D
13)	A	41)	B	69)	B	97)	B	125)	C	153)	D
14)	C	42)	B	70)	C	98)	D	126)	C	154)	B
15)	D	43)	A	71)	B	99)	C	127)	B	155)	B
16)	B	44)	C	72)	B	100)	D	128)	B	156)	A
17)	A	45)	A	73)	C	101)	B	129)	A	157)	A
18)	C	46)	B	74)	B	102)	A	130)	C	158)	D
19)	B	47)	C	75)	C	103)	B	131)	A	159)	B
20)	B	48)	B	76)	A	104)	D	132)	C	160)	A
21)	B	49)	B	77)	D	105)	A	133)	A	161)	A
22)	D	50)	C	78)	B	106)	D	134)	C	162)	B
23)	D	51)	B	79)	C	107)	C	135)	D	163)	B
24)	D	52)	D	80)	B	108)	C	136)	C	164)	D
25)	D	53)	C	81)	A	109)	C	137)	A	165)	A
26)	D	54)	C	82)	B	110)	C	138)	A	166)	D
27)	B	55)	D	83)	D	111)	D	139)	B	167)	D
28)	D	56)	D	84)	D	112)	D	140)	A	168)	A

DIVERSITY AMONG ANIMALS

- 1) Characteristics and diversity among the animals (animal phyla, characteristics)**
The fate of each blastomere is foretold)
What will be the cleavage?
A) Spiral and indeterminate B)
Radial and indeterminate
C) Radial and indeterminate D)
Spiral and determinate
- 2) _____ do not perform photosynthesis:**
A) Animals B) Bacteria
C) Pine tree D) Spirogyra
- 3) 80% of the food of sponges consists of which of the following?**
A) Detrital organic particles
B) Phytoplanktons
C) Zooplankton and small animal
D) All of these
- 4) A hydrostatic skeleton is:**
A) Arthropods B) Fishes
C) Annelids D) Nematodes
- 5) A sponge of Antarctica which is more than a meter tall is known as?**
A) Euplectella B) Spongilla
C) Leucosolenia D) Scolymastra joubini
- 6) All of the following are coelomates except which?**
A) Deuterostomes B) Hemichordates
C) Proterostomes D) Aschelminthes
- 7) All of the following are true for Platyhelminthes except?**
A) Triploblastic B) Bilateral symmetry
C) Coelomate D)
Flatworms
- 8) All of the following coelenterates show alternation of generation except:**
A) Hydra B) Obelia
C) Aurelia D) All of these
- 9) All of the following coelenterates show alternation of generation except?**
A) Hydra B) Obelia
C) Aurelia D) All of these
- 10) All the animals of the grade radiata are which of the following?**
A) Unicellular B)
Triploblastic
C) Both a and b D)
Diploblastic
- 11) All the animals of the grade radiata are which of the following?**
A) Unicellular B)
Triploblastic
C) Both A and B D) Diploblastic
- 12) An example of largest invertebrate:**
A) Squid B) Spider
C) Octopus D) Armillaria
- 13) Ancestors to animals:**
A) Protozoan B) Algae
C) Slime molds D) Bacteria
- 14) Animals like starfish have small groups of neurons in each arm connected to a ring of neurons in the centre. This type of nervous system is called .**
A) Centralized nervous system
B) Partially centralized nervous system
C) Diffuse nervous system
D) Partially diffuse nervous system
- 15) Aquatic arthropods belonging to this class breathe through gills:**
A) Insects B) Arachnids
C) Crustaceans D) None of the above

- | | |
|--|--|
| <p>16) Aquatic arthropods respire through which of the following?
 A) Gills B) Spiracles
 C) Book lungs D) Both A and B</p> | <p>C) Porifera D) Cnidaria</p> |
| <p>17) Arachnids have simple eyes. Which means:
 A) Every eye has a single lens B) Every eye has a simple lens
 C) All eyes have a single lens D) All eyes have simple lens</p> | <p>23) Birds are different from mammals in all except:
 A) They have feathers instead of hairs
 B) They are warm blooded
 C) They lay hard shell eggs
 D) They have syrinx as voice organ</p> |
| <p>18) Ascaris is characterized by which of the following?
 A) Presence of true coelom and metamerism
 B) Absence of true coelom and metamerism
 C) Presence of true coelom but the absence of metamerism
 D) Absence of true coelom but the presence of metamerism</p> | <p>24) Both radial and bilateral symmetry is found in which of the following phylum?
 A) Protozoa B) Porifera
 C) Echinodermata D) All of these</p> |
| <p>19) Ascaris Lumbricoides is a:
 A) Intestinal parasite B) Blood parasite
 C) Stomach parasite D) Ureteral parasite</p> | <p>25) Canal system in sponges develop due to which of the following?
 A) Porous walls B) Reproduction
 C) Folding of inner walls D) Gastrovascular system</p> |
| <p>20) Aschelminthes is also known as which of the following?
 A) Protozoans B) Eumetazoa
 C) Protoctista ancestors D) Nematodes</p> | <p>26) Carapace is present in which class of arthropoda?
 A) Arachnids B) Insects
 C) Crustaceans D) All of these</p> |
| <p>21) Aschelminthes is also known as which of the following?
 A) Eumetazoa B) Protoctista
 C) Ancestors D) Nematodes</p> | <p>27) Centipedes belong to class of arthropoda
 A) Arachnida B) Insect
 C) Cephalopoda D) Myriapoda</p> |
| <p>22) Asymmetrical body is a feature of phylum:
 A) Annelida B) Arthropoda</p> | <p>28) Cephalothorax is characteristic of:
 A) Arthropods B) Myriapods
 C) Gastropods D) None of these</p> |
| | <p>29) Chitinous setae are locomotary organs of annelids which are present on:
 A) Cell wall B) Prostomium
 C) Nucleolus D) Parapodia</p> |
| | <p>30) Chitinous Setae are the locomotary organs of annelids which are present on?</p> |

<p>A) Cell wall B) Prostomium C) Nucleolus D) Parapodia</p>	<p>skull D) Chordates have symmetrical body</p>
<p>31) Circulatory system is open type in all of the following except? A) Arthropoda B) Gastropoda C) Pelecypoda D) Cephalopoda</p>	<p>38) Division of labor is not seen in which of these multicellular animals? A) Hydra B) Euplectella C) Blood fluke D) Tapeworm</p>
<p>32) Class Aves has advanced: A) Pons B) Medulla C) Cerebrum D) Cerebellum</p>	<p>39) Euplectella belongs to phylum A) Porifera B) Ctenophora C) Echinoderm D) None of the above</p>
<p>33) Cnidaria is characterized by which of the following? A) Tissue level of organization B) Coelenteron C) Nematoblasts D) All of these</p>	<p>40) Excretory system of Platyhelminthes consists of which of the following? A) Nephridia B) Flame cells C) Malpighian tubules D) Nephrons</p>
<p>34) Cnidaria is characterized by which of the following? A) Tissue level of organization B) Coelenteron C) Nematoblasts D) All of these</p>	<p>41) Exoskeleton of coelenterates is made up of which of the following material? A) Calcium B) Silica C) Chitin D) Lignin</p>
<p>35) Coelom that develops from the archenteron as outpouching is? A) Pseudocoelom B) Enterocoelom C) Schizocoelom D) Both a and b</p>	<p>42) Flame cells in Planaria constitute the: A) Mechanoreceptors B) Reproductive system C) Respiratory system D) Excretory system</p>
<p>36) Deuterostomes have: A) Spiral cleavage B) Mouth develop form blastopore C) Mesoderm is formed form developing gut D) Schizocoelous</p>	<p>43) Free living example of Platyhelminthes is? A) Dugesia B) Fasciola C) Taenia D) All of these</p>
<p>37) Difference between chordates and hemichordates are: A) Chordates are invertebrates B) Chordates have well developed nervous system C) Chordates have brain enclosed in</p>	<p>44) Garden snail belongs to which class of Mollusca? A) Gastropoda B) Cephalopoda C) Myriapoda D) None of them</p> <p>45) Gut in pseudocoelomates is made from which of the following? A) Ectoderm B) Mesoderm C) Endoderm D) All of these</p>

- 46)** Gut of acoelomates develop from:
A) Mesoderm B) Endoderm
C) Mesoglea D) Ectoderm
- 47)** How are flat worms not similar to round worms?
A) They are both acoelomates B) They are both worms
C) They are both triploblastic D) They both show bilateral symmetry
- 48)** How is the body plan of a lobster similar to that of a whale?
A) Closed circulatory system
B) Mouth develops from the blastopore
C) A tubular digestive system with a mouth and an anus
D) The gut is not lined by coelomic epithelium
- 49)** Identify the characteristic of acoelomates?
A) Absence of mesoderm
B) Absence of brain
C) Coelom that is incompletely lined with a mesoderm
D) Solid body without a cavity surrounding internal organs
- 50)** In arthropods, body cavity is in the form of:
A) Coelom B) Haemocoel
C) Pseudocoelom D) Enteron
- 51)** In most triploblasts after embryonic development the three layers are represented as?
A) Separate layers of cells B) Structures formed from them
C) Their functions in body D) Structures associated with them
- 52)** In sponge's fertilization takes place in which of the following?
A) Ectoderm B) Endoderm
C) Uterus D) Mesenchyme
- 53)** In sponges fertilization takes place in which of the following?
A) Mesenchyme B) Endoderm
C) Ectoderm D) UterusWw
- 54)** In which era mammals dominated?
A) Paleozoic B) Mesozoic
C) Cenozoic D) Proterozoic
- 55)** In which of the following animals, placenta is formed?
A) Prototherians B) Metatherians
C) Eutherians D) All of these
- 56)** In which of the following mesoderm is derived from wall of archenteron:
A) Protostomes B) Diploblastic
C) Deuterostomes D) Acoelomates
- 57)** Inner layers of the sponges are made up of which of the following?
A) Pinacocytes B) Choanoderm
C) Pinacoderm D) Choanocytes
- 58)** It is a detritus feeder:
A) Leech B) Earthworm
C) Hook worm D) Pin worm
- 59)** It is considered a missing link between reptiles and birds:
A) Pterandon B) Avimimus
C) Caudipteryx D) Archaeopteryx
- 60)** It is not a characteristics of kingdom animalia:
A) All animals are Ingestive heterotrophs
B) All animals are eukaryotes
C) It is largest kingdom
D) All animals develop from two

dissimilar gametes

- 61)** It is not a parasite:
A) Annelida B) Nematoda
C) Porifera D) Platyhelminthes
- 62)** Jelly fish belong to:
A) Deuterostomes B) Proterostomes
C) Triploblastic D) Diploblastic
- 63)** Lack of symmetry is identified in which group of animalia:
A) Protozoa B) Porozoa
C) Parazoa D) Coelomates
- 64)** Lack of symmetry is identified in which group of animals?
A) Protozoa B) Porozoa
C) Parazoa D) Coelomates
- 65)** Largest invertebrate is:
A) Squid B) Octopus
C) Sycon D) Jelly fish
- 66)** Largest vertebrates are:
A) Elephants B) Whales
C) Sharks D) Anacondas
- 67)** Layer absent in diploblastic organisms:
A) Endoderm B) Epidermis
C) Mesoderm D) Ectoderm
- 68)** Main difference between hemichordata and chordata lies in:
A) Possession of body cavity
B) Number of germinal layers
C) Nervous system
D) Body symmetry
- 69)** Malpighian tubules are characteristic of:
A) Earth worm B) Leech
C) Cockroach D) Star fish
- 70)** Mammary glands are present in:
A) Eutheria B) Metatheria
C) Prototheria D) All of these
- 71)** Mantle in molluscs is present over which of the following regions?
A) Head B) Dorsal muscular foot
C) Dorsal visceral foot D) Both A and B
- 72)** Many expel large amount of water by special structures called contractile vacuoles:
A) Porifera B) Fish
C) Echinoderm D) Protozoa
- 73)** Midgut in cockroach is a short narrow tube called which of the following?
A) Hepatic caeca B) Rectum
C) Stomach D) Gizzard
- 74)** Most flatworms are:
A) Endoparasite B) Ectoparasite
C) Pseudoparasite D) External parasite
- 75)** Most multicellular organisms are which of the following?
A) Haploid B) Diploid
C) Single nucleus D) None of these
- 76)** Mytilus and Anodonta are example of which type of Molluscs?
A) Gastropods B) Bivalves
C) Cephalopods D) None of the above
- 77)** Nematoda is a taxon of the ranking:
A) Kingdom B) Sub-kingdom
C) Phylum D) Class
- 78)** Nephridia are the excretory organs of members of which phylum?
A) Arthropoda B) Cnidaria
C) Annelida D) Mollusca
- 79)** Nervous system of nematodes consists of which of the following?
A) Ventral nerve cord B) Dorsal nerve cord
C) Lateral nerve cord D) All of

these

80) Of the following which one is not included in Protostomes?

- A) Arthropods B) Hemichordates
C) Annelids D) Molluscs

81) One of these animals is a prototherian:

- A) Green plants B) Green algae
C) Animals D) Both A and B

82) One of these animals is prototheria:

- A) Alligator B) Spiny ant eater
C) Penguin D) Porcupine

83) One similarity between annelids and arthropods:

- A) Closed circulatory system
B) Nitrogenous waste product is uric acid
C) Ventral nerve cord
D) None of the above

84) One similarity between annelids and arthropods:

- A) Closed circulatory system
B) Nitrogenous waste product is uric acid
C) Ventral nerve cord
D) None of the above

85) Opossum, Kangaroo and Tasmanian wolf are examples of:

- A) Metatheria B) Prototheria
C) Eutheria D) None of the above

86) Periplaneta (cockroach) belongs to which phylum?

- A) Mollusca B) Annelida
C) Echinodermata D) Arthropoda

87) Periplaneta belongs to which phylum?

- A) Mollusca B) Annelida

C) Echinodermata D) Arthropoda

88) Phylum porifera is classified based on which of the following characteristic?

- A) Branching B) Symmetry
C) Spicules D) Reproduction

89) Pinworm is a common used for which if the following?

- A) Rhabditis B) Ancylostoma duodenale
C) Taenia solium D) Enterobius vermicularis

90) Placenta develops in embryonic state in:

- A) Prototheria B) Metatheria
C) All mammals D) Eutheria

91) Placenta is related to:

- A) Sheep B) Spiny ant eater
C) Duck bill platypus D) Kangaroo

92) Polychaeta are present in:

- A) Echinodermata B) Annelida
C) Arthropoda D) Mollusca

93) Polychaeta have which of the following organs?

- A) Tentacles B) Palps
C) Eyes D) All of these

94) Polychaeta have which of the following organs?

- A) Tentacles B) Palps
C) Eyes D) All of these

95) Polymorphism is a characteristic feature of which group of animals?

- A) Cnidaria B) Annelida
C) Platyhelminthes D) Echinodermata

96) Porcupine is a mammals because:

- A) Scales on its body are modified as spines for protection against predators
B) It lays eggs and has mammary glands

C) Fur on its body is modified as spines and it is warm blood D) None of the above	105) S-band locomotion is characteristically seen in which of the following? A) Bony fish B) Fish like mammals C) Cartilaginous fish D) All of these
97) Proglottids are present in: A) Dugesia B) Schistostoma C) Fasciola D) Taenia	106) Shell of egg is leathery in appearance in which of the following? A) Amphibians B) Prototherians C) Birds D) Reptiles
98) Pseudocoelom develops from which of the following? A) Blastopore B) Plastoquinone C) Splitting of mesoderm D) Blastocoel	107) Sperms released in water are carried to the mesenchyme in sponges by? A) Stipules B) Spicules C) Spines D) Amoeboid cell
99) Pseudocoelom is a characteristic feature of which of the following? A) Coelenterates B) Platyhelminthes C) Annelids D) Aschelminthes	108) Subkingdom parazoa includes: A) Annelida B) Cnidaria C) Porifera D) Protozoa
100) Radial symmetry is found in which of the following organisms? A) Coelenterata and Platyhelminthes B) Arthropoda and Mollusca C) Porifera and Coelenterata D) Coelenterata and Echinodermata	109) Sub-kingdom parazoa includes: A) Annelida B) Cnidaria C) Porifera D) Protozoa
101) Radula is characteristic feature of: A) Myriapods B) Mollusca C) Echinoderms D) Cnidaria	110) Sycon is an example of: A) Platyhelminthes B) Annelida C) Protozoa D) Porifera
102) Respiratory pigment present in Molluscs is: A) Hemoglobin B) Haemocyanin C) Myoglobin D) None of the above	111) The animals in which coelom is formed due to splitting of mesoderm are known as which of the following? A) Pseudocoelom B) Schizocoelous C) Amphicoelous D) Enterocoelous
103) Rhodophyta belong to: A) Algae, Protista B) Zygomycota, Fungi C) Zooflagellates, Protista D) Slime molds, Protista	112) The animals which belongs to division Radiata is/are? A) Triploblastic B) Diploblastic C) Radioblast D) All of these
104) Salamander belongs to which of the following class? A) Pisces B) Aves C) Reptiles D) Amphibians	113) The best function of coelom is described as: A) To increase the size of the animals B) To help in the functioning of reproductive system C) To provide space for the

development of organs and system D) All of these	skeleton C) Parapodia D) Bones
114) The body of which of the following organism is globular? A) Cake urchin B) Brittle star C) Sea cucumber D) Sea urchin	122) The outer body wall of sponges is made up of which cells? A) Choanocytes B) Pinacocytes C) Mesenchymal cells D) Cnidocytes
115) The internal buds are known as which of the following? A) Spicules B) Choanocytes C) Gemmules D) Both A and B	123) The outer body wall of sponges is made up of which cells? A) Choanocytes B) Pinacocytes C) Mesenchymal cells D) Cnidocytes
116) The larvae of which of these animals resemble those of chordates? A) Starfish B) Cuttlefish C) Catfish D) Butterfly	124) The pores through which water enters the sponge body are called: A) Osculum B) Ostia C) Operculum D) None of the above
117) The name animal is derived from what word? A) Aname B) Anima C) Anemia D) None of these	125) The single main opening of the sponge cavity is known as? A) Ostia B) Osculum C) Sponogocoel D) both a and b
118) The nervous system of arthropods has: A) A brain, a ventral nerve cord and several ganglia B) A brain, a dorsal nerve cord and several ganglia C) A brain, a dorsal and ventral nerve cord and several ganglia D) A ventral nerve cord and several ganglia	126) The skeleton of the sponges is in the form of variously shaped needle like structures called: A) Stipules B) Brails C) Spine D) Spicules
119) The only aquatic arthropods: A) Crustaceans B) Arachnida C) Myriapods D) Gastropods	127) The sponges in which sperms develop first are included in the category of? A) Peritandrous B) Protandrous C) Protandrous D) Protandrous
120) The only aquatic arthropods: A) Crustaceans B) Arachnids C) Myriapods D) Gastropods	128) The survival of an animal depends upon its ability to take some _____ from its environment? A) Hydro carbons B) Organic molecules C) Chemical D) Inorganic molecules
121) The organs of locomotion in annelids are which of the following? A) Muscles B) Hydrostatic	

- 129)** The Venus flower basket is also known as which of the following?
 A) Sycon B) Leucosolenia
 C) Spongilla D) Euplectella
- 130)** These animals have only left aortic arch in their circulatory system.
 A) Crocodiles and mammals B) Birds and mammals.
 C) Mammals only D) All of the above
- 131)** These animals have three germinal layers but no coelom:
 A) Flat worms B) Round worms
 C) Cnidarians D) Chordates
- 132)** These give rise to nematocysts in Cnidaria:
 A) Cnidocytes B) Gastrozooids
 C) Hydrozooids D) Mesoglea
- 133)** Typically spiders' blood is blue due to the presence of which of the following?
 A) Haemoglobin B) Haemoerythrin
 C) Haemocyanin D) Both B and C
- 134)** Vertebrates belong to phylum chordata because:
 A) They have a vertebral column
 B) The brain is enclosed by the skull
 C) The embryos have gills
 D) The body develops from three germinal layers
- 135)** Water vascular system is present in coelom in which phylum:
 A) Echinodermata B) Annelida
 C) Arthropoda D) Cnidaria
- 136)** What is the origin of the acoelomate gut?
 A) Ectodermal B) Mesodermal
 C) Endodermal D) None of these
- 137)** Which among the following is a diploblastic organism?
 A) Hydra B) Crabs
 C) Squid D) Earthworm
- 138)** Which class has the largest number of animals?
 A) Fishes B) Reptiles
 C) Insects D) Mammals
- 139)** Which combination of class and its description is correct?
 A) Osteichthyes - a bony endoskeleton & gills covered by operculum
 B) Reptilia - left aortic arch & internal fertilization
 C) Nematoda - triploblastic & acoelomates
 D) Cephalopods - dorsal nerve cord & bilateral symmetry
- 140)** Which group of animals is not a deuterostome?
 A) Echinodermata B) Arthropoda
 C) Mollusca D) Both A and C
- 141)** Which is not a mammal?
 A) Whale B) Walrus
 C) Shark D) Seal
- 142)** Which is not the characteristic of triploblasts?
 A) They may be coelomate pseudocoelomate or acoelomate
 B) They are included in grade bilateria
 C) All of them have digestive system
 D) All of them have blood vascular system

- 143)** Which of following system is segmentally arranged in annelids?
 A) Excretory system B) Digestive system
 C) Circulatory system D) Nervous system
- 144)** Which of the following animals is not a protostome?
 A) Cockroach B) Butterfly
 C) Sting ray D) Earthworm
- 145)** Which of the following are believed to have common origin with annelids?
 A) Nematodes B) Arthropods
 C) Molluscs D) None of these
- 146)** Which of the following are modern day descends of theropoda dinosaurs?
 A) Birds B) Lions
 C) Panther D) Bears
- 147)** Which of the following are motile zooids in cnidarians?
 A) Polyps B) Medusae
 C) Both A and B D) None of these
- 148)** Which of the following are not amniotes?
 A) Mammals and birds B) Birds and reptiles
 C) Reptiles and amphibians D) Amphibians and fishes
- 149)** Which of the following are the first groups of invertebrates which have developed a closed circulatory system?
 A) Nematodes B) Annelids
 C) Arthropods D) Molluscs
- 150)** Which of the following class of mammals is believed to have strong resemblance with reptile?
 A) Metatheria B) Eutheria
 C) Prototheria D) Both eutheria and prototheria
- 151)** Which of the following combinations is incorrect?
 A) Nematoda - roundworms, pseudocoelomate
 B) Arthropoda - coelom present, bilateral symmetry
 C) Platyhelminthes - gastrovascular cavity, flatworms, acoelomate
 D) Calcarea - gastrovascular cavity, coelom present
- 152)** Which of the following has lungs?
 A) Shark B) Dipnoi
 C) Rays D) None
- 153)** Which of the following is an example of a tetrapod?
 A) Flesh fly B) Tarantula
 C) Blue-ringed octopus D) Humming bird
- 154)** Which of the following is ancient fossil fuel?
 A) Fish B) Reptile
 C) Bird D) Amphibian
- 155)** Which of the following is correct about insects?
 A) Four pair of legs
 B) Six jointed legs
 C) Thorax is not present
 D) Abdomen is attached to head
- 156)** Which of the following is incorrect about annelida?
 A) Triploblastic organization B) Bilateral symmetry
 C) Segmentation D) Pseudocoelom
- 157)** Which of the following is not a characteristic feature of tapeworm?

- A) Each body segment has two sets of male and female reproductive organs
 B) The digestive tract develops from endodermal cells in the embryo
 C) The body can be cut into two parts, which are mirror images of each other, in one plane only
 D) None of the above
- 158)** Which of the following is not found in series proterostomia?
 A) Annelida B) Mollusca
 C) Arthropoda D) Echinodermata
- 159)** Which of the following organism has an eel like body?
 A) Chondrichthyes B) Osteichthyes
 C) Cyclostomata D) Both A and B
- 160)** Which of the following pigment present in mollusca?
 A) Haemocyanin B) Haemoglobin
 C) Myoglobin D) None
- 161)** Which of the following statement about chordates is true?
 A) They are protostomes B) All chordates are vertebrates
 C) They lack a coelom D) Their anus is formed from the blastopore
- 162)** Which of the following system is segmentally arranged in annelids?
 A) Excretory system B) Circulatory system
 C) Nervous system D) Digestive system
- 163)** Which of the following use book lungs to breathe?
 A) Earthworm B) Scorpions
 C) Fish D) All of these
- 164)** Which of the followings are characteristics of mollusca?
 A) Segmented body B) Closed circulatory system
 C) Muscular foot D) All of the above
- 165)** Which of them excretes in form of uric acid?
 A) Birds B) Human
 C) Frog D) None of these
- 166)** Which one is non-cellular in most cases in animals?
 A) Chlorenchyma B) Mesoderm
 C) Sclerenchyma D) Mesenchyme
- 167)** Which one is not the characteristic of Kingdom Animalia?
 A) All animals are ingestive heterotrophs
 B) It is largest kingdom
 C) All animals are eukaryotes
 D) All animals develop from the dissimilar gametes
- 168)** Which one of the following animals is not a tetrapod?
 A) Snake B) Cow
 C) Mantis shrimp D) Human
- 169)** Which phylum is considered the largest?
 A) Arthropoda B) Mollusca
 C) Annelida D) Platyhelminthes
- 170)** Which statement correctly describes the alimentary canal of Hydra?
 A) The alimentary canal is formed from the endodermal cells
 B) The alimentary canal has a single opening
 C) The alimentary canal is sac-like
 D) All of these

- 171)** Which statement is true about gastropods?
- A) Body is bilaterally symmetrical
 B) Both aquatic and land species breathe through lungs
 C) Triploblastic and acoelomates
 D) All of the above

- 172)** Which system is present in nematodes?
- A) Sac - like digestive system B) Circulatory system
 C) Respiratory system D) Tube - like digestive system

- 173)** Which system is present in nematodes?
- A) Sac - like digestive system B) Circulatory system
 C) Respiratory system D) Tube - like digestive system

Key

1)	D	23)	B	45)	C	67)	C	89)	D	111)	B	133)	C
2)	A	24)	C	46)	B	68)	C	90)	D	112)	B	134)	D
3)	A	25)	C	47)	A	69)	C	91)	A	113)	C	135)	A
4)	C	26)	A	48)	C	70)	D	92)	B	114)	A	136)	C
5)	D	27)	D	49)	D	71)	C	93)	D	115)	C	137)	A
6)	D	28)	A	50)	B	72)	D	94)	B	116)	D	138)	C
7)	C	29)	D	51)	B	73)	A	95)	A	117)	B	139)	A
8)	A	30)	D	52)	D	74)	A	96)	B	118)	A	140)	A
9)	A	31)	D	53)	A	75)	B	97)	D	119)	A	141)	C
10)	D	32)	D	54)	C	76)	C	98)	D	120)	A	142)	A
11)	D	33)	D	55)	C	77)	C	99)	D	121)	C	143)	A
12)	A	34)	C	56)	C	78)	C	100)	D	122)	B	144)	C
13)	A	35)	B	57)	B	79)	D	101)	B	123)	B	145)	C
14)	D	36)	C	58)	B	80)	B	102)	B	124)	B	146)	A
15)	C	37)	B	59)	D	81)	C	103)	A	125)	B	147)	B
16)	A	38)	A	60)	D	82)	B	104)	D	126)	D	148)	D
17)	B	39)	A	61)	C	83)	C	105)	D	127)	D	149)	B
18)	C	40)	B	62)	D	84)	C	106)	D	128)	D	150)	C
19)	A	41)	A	63)	C	85)	A	107)	D	129)	D	151)	D
20)	B	42)	D	64)	C	86)	D	108)	C	130)	C	152)	B
21)	D	43)	A	65)	A	87)	D	109)	C	131)	A	153)	D
22)	C	44)	A	66)	B	88)	B	110)	D	132)	A	154)	B

155) B	158) D	161) D	164) C	167) D	170) D	173) D
156) D	159) C	162) A	165) A	168) C	171) A	
157) A	160) A	163) B	166) D	169) A	172) D	

ENZYMES

- 1) **Introduction/Characteristics of Enzymes**
The reaction will proceed faster if the activation energy is?
A) High B) Low
C) Remains same D) None of these
- 2) The energy required to start a reaction is called?
A) Startup energy B) Initial energy
C) Point energy D) Activation energy
- 3) An enzyme which requires a biological change in order to become active is called?
A) Transferase B) Zymogen
C) Hydrogenase D) Trypsin
- 4) An enzyme without its cofactor is called:
A) Coenzyme B)
Apoenzyme
C) Holoenzyme D)
Proenzyme
- 5) If the non-protein part of enzyme is covalently bonded to the enzyme it is known as?
A) Coenzyme B) Activator
C) Cofactor D) Prosthetic group
- 6) Small organic, non-protein part that helps in enzyme reactions:
A) Co-factor B) Catalyst
C) Activator D) Prosthetic group
- 7) An activated enzyme made up of a polypeptide with its cofactor is:
A) Substrate B) Holoenzyme
C) Coenzyme D)
Apoenzyme
- 8) Nicotinamide adenine dinucleotide is an example of:
A) Coenzyme B)
Holoenzyme
C) Cofactor D) Apoenzyme
- 9) Co-enzyme require:
A) Vitamins B) Proteins
C) Fats D)
Carbohydrate
- 10) Which of the following form weak linkage with enzyme?
A) Co-factor B) Activator
C) Co-enzyme D) Activator
- 11) Co-factors are divided into groups:
A) 2 B) 3
C) 4 D) 4
- 12) The substrate binds to specific region of enzyme called?
A) Key B) Active site
C) Hyperactive site D) None of these
- 13) All enzymes are:
A) Globular proteins B) Fibrous proteins
C) Glycoproteins D) Lipoproteins
- 14) What does the active site of the enzyme determine?
A) Looks like a lump projection from the surface of an enzyme
B) Forms no chemical bond with

- substrate
C) Never changes
D) Determines by its structure the specificity of an enzyme
- 15)** Enzymes showing substrate specificity are specific to how many substrates?
A) 1 B) 3
C) 2 D) 4
- 16)** Which term is used to refer to an inactive enzyme precursor?
A) Apoenzyme B) Null enzyme
C) Zymogen D) Inhibitor
- 17)** Catalysts that increase the rate of biological chemical reaction are called:
A) Proteins B) Vitamins
C) Enzymes D) Minerals
- 18)** Which of the following best describes a coenzyme?
A) Covalently bonded non-protein part of an enzyme
B) Cofactor consists of metal ions
C) Loosely bonded non-protein part of an enzyme
D) Both A and B
- 19)** Which statement about enzyme is incorrect?
A) Some of them consist solely of protein with no non protein part
B) They catalyze a chemical reaction without being utilized
C) They without their cofactor are called apoenzyme
D) All enzymes are fibrous proteins
- 20)** Active form of an enzyme:
A) Coenzyme B) Apoenzyme
C) Holoenzyme D) Proenzyme
- 21)** A cofactor made of inorganic ion which is detachable is called?
A) Prosthetic group B) Coenzyme
C) Activator D) Cofactor
- 22)** Enzymes are globular proteins because:
A) They have a primary structure
B) They have a secondary structure
C) They have a tertiary structure
D) All of the above
- 23)** A small organic, non-protein molecule that carries chemical groups between enzymes is:
A) Cofactor B) Catalyst
C) Substrate D) Coenzyme
- 24)** Biological molecules which catalyze a biochemical reaction and remain unchanged after completion of reaction are called?
A) Cofactor B) Coenzymes
C) Activator D) Enzymes
- 25)** Enzymes bind with chemical reactant known as:
A) Product B) Reactant
C) Substrate D) All of these
- 26)** Which of the following vitamin acts as a coenzyme
A) Vitamin b B) Vitamin b
C) Vitamin b2 D) All of these
- 27)** If the non-protein part of enzyme is covalently bonded to the enzyme it is known as?
A) Coenzyme B) Prosthetic group
C) Cofactor D) Activator
- 28)** Enzyme reacts with substrate to form:
A) Product B) Active site
C) Binding site D)

Catalytic site	Coordinate covalent
29) Enzymes are in nature: A) Carbohydrates B) Lipids C) Nucleic acids D) Proteins	36) Which one forms the raw material for coenzymes? A) Vitamins B) Carbohydrates C) Lipids D) Proteins
30) Which type of bond are never formed when substrate fits into active site of enzyme? A) Hydrogen bonds B) Ionic interactions C) Covalent linkages D) Hydrophobic interactions	37) Mechanism of action of enzymes The lock and key model of enzyme action was proposed by: A) Louis Pasteur B) Emil Fischer C) Daniel Koshland D) Urey Miller
31) The mechanism of enzyme activation is referred to as: A) Activation energy B) Catalysis C) Enzyme specificity D) Denaturation	38) The complex that forms when a substrate binds to enzyme is called: A) Enzyme-substrate complex B) Enzyme complex C) Substrate complex D) Structural complex
32) The specificity of enzyme structure depends upon: A) Active site B) Allosteric site C) Globe shape D) All of these	39) Enzymes do not affect: A) Substrate concentration B) Product concentration C) Both A and B D) None
33) Catalytic activity takes place at: A) Active site B) Allosteric site C) Regulatory site D) All of these	40) Who proposed lock and key model of enzyme activity? A) Emil Fischer B) Daniel Koshland C) Fredrick Sanger D) James Watson
34) Which statement about active site is not true? A) Active site is of spherical shape B) Active site is nonspecific C) Active site contains few amino acids D) Active site converts substrate into product	41) In the lock and key model of enzyme activity, the substrate acts as the: A) Key B) Lock C) Both A and B D) None of the above
35) Type of bond present between enzyme and prosthetic group: A) Hydrogen B) Covalent C) Ionic D)	42) Enzymes work by which of the following? A) Increasing the activation energy B) Reducing the activation energy C) Making exergonic reactions endergonic

- D) Making endergonic reactions exergonic
- 43)** How many models are present for enzyme-substrate complex or reaction?
A) 3 B) 2
C) 4 D) 5
- 44)** Which statement is incorrect about Lock and Key Model?
A) Specific enzyme can transform only a specific substrate
B) Active site of an enzyme is a non-flexible structure
C) Active site does not change before during or even after the reaction
D) It explains the mechanism of every chemical reaction
- 45)** Which types of bond are never formed when a substrate fits into the active site of an enzyme?
A) Hydrogen bonds
B) Ionic interactions
C) Hydrophobic interactions
D) Covalent linkages
- 46)** Koshland in 1959 proposed the modified form of which of the following?
A) Unit membrane model
B) Fluid mosaic model
C) Reflective index model
D) Induced fit model
- 47)** Induced fit model was introduced by Koshland in which of the following year?
A) 1960 B) 1961
C) 1959 D) 1966
- 48)** Lock and key model was proposed by:
A) Koshland B) Fischer
C) Krebs D) Darwin
- 49)** Which of the following is false about concerning enzymes?
A) Substrates must bind the enzyme's active site in order to initiate its effects
B) Enzymes increase both the forward rate and reverse rate of a reaction
C) Enzymes are not destroyed in a reaction and can be used in the same reaction countless times
D) Enzymes increase the amount of product created in a reaction
- 50)** Number of substrate molecules converted into product by one molecule of enzyme active site per unit time is called?
A) Turnover number B) Substrate number
C) Reaction number D) None
- 51)** According to the induced fit model, what happens when an enzyme-substrate complex is formed?
B) The shape of the substrate and the shape of the active site is complementary to each other
C) The substrate fits into the active site and forms bonds with the amino acids at the active site
D) All of these
- 52)** What affect do enzymes have on the activation energy of a reaction?
A) Increases B) Decreases
C) No affect
D) Increases or decreases depending upon individual enzyme
- 53)** While bound to the active site, the substrate is converted into which of the following?
A) Complex
B) Substrate of high energy

C) Product of reaction D) Both A and B

54) The primary function of cofactors is to?

- A) Assist in enzyme synthesis
B) Assist in enzyme inhibition
C) Assist in enzyme activity D)
Both a and b

55) In enzyme catalytic reaction the substrate is first converted to a high energy state called?

- A) Transition state B) High energy state
C) Activation state D) Breaking point

56) Allosteric enzymes consist of multiple:

- A) Inhibitors B)
Polypeptide chains
C) Active sites D)
Temperature ranges

57) Functions of enzymes include all of the following except:

- A) Lessening the time required for a reaction to take place
B) Shifting substrates into more favorable positions in the active site
C) Decreasing the activation energy of a reaction
D) Shifting the equilibrium of a reaction

58)

Factors effecting rate of enzyme action

Upon increasing the temperature the shape of enzyme's active site?

- A) Remains same
B) Changes
C) Adopts a geometric conformation
D) Denatures

59) The optimum pH for enzyme arginase is which of the following?

- A) 9 B) 9.3
C) 9.7 D) 10

60) The optimum pH for the functioning of the enzyme pepsin is?

- A) 2 B) 3
C) 4 D) 5

61) If we add more substrate to already occurring enzymatic reaction and it has no effect on the rate reaction, the process is called?

- A) Denaturing B) Saturation
C) Composition D) Inhibition

62) pH of salivary amylase is:

- A) 6.8 B) 7.60
C) 2.00 D) 5.50

63) It works in acidic medium:

- A) Arginase B) Pancreatic lipase
C) Catalase D) Enterokinase

64) Extreme change in pH results in which of the following?

- A) Change in ionization of amino acids at the active site of the enzyme
B) Change in the ionization of the substrate
C) Increase in the reaction rate
D) Denaturation of the enzyme

65) What is meant by optimum temperature of an enzyme?

- A) The temperature at which the primary structure of an enzyme remains intact
B) The temperature at which an enzyme makes the maximum amount of product
C) The temperature at which an enzyme may be more affected by an inhibitor
D) The temperature at which an enzyme makes the least amount of product

66) Rate of reaction is double for rise of every .

- A) 20 °C B) 10 °C

C) 30 °C D) 20 °C

67) Which of the following strategies of enzymatic inhibition is used by noncompetitive inhibitors?

- A) Bind to substrate so that it cannot bind to the active site
- B) Target the enzyme for destruction using a protease
- C) Bind to the active site and prevent substrate from binding
- D) Bind to an allosteric site to cause a conformational shift in the enzyme

68) If more substrate to an already occurring enzymatic reaction is added more enzyme activity is seen because?

- A) There is probably more substrate present than there is enzyme
- B) There is probably more product present than either substrate or enzyme
- C) The enzyme substrate complex is probably failing to form during the reaction
- D) There is probably more enzyme available than there is substrate

69) The optimum pH for the functioning of pancreatic lipase is?

- A) 9 B) 8
- C) 7 D) 6

70) A researcher has designed a new type of inhibitor that binds at the active site of an enzyme. What type of inhibition does this molecule display?

- A) Uncompetitive inhibition B) Competitive inhibition
- C) Noncompetitive inhibition D) All of these

71) Which of the following changes could lead to loss of enzymatic function?

- A) Decrease in activation energy of the

reaction

- B) Increase in enzyme concentration
- C) Change in overall enthalpy of the reaction
- D) Increase in pH of the reaction

72) Which statement correctly describes why enzyme activity increases with increased enzyme concentration?

- A) Collisions between enzyme and substrate molecules increase because of increased kinetic energy
- B) Collisions between enzyme and substrate molecules increase because of increased heat energy
- D) Collisions between enzyme and substrate molecules increase because more substrate molecules are available

73) The rate of reaction of enzyme directly depends upon which of the following?

- A) Low temperature
- B) Amount of enzyme present at a specific time at unlimited substrate concentration
- C) Maximum pH level
- D) Nature of substrate

74) The enzyme-substrate complex is formed in which part of the enzyme molecule?

- A) Binding site B) Allosteric site
- C) Catalytic site D) None of the above

75) Which step, causes activation of catalytic site of an enzyme?

- A) Change in pH of the surroundings
- B) Change in the charge of the active site
- C) Change in temperature
- D) Formation of enzyme substrate site

- 76) If the concentration of enzyme is kept constant and amount of substrate is increased a point is reached where increase in substrates concentration does not affect the reaction rate because of?
 A) Enzymes get denatured at higher substrate cone
 B) Rate of reaction is indirectly proportional to substrate concentration at this point
 C) All the active sites on enzyme molecule are occupied
 D) All of these
- 77) What is the optimum temperature for working of enzymes in human body?
 A) 32°C B) 40°C
 C) 37°C D) 35°C
- 78) 8 In acidic medium, amino acids carry positive charge and acts as:
 A) Acid B) Base
 C) Neutral D) None of these
- 79) If we increase the concentration of substrate then increase in the enzyme activity is due to which of the following?
 A) There is sufficient concentration of enzyme
 B) There is sufficient concentration of substrate
 C) Active sites are not working properly
 D) None of these
- 80) When we increase the pH then, enzyme reactivity is retarded due to:
 A) Tertiary structure of enzyme is destroyed
 B) Primary structure is destroyed
 C) Active sites get blocked

D) Allosteric modulation

- 81) At low enzyme concentration, optimum pH and temperature, rate of reaction can be increased by:
 A) Increased substrate concentration
 B) Increasing pH
 C) Increasing temperature
 D) Increasing enzyme concentration
- 82) Number of substrate molecules converted into product by one molecule of enzyme active site per unit is called:
 A) Turn over number B) Reaction number
 C) Substrate number D) None of the above

Enzyme inhibition

The effect of competitive inhibitor on enzyme activity is such that it affects which of the following?

- A) Increases enzyme activity
 B) Doesn't change enzyme activity
 C) Decreases enzyme activity
 D) None of these
- 84) What is the characteristic of a non-competitive inhibitor?
 A) Always binds at the active site
 B) Adding more substrate reduces the effects of inhibition
 C) Sometimes binds at the active site
 D) Adding more substrate does not reduce the effects of inhibition
- 85) Reversible inhibitors form weak linkages with which of the following?
 A) Enzyme B) Reactant
 C) Product D) Substrate
- 86) Inhibitors which block the enzyme by forming weak bond are called:
 A) Competitive inhibitors

<p>B) Non-competitive inhibitors C) Irreversible inhibitors D) Both A and B</p>	
<p>87) Reversible inhibitors form weak linkages with which of the following? A) Enzyme B) Reactant C) Product D) Substrate</p>	<p>type of inhibitors? A) Malonic acid is an example of which type of inhibitors? B) Reversible inhibitor C) Non-competitive inhibitor D) Competitive inhibitor</p>
<p>88) The end product of an enzymatic reaction inhibits formation of product in an earlier step. This type of enzymatic regulation is known as? A) Allosteric regulation B) Negative regulation C) Metabolic pathway loop D) Feedback inhibition</p>	<p>94) In non-competitive inhibition, the quantity which remains same as the reaction proceed is? A) V_{max} B) K_m C) K_o D) V_o</p>
<p>89) In uncompetitive inhibition, the inhibitor binds with: A) Enzyme B) Substrate C) ES-complex D) All of these</p>	<p>95) 5 A substance which binds at the active site of the enzyme but does not result in the formation of the products is called: A) Irreversible inhibitor B) Reversible inhibitor C) Non-competitive inhibitor D) Competitive inhibitor</p>
<p>90) In mixed inhibition, the allosteric affects: A) Shape of substrate B) Shape of inhibitor C) Shape of enzyme D) None of these</p>	<p>96) An inhibitor is added, disrupting the function of a particular enzyme. The experimenter adds more substrate, and enzyme function increases again. These results indicate the involvement of what type of inhibitor? A) Non-competitive B) Uncompetitive C) Allosteric D) Competitive</p>
<p>91) The non-substrate molecules that bind to the allosteric sites are called? A) Inhibitors B) Reactants C) Allosteric substrates D) Allosteric modulators</p>	<p>97) What is meant by enzyme denaturation? A) Peptide bonds between amino acid residues are broken B) The enzyme loses its secondary structure C) The enzyme loses its tertiary structure D) All of the above</p>
<p>92) A chemical substance which can react (in place of substrate) with the enzyme but is not transformed into product/s and thus blocks the active site temporarily or permanently is called A) Coenzyme B) Blocker C) Inhibitor D) Cofactor</p>	
<p>93) Malonic acid is an example of which</p>	<p>98) The effect of competitive inhibitor on</p>

enzyme activity is such that it affects which of the following?

- A) Increases enzyme activity
- B) Doesn't change enzyme activity
- C) Decreases enzyme activity
- D) None of these

- A) Enzyme
- B) Substrate
- C) ES complex
- D) All of these

99) The non-substrate molecules that binds to the allosteric sites are called?

- A) Inhibitors
- B) Reactants
- C) Allosteric substrates
- D) Allosteric modulators

106) An allosteric enzyme will have:

- A) Many active sites
- B) Many substrates
- C) Many binding sites
- D) No binding site

100) Which of the following best describes competitive inhibitors?

- A) Do occupy active site
- B) Destroy the structure of enzyme
- C) Resemble structurally with substrate
- D) None of the above

107) In mixed inhibition, the inhibitor binds to:

- A) Allosteric site
- B) Active site
- C) Binds to substrate
- D) Does not bind to enzyme

101) is a competitive inhibitor of succinic dehydrogenase.

- A) Malonic acid
- B) Malic acid
- C) Fumaric acid
- D) Acetic acid

108) Competitive inhibitors enzyme activity.

- A) Decrease
- B) Increase
- C) Does not affect
- D) None

102) In competitive inhibition, a thing that binds to enzyme active site are?

- A) Substrate
- B) Catalyst
- C) Inhibitors
- D) Both A and B

109) Structure of enzyme is altered by:

- A) Competitive inhibitor
- B) Non-competitive inhibitor
- C) Irreversible inhibitor
- D) Reversible inhibitor

103) Feedback inhibition in most metabolic pathways involves which type of enzymes?

- A) Holoenzymes
- B) Allosteric enzymes
- C) Coenzymes
- D) Apoenzyme

110) In competitive inhibition, two things attached to enzyme's active site are:

- A) Inhibitor
- B) Substrate
- C) Both A and B
- D) None of these

104) These form weak linkages with enzymes:

- A) Irreversible inhibitors
- B) Reversible inhibitors
- C) Both A and B
- D) None

111) The structure of an enzyme is altered by which of the following inhibitors?

- A) Reversible inhibitor
- B) Competitive inhibitor
- C) Non-competitive inhibitor
- D) Irreversible inhibitor

105) In uncompetitive inhibition, the inhibitor binds with:

112)

Out of the Syllabus

This enzyme is used to cut DNA molecule in rDNA technology

- A) Ligase
- B) Phosphatase
- C) Ribonuclease
- D) Restriction

enzyme	of electrons are known as:
113) Restriction endonucleases found in A) Viruses B) Bacteria C) Eukaryotes D) All of these	A) Oxidases B) Dehydrogenase C) Hydrolyses D) Both A and B
114) Antibodies can be digested by using which of the following types of enzymes? A) Lipase B) Protease C) Amylase D) Polymerase	119) The following enzymes are regulated by calcium ions: A) DNA polymerase B) Nitric oxide synthetase C) Adenylate cyclase D) Phosphoprotein phosphatase
115) Ligases help in which of the following reactions? A) Splitting of two molecules B) Oxidation of molecules C) Joining of molecules D) Both A and B	120) Enzyme which helps in changing the shape of molecule is called: A) Ligases B) Dehydrogenases C) Hydrolyses D) Isomerases
116) What type of enzymes is involved in biological oxidation? A) kinases B) Dehydrogenases C) Polymerases D) Phosphatases	121) Phosphoglyceromutases are example of: A) Lyases B) Hydrolases C) Ligases D) Transferases
117) Which of the following is not a class of enzyme? A) Ligase B) Isomerase C) Hydrolase D) Pyrimidine complex	
118) Enzymes which are involved in transfer	

Key

1)	B
2)	D
3)	B
4)	B
5)	D
6)	A
7)	B
8)	A

9)	A
10)	C
11)	B
12)	B
13)	A
14)	D
15)	A
16)	C

17)	C
18)	C
19)	D
20)	C
21)	C
22)	C
23)	D
24)	D

25)	C
26)	D
27)	B
28)	A
29)	D
30)	D
31)	B
32)	A

33)	A
34)	B
35)	B
36)	A
37)	B
38)	A
39)	D
40)	A

41)	B
42)	B
43)	B
44)	D
45)	D
46)	D
47)	C
48)	B

49)	B
50)	A
51)	A
52)	B
53)	C
54)	C
55)	A
56)	B
57)	B
58)	D
59)	C
60)	A
61)	B

62)	A
63)	D
64)	D
65)	B
66)	B
67)	D
68)	A
69)	A
70)	B
71)	D
72)	C
73)	B
74)	A

75)	D
76)	C
77)	C
78)	B
79)	A
80)	A
81)	D
82)	A
83)	C
84)	D
85)	A
86)	A
87)	A

88)	D
89)	A
90)	C
91)	A
92)	C
93)	D
94)	B
95)	D
96)	D
97)	D
98)	C
99)	A
100)	C

101)	A
102)	C
103)	B
104)	B
105)	C
106)	C
107)	A
108)	A
109)	B
110)	B
111)	D
112)	D
113)	B

114)	B
115)	C
116)	B
117)	D
118)	D
119)	B
120)	D
121)	D

EVOLUTION

- | | |
|--|---|
| <p>1) Concepts of evolution
The process that has transformed life on earth from its earliest forms to vast diversity is?
A) Mutation B) Evolution
C) Migration D) Genetic drift</p> | <p>8) He explained earth's history by catastrophism:
A) Cuvier B) Lyell
C) Malthus D) Lamarck</p> |
| <p>2) Carolus Linnaeus was believer of which of the following?
A) Special creation B) Catastrophism
C) Natural selection D) Inheritance of acquired characters</p> | <p>9) Lamarck was in-charge of the Natural History Museum in:
A) North America B) Paris
C) England D) Wales</p> |
| <p>3) Concept of evolution was first presented by which of the following scientists?
A) Lamarck B) Aristotle
C) Wallace D) Darwin</p> | <p>10) Methanopyrus kandleri is an organism which lives in a hydrogen-carbon dioxide environment, and was first discovered in a hydrothermal vent where temperatures reached 230°F. What sort of organism is this?
A) Protist B) Cyanobacteria
C) Archaea D) Bacteria</p> |
| <p>4) During Aristotle time, it was thought that:
A) Organisms ranged from simple to complex
B) One type of organism give rise to another type of organism
C) Both A and B
D) All living things specially created by nature</p> | <p>11) The process by which different kinds of living organism are believed to have developed from earlier forms during the history of the earth:
A) Evolution B) Development
C) Growth D) None of the above</p> |
| <p>5) Earliest life form on earth is:
A) Virion B) Viroid
C) Prion D) None</p> | <p>12) Two populations of the same species over time grow distant from one another. At what point will these two populations be considered different species?
A) When the populations begin to eat different foods
B) When there is a physical barrier, such as a river
C) When the two populations have not been in contact with one another for two hundred years
D) When they are no longer able to interbreed</p> |
| <p>6) Eukaryotes evolved by prokaryotes through:
A) Commensalism B) Symbiosis
C) Predation D) All of the above</p> | |
| <p>7) Flagella might have arisen through the ingestion of which of the following?
A) Cyanobacteria B) Chlamydomonas
C) Paramecium D) Spirochetes</p> | |

- 13) Which of the following is not an example of evidence supporting the endosymbiotic theory?
 A) Mitochondria and other plastids multiply by binary fission
 B) Mitochondria contain their own DNA, which is a single circular chromosome
 C) Mitochondria have their own ribosomes, which are 70s
 D) None of these
- 14) Which scientist does not match his achievements in the following options?
 A) Lamarck published his theory of evolution
 B) Lyell published principles of geology
 C) Malthus published essay on principle of population
 D) Cuvier published papers on inheritance
- 15) Who wrote an essay on population?
 A) Malthus B) Darwin
 C) Mendel D) Wallace
- 16) **Inheritance of acquired characteristics**
 Which condition can be explained by Lamarckism?
 A) How giraffes got their long neck
 B) How humans lost their tail
 C) How humans became bipedal
 D) All of these
- 17) 3 Who hypothesized that organisms evolved through inheritance of acquired characters?
 A) Darwin B) Hutton
 C) Malthus D) Lamarck
- 18) 4 Which of the following can be described by Lamarckism?
 A) How giraffe got their long neck?
 B) How humans lost their tails?
 C) How humans became bipedal?
 D) All of these
- 19) Lamarck's ideas on biological evolution contained correct and incorrect notions. Which of his ideas is correct?
 A) Acquired traits can be passed on to offspring
 B) Living forms become perfect with time
 C) Nervous fluids are passed on from generation to generation
 D) Evolution is related to changes in adaptation to the environment
- 20) The idea of inheritance of acquired characteristics was given by:
 A) Lamarck B) Darwin
 C) Aristotle D) Lyell
- 21) Use and disuse organ theory was proposed by:
 A) Lamarck B) Darwin
 C) Wallace D) TH Morgan
- 22) What are parts of Lamarck's theory of evolution?
 A) Individuals lose traits that they don't need
 B) Acquired characteristics are heritable
 C) Individuals gain characteristics they need
 D) All of these
- 23) Which of the following are important points of Lamarck's theory?
 A) Use and disuse of organs
 B) Inheritance of acquired characters
 C) Natural selection
 D) Both A and B
- 24) Which of the following scientists hypothesized that organisms can pass down acquired traits during their

lifetimes?

- A) Lamarck B) Linnaeus
C) Darwin D) Mendel

- 25) Which scientists gave postulate that giraffes have long necks because they wanted to eat the leaves of tall trees?
A) Watson and Crick B) Lamarck
C) Darwin D) All of these

26) **Darwinism**

6 Natural selection can amplify or diminish variations that are?

- A) Heritable B) Non heritable
C) Both a and b D) Acquired

- 27) Darwin collected how many types of finches?
A) 12 B) 13
C) 14 D) 15

- 28) Darwin returned to great Britain in:
A) 1831 B) 1855
C) 1836 D) 1841

- 29) Darwin was greatly influenced by:
A) Essay on population by Malthus
B) Lamarck's theory
C) L-Miller's evidence for origin of life
D) Mendel's paper on inheritance

- 30) Darwin's theory mainly focuses on:
A) Origin of life B) How organs extinct
C) How new species arise D) How organisms form

- 31) Island present near South American cost line:
A) Maldives B) Madagascar
C) Galapagos D) New Zealand

- 32) Natural selection was the silent feature of which statement:
A) Lamarck B) Darwin
C) Aristotle D) Wallace

- 33) Which theory tells about adaptation:
A) Darwin's natural selection
B) Lamarck's theory
C) Hardy D) Weinberg's principle

- 34) Who developed a theory of natural selection essentially identical to Darwin's?
A) Hardy-Weinberg B) Malthus
C) Lamarck D) Alfred Wallace

35) **Darwin's theory evolution**

Darwin's Theory of evolution by natural selection is based on all of the following postulates except:

- A) Some individuals are more successful in surviving and reproduction than others
B) Individuals within a population are variable
C) The survival and reproduction of individuals is not random
D) The survival and reproduction of individuals is random

- 36) 1 Which of the following would best determine the fitness of an organism?
A) The number of offspring produced by the organism. X
B) How much food the organism consumes in its lifetime
C) How large the organism grows
D) The number of offspring produced by the organism's own offspring

- 37) Darwin described his theory of natural selection as which of the following?
A) Punctuated equilibrium
B) Survival of the fittest
C) Inheritance of acquired characteristics

D) Descent with modification

38) Darwin gave his theory of evolution in:

- A) 1859 B) 1822
C) 1884 D) 1913

39) Darwin's theory was based on:

- A) Mutation B) Migration
C) Natural selection D) None of the above

40) Darwin's theory can be named as:

- A) Classical theory B) Advanced theory
C) Neo-Darwinism D) Theory of special creation

41) During which of the following levels of biological organization can natural selection occur?

- A) Gene B) Individual
C) Group D) All

42) Galapagos finches indicated:

- A) Seasonal migration B) Immigration
C) Allopatric speciation D) Parapatric speciation

43) Neo-Darwinism came on to surface during:

- A) 1930's B) 1940's
C) 1920's D) 1950's

44)

Neo-Darwinism's

Neo-Darwinism has integrated discoveries and ideas from:

- A) Genetics B) Paleontology
C) Taxonomy D) All of these

45) Specifics of natural selection are:

- A) Regional and permanent B) Local and constant
C) Regional and temporary D) Both A and B

46) The ability to pass on genes is defined as which of the following?

- A) Differential reproduction B) Fitness
C) Evolution
D) Natural selection

47) The best definition of natural selection is:

- A) Survival of the fittest
B) Most fit individuals adapt to their environment better than less fit individuals
C) Those who eat better are healthier and live longer are most fit within a population
D) Preservation of traits leads to increase survival and reproduction

48) The book name in which Darwin published the theory of evolution:

- A) The origin of species by natural selection
B) The origin of species
C) The evolution of species
D) The evolution of species by means of natural selection

49) What is the definition of "fitness" in terms of evolution?

- A) The organism's ability to attain resources while in competition with other organisms of its species
B) The organism's ability to attract the most mates
C) The organism's health
D) The ability of an organism to contribute its genes to future generations

50) Which organism would be considered the most biologically fit?

- A) Lives 45 years and produces 3

offspring

B) Lives 70 years and produces no offspring

C) Lives 27 years and produces 1 offspring

D) Lives 36 years and produces 6 offspring

51) Who developed a theory of natural selection essentially identical to Darwin's?

A) Hardy-Weinberg B) Malthus
C) Lamarck D) Allred Wallace

52)

Evidence of evolution

Homology means:

A) Similarity in characteristics resulting from common ancestors

B) Similarity in function from acquired characters

C) Study of similar organs but with different functions

D) Study of similar organs but with different functions

53) Embryo of a turtle, mouse and human show:

A) Comparative embryology

B) Distinct differences

C) Vestigial organs D) Analogous structure

54) Example of convergent evolution is:

A) Forelimbs of man and bat

B) Wings of birds and insects

C) Darwin's finches D) All

55) Homologous organs show similarity in:

A) Shape B) Origin

C) Function D) Size

56) If two species have similar proteins and genes it means:

A) They have same organs.

B) They have similar appearance

C) They have common ancestors

D) All of above

57) In humans gill pouches have evolved into which of the following organs?

A) Nose

B) Ear

C) Pharynx

D) Eustachian tubes

58) It is not a vestigial organ in humans:

A) Appendix

B) Coccyx

C) Both A and B

D) None of the above

59) Most of the fossils are found in which of the following?

A) Metamorphic rocks

B) Soil

C) Volcanic mountains

D)

Sedimentary rocks

60) Structures that were once functional in the past but no longer serve a purpose due to evolutionary adaptations and physiological changes are referred to as?

A) Vestigial

B) Analogous structures

C) Homologous structures

D) None of these

61) Study of fossils is called:

A) Mammalogy

B)

Palaeontology

C) Herpetology

D)

Ornithology

62) The structures of the front flipper of a whale and the forearm of a wolf have similar bone structure and derive from a common ancestor. This is an example of which of the following?

A) Convergent evolution

B) Analogous structures

C) Homologous structures

D) Bottleneck effect

63) The wings of a bird and the wings of a beetle are considered?

- A) Taxonomic
Phylogenetic
C) Homologous
D) Analogous

Convergent evolution

64) Which of the following is ancient fossil fuel?

- A) Fish
B) Reptile
C) Bird
D) Amphibian

65) Which of the following is not an evidence for evolution?

- A) Fossil record
B) Common ancestor organisms
C) Vestigial structures
D) None of these

66) Which of the following is not an evidence for evolution?

- A) Fossil record
B) Vestigial structures
C) Common ancestor organisms
D) None of these

67) Which of the following organs serve no apparent purpose?

- A) Non vestigial organs
B) Homologous organs
C) Analogous organs
D) Vestigial organs

68) Which statement is incorrect?

- A) Homologous organs are functionally different but structurally alike
B) Examples of homologous structures are of cat, flipper of whale
C) Examples of analogous structures are wings of bats, birds and insects
D) Analogous organs are functionally different but structurally alike

69) Which type of evolution is represented by analogous organs?

- A) Divergent evolution
B) Straight evolution
C) Zig-zag evolution
D)

70)

Out of the Syllabus

Mating with non-relatives is known as?

- A) Inbreeding
B) Outbreeding
C) Breeding
D) None of these

71)

8 According to Hardy-Weinberg theorem, frequencies of alleles and genotypes in a population's gene pool remain?

- A) Mobile in gene pool
B) Constant
C) Stationary in gene pool
D) Constant unless acted upon by agents other than sexual recombination

72)

A population of birds encounters a dramatic event that results in a severe decrease in population size. As a result of the newly-decreased population, what type of genetic drift does this population now exhibit?

- A) Artificial selection
B) Founder effect
C) Bottleneck effect
D) both a and b

73)

Adaptation of traits to better fill a niche is known as which of the following?

- A) Polymorphism
B) Gene linkage
C) Specialization
D) Replication

74)

As long as two species occupy different niches, there is:

- A) Competition
B) No competition
C) Gene linkage
D) Polymorphism

75)

Bottleneck increases the effect of which of the following:

- A) Genetic linkage
B) Genetic expression
C) Genetic diversity
D) Gene pool

- 76)** Mating between relatives is called which of the following?
 A) Inbreeding B) Exbreeding
 C) Breeding D) Outbreeding
- 77)** Population growth is checked by which of the following?
 A) No competition B) No polymorphism
 C) Polymorphism D) Competition
- 78)** Primordial soup is a set of hypothetical conditions on ancient earth first proposed by?
 A) Dmitri Ivanovsky B) Dmitry Anuchin
 C) Nikolay Shatsky D) Alexander Oparin
- 79)** The frequency of allele if it is evolutionary successful is?
 A) Increased B) Decreased
 C) No change D) None of these
- 80)** The selection for a trait on one extreme is called which of the following?
 A) Natural selection B) Stabilizing selection
 C) Directional selection D) All of these
- 81)** The ultimate source of all the change is?
 A) Migration B) Mutation
 C) Genetic drift D) Selection
- 82)** Two species can avoid competition and better use the environment's resources by occupying different?
 A) Adaptations B) Polymorphism
 C) Niches D) Specialization
- 83)** When resources get scarce, the population growth?
 A) Becomes fast B) Slows down
 C) Remains same D) None of these
- 84)** When two or more clearly different phenotypes exists in same population of species, the phenomenon is called?
 A) Replication B) Polymorphism
 C) Gene linkage D) Gene expression
- 85)** Which of the following conditions is not required to be true for a population in Hardy-Weinberg equilibrium?
 A) Random mutations B) Large population
 C) No natural selection D) Random mating
- 86)** Which of the following may cause loss of alleles from a gene pool?
 A) Interbreeding B) Mutation
 C) Migration D) None
- 87)** Which statement best describes the Hardy-Weinberg principle?
 A) Recessive alleles eventually disappear in large populations
 B) Expected frequencies of alleles are impossible to predict mathematically
 C) Dominant alleles become more prevalent in large populations
 D) When there is a large population, the mechanism of inheritance does not change allele frequencies.

Key

1)	B
2)	A
3)	B
4)	A
5)	D
6)	B
7)	D
8)	A
9)	B
10)	C
11)	A
12)	D
13)	D
14)	D
15)	A

16)	A
17)	D
18)	D
19)	D
20)	A
21)	A
22)	D
23)	D
24)	A
25)	B
26)	A
27)	C
28)	C
29)	A
30)	C

31)	C
32)	B
33)	A
34)	D
35)	D
36)	A
37)	D
38)	A
39)	C
40)	A
41)	B
42)	C
43)	B
44)	D
45)	C

46)	B
47)	B
48)	B
49)	D
50)	D
51)	D
52)	A
53)	A
54)	B
55)	B
56)	C
57)	D
58)	D
59)	D
60)	A

61)	B
62)	C
63)	D
64)	A
65)	D
66)	D
67)	D
68)	D
69)	D
70)	B
71)	D
72)	B
73)	C
74)	B
75)	C

76)	A
77)	D
78)	D
79)	A
80)	D
81)	B
82)	C
83)	B
84)	B
85)	A
86)	C
87)	D

Forms and Functions in Plants

- | | |
|---|---|
| <p>1) The venous flower basket is also known as which of the following?
 A) Sycon B) Leucosolenia
 C) Spongilla D) Euplectella</p> | <p>A) Companion cell B) Sieve tube cells
 C) Vessels D) Parenchyma</p> |
| <p>2) Water and mineral uptake by roots, xylem and phloem
 The upward movement of sap by the xylem is:
 A) Ascent of sap B) Plasmolysis
 C) Deplasmolysis D) Guttation</p> | <p>10) Carnivorous plants/parasitic nutrition (pitcher plant, venus fly trap, sundew)
 The absorption of water through a compound without dissolving in it is known as:
 A) Ascent of sap B) Plasmolysis
 C) Imbibition D) Guttation</p> |
| <p>3) Deficiency of which element causes yellowing in plants?
 A) Magnesium B) Iron
 C) Chlorine D) Oxygen</p> | <p>11) Casparian strips are found in:
 A) Epidermis B) Endodermis
 C) Cortex D) Vascular bundle</p> |
| <p>4) Stomata cover only what portion of the leaf surface?
 A) 10% B) 50%
 C) 1-2% D) 0.3 to 0.4%</p> | <p>12) Guttation is caused due to:
 A) Suppression of transpiration
 B) Humidity
 C) Root pressure D) None</p> |
| <p>5) The attraction between water molecules and cell wall of xylem is termed as:
 A) Cohesion B) Tension
 C) Adhesion D) Imbibition</p> | <p>13) Multisensory hydraulic valves are:
 A) Stomata B) Lenticels
 C) Guard cells D) Hydathodes</p> |
| <p>6) Water vapors exit and carbon dioxide enters a leaf through:
 A) Stomata B) Grana
 C) Porphyrin ring D) Photons</p> | <p>14) Pressure flow theory was proposed by:
 A) Ernst Munch B) Van Neil
 C) Hans Krebs D) TH Morgan</p> |
| <p>7) Which cells regulate the opening and closing of stomata?
 A) Neutrophils B) Basophils
 C) Guard cells D) Mesophyll cells</p> | <p>15) The loss of liquid via the hydathodes is called:
 A) Imbibition B) Guttation
 C) Plasmolysis D) None of these</p> |
| <p>8) Which of the following is incorrect for ascent of sap?
 A) Water potential B) Cohesion tension
 C) Root pressure D) Imbibition</p> | <p>16) The movement of minerals or water via extracellular pathway is known as:
 A) Symplast B) Apoplast
 C) Vascular D) None of these</p> |
| <p>9) Which of these cells is not present in phloem?</p> | <p>17) Who proposal starch sugar hypothesis?
 A) Sager B) Dixon
 C) Mohl D) Drabs</p> |

- 18) Osmotic pressure/potential**
In osmosis water molecules move from area of:
- Higher solute concentration to lower solute concentration
 - Lower solvent concentration to higher solvent concentration
 - Lower solute concentration to higher solute concentration
 - All of these
- 19) The external solution having more concentration than the cell sap is known as:**
- Hypertonic solution
 - Hypotonic solution
 - Isotonic solution
 - Isotonic solution
- 20) The total kinetic energy of water molecules is known as:**
- Water potential
 - Pressure potential
 - Osmotic potential
 - None of these
- 21) Cardiovascular system (including human heart structure, blood vessels)**
The osmotic pressure of blood is maintained by
- Membrane proteins
 - Fibrous proteins
 - Plasma proteins
 - Myosin
- 22) _____ is a macromolecule found in blood**
- Hemoglobin
 - Plasma
 - Creatinine
 - Plasmids
- 23) A 25 years old female with chronic fatigue was diagnosed with iron deficiency anemia and low blood count what is the cause of her fatigue?**
- Reduction in amount of Fe-S centers
 - Lowered production of water from the electron transport chain that cause dehydration
 - Iron is important for electron transport chain
 - Iron is important for NADH production
- 24) A circulatory system has _____ characteristics.**
- 1
 - 2
 - 3
 - 6
- 25) Blood is collected from legs by:**
- Hepatic vein
 - Vena cava
 - Renal vein
 - Iliac veins
- 26) Chordae tendineae are present in:**
- Aorta
 - Atrium
 - Ventricle
 - Vena cava
- 27) Heart is enclosed in:**
- Pericardium
 - Plural membrane
 - Mesentery
 - Epimysium
- 28) Iliac arteries supply blood to:**
- Stomach
 - Large intestine
 - Esophagus
 - Gonads
- 29) Papillary muscles extension are responsible for:**
- Bicuspid constriction
 - Tricuspid constriction
 - Mitral constriction
 - All of these
- 30) Pressure is highest in:**
- Aorta
 - Arteries
 - Capillaries
 - Arterioles
- 31) Pulse is found in:**
- Arteries
 - Capillaries
 - Veins
 - Both A and B
- 32) The function of spleen is to filter.**
- Blood
 - Amniotic fluid
 - Semen
 - Lymph
- 33) The number of RBCs at high altitude will:**

- A) Increase in size B) Increase in number
C) Decrease in size D) Decrease in number

34) The number of stages involved in the heart beat is?

- A) 2 B) 3
C) 4 D) 5

35) Which of these is common in both lymph vessels and veins?

- A) Both have small bore
B) Both have valves
C) Both have low blood pressure
D) Both are communicated

36) Which one is thickest?

- A) Left ventricle B) Right ventricle
C) Left auricle D) Right auricle

37)

Respiratory system

The cluster of pouches opened from alveolar ducts is known as:

- A) Bronchi B) Bronchioles
C) Pharynx duct D) Alveoli

38) 5 Amount of oxygen in inspired air is 21 % while in expired air is:

- A) 0.11 B) 0.12
C) 0.15 D) 0.16

39) 5 Which pigment protein is also known as muscle haemoglobin?

- A) Melanin B) Myoglobin
C) Rhodopsin D) Lutein

40) 8 A surfactant is a secretory product that is composed of:

- A) Protein and disaccharide
B) Protein and lipid
C) Lipid and carbohydrate
D) Carbohydrate and vitamins

41) A muscular passage that is common to

both food and air is known as:

- A) Bronchi B) Bronchioles
C) Larynx D) Pharynx

42) A series of C shaped cartilage rings are found in the wall of:

- A) Epiglottis B) Trachea
C) Bronchi D) None of these

43) A surfactant is essential for:

- A) Efficient gas exchange
B) Both A and C
C) Maintaining structural integrity of alveoli
D) None of these

44) A surfactant plays its role by:

- A) No effect on surface tension
B) Increasing surface tension
C) Decreasing surface tension
D) None of these

45) Air contains what percentage of carbon dioxide?

- A) 0.02-0.03 B) 0.03-0.04
C) 0.04-0.05 D) 0.05-0.06

46) Air enters the nasal cavity through:

- A) Lungs B) Bronchi
C) Trachea D) Nostrils

47) Asthma releases a compound named as:

- A) Histamine B) Heparin
C) Epinephrine D) Antibodies

48) Breathing is considered as a:

- A) Chemical process B) Biochemical process
C) Mechanical process D) Both A and B

49) Cancer expands systematically by:

- A) Locally B) Systemic
C) Metastasis D) Invasion

50) Carbonic anhydrase is found in:

- A) R.B) C B) Parabronchi
C) Pleura D) None of these

- 51)** During transport of carbon dioxide, blood does not become acidic due to:
A Blood buffer
B Neutralization of H_2CO_3 by Na_2CO_3
C) Absorption by leukocytes
D) Non-accumulation
- 52)** Each air-sac consists of several microscopic single layered structures called:
A) Bronchioles B) Windpipe
C) Bronchi D) Alveoli
- 53)** Each nasal cavity is subdivided into passageways in man.
A) 1 B) 2
C) 3 D) 4
- 54)** Glottis is lined with:
A) Plasma membrane B) Mucous membrane
C) Meninges D) Epithelial membrane
- 55)** Hemoglobin can carry:
A) 1 molecule of oxygen
B) 2 molecules of oxygen
C) 3 molecules of oxygen
D) 4 molecules of oxygen
- 56)** How many compounds of tar of tobacco smoke are included in causing cancer?
A) 2 B) 8
C) 5 D) More than 10
- 57)** How many pair of ribs are present in chest wall?
A) 10 B) 11
C) 12 D) 13
- 58)** In human, the total inside capacity of lungs is about:
A) 3.5 liters B) 2.5 liters
C) 4 liters D) 6 liters
- 59)** In nostrils, the substance which moistens and keep the incoming air warm is called:
A) Bronchi B) Mucous
C) Pharynx D) Glottis
- 60)** Intercostal muscles are found in:
A) Ribs B) Pharynx
C) Lungs D) Both B and C
- 61)** Loss of lung tissue is caused by:
A) Emphysema B) Asthma
C) Pneumonia D) Bronchitis
- 62)** Lungs are porous due to the presence of:
A) Bronchi B) Alveoli
C) Terminal bronchiole D) Respiratory bronchiole
- 63)** Maximum capacity of hemoglobin to absorb oxygen is:
A) 19.6ml/100 ml blood
B) 25 ml/100 ml blood
C) 30 ml/100 ml blood
D) 20 ml/100 ml blood
- 64)** Most carbon dioxide is transported in the form of:
A) Carboxyhaemoglobin B) Plasma proteins
C) Bicarbonate ions D) In dissolved form
- 65)** Pick the odd one out:
A) Heart B) Life
C) Kidney D) Lungs
- 66)** Pleural membranes cover:
A) Brain B) Heart
C) Kidneys D) Lungs
- 67)** Select the phase/s of breathing:
A) Inhalation B) Exhalation
C) Both and A and B D) Vocal waves
- 68)** The bronchitis is of types?
A) 2 B) 4
C) 3 D) 5
- 69)** The carbon dioxide transported in the

form of carbonate ions is:

- A) 30% B) 50%
C) 70% D) 95%

70) The cartilage protects the trachea from:

- A) Collapsing B) Vibrating
C) Swelling D) Breaking

71) The covering of lungs is termed as:

- A) Pleural membrane B) Myocardium
C) Pericardium D) Both B and C

72) The disease characterized by the breakdown of alveoli is called:

- A) Asthma B) Tuberculosis
C) Emphysema D) A and B

73) The epiglottis, a flap of tissues covers the:

- A) Pharynx B) Larynx
C) Glottis D) Nasal cavity

74) The factor which affect the oxygen saturation of hemoglobin:

- A) CO₂ B) Temperature
C) pH of blood D) All of these are correct

75) The flap like structure found on larynx is called:

- A) Glottis B) Vocal cords
C) Larynx D) Epiglottis

76) The floor of the chest is called:

- A) Alveoli B) Trachea
C) Bronchi D) None of these

77) The function of vocal cords is to help in:

- A) Voice production B) Energy production
C) Glucose production D) Air production

78) The infection of lungs is called:

- A) Emphysema B) Asthma

- C) Pneumonia D) Bronchitis

79) The inflammation of bronchi or bronchioles is known as:

- A) Emphysema B) Pneumonia
C) Asthma D) Bronchitis

80) The inside of the lungs is damaged in:

- A) Emphysema B) Lung cancer
C) Tuberculosis D) Asthma

81) The oxygen and carbon dioxide crosses the plasma membrane by the process of?

- A) Active diffusion B) Facilitated diffusion
C) Passive diffusion D) Random diffusion

82) The process of intake of oxygen and release of carbon dioxide is known as:

- A) Respiratory exchange
B) Gaseous exchange
C) Diffusion D) Osmosis

83) The process through which organisms get oxygen for their cells from their surrounding environment is known as:

- A) Respiratory exchange B) Diffusion
C) Gaseous exchange D) Osmosis

84) The respiratory disorder in which cells division takes place without any control and causes tumors is known as:

- A) Emphysema B) Asthma
C) Lung cancer D) Bronchitis

85) The smaller tubes within the chest cavity having cartilaginous plates are known as

- A) Pharynx B) Bronchioles
C) Bronchi D) Both B and C

86) The space inside the chest cavity during inspiration is:

- A) Decreased B) Increased
C) Remains same D) First increased then decreased

- 87)** The structures with a diameter less than 1mm are:
A) Bronchioles B) Bronchi
C) Alveoli D) Air sac
- 88)** The thick muscular structure which is present below the pair of lungs is known as:
A) Pharynx B) Diaphragm
C) Bronchi D) None of these
- 89)** The wall of chest cavity is composed of:
A) Intercostal muscles B) ribs
C) Both and A and B D) Diaphragm
- 90)** Trachea is also termed as:
A) Voice box B) Epiglottis
C) Bronchi D) Windpipe
- 91)** What is correct about myoglobin?
A) It is iron containing protein pigment
B) It occurs in muscle fibres
C) It also stores some oxygen
D) All of these
- 92)** What is the breathing rate in humans during exercise?
A) 15-20 times per minute
B) 30 times per minute
C) 20 times per minute
D) 10-20 times per minute
- 93)** What is the human breathing rate during hard physical work?
A) 10 to 15 times per minute
B) 10 to 20 times per minute
C) 80 to 120 times per minute
D) 30-40 times per minute
- 94)** What is the intermediate part of the respiratory system between trachea and pharynx?
A) Glottis B) Voice box
C) Bronchi D) A and B
- 95)** What is the length of the windpipe?
A) 12 cm B) 15cm
C) 18 cm D) 20 cm
- 96)** What is the main cause of lung cancer?
A) Smoking B) Cough
C) Pollutants D) Mutagens
- 97)** Which is not true about human lungs?
A) They are opened sacs
B) They are closed sacs
C) They are spongy in nature
D) They are placed in chest cavity
- 98)** Which of the following is not respiration?
A) Breakdown of glucose
B) Formation of glucose
C) Release of energy D) Exchange of gases
- 99)** Which of the following is the key function of pleural cavity?
A) Reduces friction between membranes
B) Slide easily on one another
C) Allows membrane to adhere on one another
D) All of these are correct
- 100)** Which of these does not contain cartilage?
A) Bronchioles B) Larynx
C) Trachea D) Bronchi
- 101)** Which of these is functional unit of lungs?
A) Air sacs B) Alveoli
C) Bronchi D) Bronchioles
- 102)** Which of these is not involved in respiration?
A) Lungs B) Trachea
C) Glucagon D) Bronchi
- 103)** Which product is formed when carbon

dioxide combines with amino group of haemoglobin?

- A) Carboxyhemoglobin
- B) Plasma proteins
- C) Bicarbonate ions
- D) Histamines

- C) Lymphatic vessels
- D) Lymph nodes

104

Digestive system

Pancreatic zymogens are only activated when they reached at?

- A) Stomach
- B) Pancreas
- C) Small intestine
- D) Large intestine

105

A condition with abnormal amount of fats is called:

- A) Anorexia
- B) Botulism
- C) Piles
- D) Obesity

106

After stomach, digestion occurs in:

- A) Small intestine
- B) Cecum
- C) Colon
- D) Rectum

107

Bacteria live in human body for enzymatic source and vitamin:

- A) Enterococcus
- B) Pseudomonas
- C) Campylobacter
- D) Spirochete

108

Botulism is severe form of:

- A) Anemia
- B) Food poisoning
- C) Beriberi
- D) Constipation

109

Cells that lower pH of stomach:

- A) Mucous
- B) Chief
- C) Zymogen
- D) Parietal

110

Choose the function irrelevant to oral cavity:

- A) Grinding
- B) Digestion
- C) Lubrication
- D) Absorption

111

Erypsin works on:

- A) Polypeptide
- B) Dipeptide
- C) Peptone
- D) All

112

In the intestine, the branches of lymph capillaries, within villi, are called:

- A) Lacteals
- B) Lymph

113 Incomplete or imperfect digestion is known as which of the following?

- A) Obesity
- B) Anorexia nervosa
- C) Bulimia nervosa
- D) Dyspepsia

114 It is not produced by duodenum:

- A) Cholecystokinin
- B) Secretin
- C) Mucus
- D) Biliverdin

115 Its length is 2.4m and comprises 2/5 of small intestine.

- A) Ileum
- B) Jejunum
- C) Duodenum
- D) None of these

116 Largest gland in human body:

- A) Liver
- B) Adrenals
- C) Thymus
- D) Parotid

117 Largest part of large intestine:

- A) Rectum
- B) Colon
- C) Caecum
- D) Appendix

118 Lipid emulsification is done by:

- A) Pancreatic juice
- B) Bile
- C) Gastric juice
- D) Intestinal juice

119 Loss of weight takes place due to:

- A) Anorexia nervosa
- B) Bulimia nervosa
- C) Both A and B
- D) Constipation

120 Pair of salivary glands located behind the jaws is called

- A) Sublingual gland
- B) Submaxillary glands
- C) Parotid glands
- D) Adrenal glands

121 Salivary amylase acts on:

- A) Starch
- B) Cellulose
- C) Protein
- D) Lipid

122 Secretion of secretin is forced by:

- A) Food from stomach
- B) Bile from liver

C) Pancreatic juice D) All of these	factor
123 The nodules of lymphoid tissue found in the wall of the intestinal tract are termed as: A) Grave's region B) Peyer's patches C) Hashimoto's nodes D) DiGeorge's nodes	132 Immune & system The deficiency of which of the following cause the immunodeficiency? A) Hypoxanthine-guanine transferase B) Xanthine oxidase C) PRPP synthetase D) Adenosine deaminase
124 The semi solid mass in stomach is known as: A) Bolus B) Chyme C) Serum D) Food	133 Pathogens inside body are killed by: A) Antibodies B) Immune system cells C) Interferon D) All of these
125 Trypsinogen is activated to trypsin by: A) Kinases B) HCL C) Mucus D) Enterokinase	134 What is true about T-Cells? A) A type of lymphocytes B) Present in blood and work as defence C) They kill the foreign invader D) All
126 What is the length of duodenum in cm? A) 15-20 B) 20-25 C) 21-25 D) 25-30	135 Lymphatic system A fluid in transit between interstitial fluid and the blood: A) Synovial fluid B) Pleural fluid C) Amniotic fluid D) Lymph
127 What is the pH of fresh HCl? A) 1.5 B) 5-7 C) 2-3 D) 4-5	136 Amount of lymph produced per day is: A) 2 to 3 liter B) 7 to 8 liter C) 8 to 12 liter D) None
128 Which enzyme is found in saliva? A) Pepsin B) Lipase C) Ptyalin D) Lactase	137 Autoimmune diseases act at the principal of: A) Self against self B) Self against antigens C) Antigens self-destroyed D) Antigens against self
129 Which is true about pepsin? A) It is produced in inactivated form B) It is produced from esophagus C) It requires basic medium D) It is an apoenzyme	138 Cell turgidity is caused by: A) Endosmosis B) Exosmosis C) Plasmolysis D) Active transport
130 Which of the following would most greatly increase the activity of an enzyme functioning in the small intestine? A) Decrease the temperature B) Increase the amount of substrate C) Decrease the pH D) Increase the amount of enzymes	139 Chlorosis, which is represented by yellowish hue on the leaves results from which of the following?
131 Zymogen cells secrete: A) Pepsinogen B) Mucus C) HCL D) Intrinsic	

- A) Accumulation of toxic waste products in leaves
 B) Deficiency of chlorophyll
 C) Short supplies of mineral nutrients in the soil
 D) All of these

140 It is a detritus feeder:

- A) Leech B) Earthworm
 C) Hook worm D) Pin worm

141 Lymph capillaries join together form larger lymph vessels, that gives rise to:

- A) Thoracic duct B) Lymph duct
 C) Thoracic lymph duct D) Sperm duct

142 Lymph nodes may be located in the human body in the tissues of:

- A) Stomach B) Brain
 C) Thyroid gland D) Groin and neck

143 Lymph vessels transfer the lymph into blood through:

- A) Subclavian artery B) Subclavian vein
 C) Iliac artery D) Iliac vein

144 Lymphatic system consists of all the following except:

- A) Lymph nodes B) Blood
 C) Lymphatic vessels D) Lymph

145 Lymphoid masses present in the wall of:

- A) Digestive track B) Sub Mucosa
 C) Mucosa D) All of these

146

Out of the Syllabus

The space between the overtopped dichotomous branches was occupied by a sheet of which cells during evolution of megaphylls?

- A) Sclerenchyma B) Parenchyma
 C) Collenchyma D) Chlorenchyma

147 Slow rate of peristalsis causes:

- A) Diarrhea B) Constipation
 C) Vomiting D) All of these

148 The flow of lymph is always towards:

- A) Pancreatic duct B) Thoracic duct
 C) Bile duct D) Parotid dust

149 The function of lymph node is to filter .

- A) Blood B) Lymph
 C) Semen D) Amniotic fluid

150 The number of efferent lymph vessels in a lymphatic system is:

- A) 1 B) 2
 C) 3 D) Numerous

151 There are how many stomata per square cm of leaf surface in Tobacco plants?

- A) 10000 B) 12000
 C) 15000 D) 20000

152 Thick, waxy & leathery cuticle around leaves is present in which of the following?

- A) Hydrophytes B) Mesophytes
 C) Halophytes D) Xerophytes

153 Thymus is found in human body .

- A) In the medulla oblongata
 B) In the mediastinum if the upper thorax
 C) Both A & B
 D) None

154 Tonsils are related to:

- A) Lymphatic system B) Blood circulatory system
 C) Nervous system D) Defense system

155 Which element has function in opening and closing of stomata?

- A) K B) Mg
 C) Cu D) Fe

156 Which of these is correct about thoracic duct?

- A) It arises in the vessels of the brain
 B) It drains the entire body above the diaphragm
 C) It empties its contents into the

subclavian vein

D) It carries blood into the lymphatic system

Key

1)	D	27)	A	53)	C	79)	D	105)	D	131)	A
2)	A	28)	D	54)	B	80)	A	106)	A	132)	D
3)	A	29)	D	55)	D	81)	C	107)	A	133)	B
4)	C	30)	A	56)	D	82)	B	108)	B	134)	D
5)	C	31)	A	57)	C	83)	C	109)	D	135)	D
6)	A	32)	A	58)	D	84)	C	110)	D	136)	A
7)	C	33)	B	59)	B	85)	C	111)	C	137)	A
8)	A	34)	B	60)	A	86)	B	112)	A	138)	A
9)	C	35)	B	61)	A	87)	A	113)	D	139)	B
10)	C	36)	A	62)	B	88)	B	114)	D	140)	B
11)	B	37)	D	63)	D	89)	C	115)	B	141)	B
12)	C	38)	D	64)	C	90)	D	116)	A	142)	D
13)	C	39)	B	65)	B	91)	D	117)	B	143)	B
14)	A	40)	B	66)	D	92)	B	118)	B	144)	B
15)	B	41)	D	67)	C	93)	D	119)	C	145)	A
16)	C	42)	B	68)	A	94)	D	120)	B	146)	B
17)	B	43)	B	69)	C	95)	A	121)	A	147)	B
18)	C	44)	C	70)	A	96)	D	122)	A	148)	B
19)	A	45)	B	71)	A	97)	A	123)	B	149)	B
20)	A	46)	D	72)	C	98)	B	124)	B	150)	A
21)	C	47)	A	73)	B	99)	D	125)	D	151)	B
22)	A	48)	C	74)	D	100)	A	126)	D	152)	D
23)	C	49)	C	75)	D	101)	A	127)	A	153)	B
24)	C	50)	A	76)	D	102)	C	128)	C	154)	A
25)	D	51)	A	77)	A	103)	A	129)	A	155)	A
26)	C	52)	D	78)	C	104)	C	130)	D	156)	C

PROKARYOTES

- 1) Cellular Structure of bacteria**
Cyanobacteria have which of the following type of cell wall?
A) Gram positive B) Gram negative
C) Cellulose D) Acid fast
- 2)** A bacterium with tuft of flagella at both poles is called?
A) Lophotrichous B)
Peritrichous
C) Monotrichous D)
Amphitrichous
- 3)** A type of bacterial cell that completely surrounded by flagella is called:
A) Diplococcus B) Tetrad
C) Peritrichous D)
Monotrichous
- 4)** Aerobic bacteria release:
A) Sulphur B) Oxygen
C) CO₂ D)
Hydrogen
- 5)** All bacterial species have this organelle in common:
A) Ribosome B)
Flagella
C) Pili D) Cell wall
- 6)** All of the following are characteristics of prokaryotic cells except?
A) Unicellular
B) Lack of membrane-bound organelle
C) Lack of a nucleus
D) They are usually found in protists and fungi
- 7)** Archaeobacteria can survive at which of the following temperature? (Celsius)
A) 300 B) 120
C) 150 D) 200
- 8)** Bacteria that live in humus are .
A) Saprophytic B) Anaerobic
C) Aerobic D)
Facultative
- 9)** Bacteria without flagella are called:
A) Atrichous B)
Amphitrichous
C) Lophotrichous D)
Peritrichous
- 10)** Cell wall is only absent in which of the following group of bacteria?
A) Staphylococci B)
Pseudomonas
C) Diplococcus pneumonia D)
Mycoplasmas
- 11)** Cell wall of a bacterial cell is more permeable in:
A) Gram positive bacteria B)
Gram negative bacteria
C) Both A & B D)
Mycoplasmas
- 12)** Characteristic of prokaryotic cells?
A) Absence of membrane bound cell organelles
B) Absence of nucleus
C) Presence of 70S ribosomes
D) All of these
- 13)** Chromatin body in prokaryotes can also termed as:
A) Nuclear body B) Nuclear region
C) Nucleoid D) All of Above
- 14)** Cyanobacteria are related to eukaryotes in having:
A) PS1 B) PSII
C) Both A and B D) None
- 15)** Cyanobacteria are in nature.

<p>A) Autotroph Heterotroph C) Decompose None</p>	<p>B) C) Enzymes D) Chemicals</p>
<p>16) Cyanobacteria help in nitrogen fixation since they have: A) Heterocyst Hormogonia C) Akinetes Mesosomes</p>	<p>23) In a bacterial cell, plasma membrane with all things present within it is called: A) Cytoplasmic matrix Cytoplasm C) Protoplast Structure</p>
<p>17) Cyanobacteria move by: A) Gas vesicles Gliding motility C) Flagella and B</p>	<p>24) In Prokaryotes, are involved in respiration. A) Mesosomes and cell membrane B) Cell membrane and ribosome C) Mesosomes and ribosomes D) All of Above</p>
<p>18) Cyanobacteria undergo photosynthesis with help of: A) Phycobilisome Mesosomes C) Spores Cytoplasmic granule</p>	<p>25) In prokaryotic cells, ribosomes are of? A) 50S + 40S C) 60S + 40S</p> <p>26) In what category of bacteria does Neisseria most likely fall? A) Cocci C) Spirochete None of these</p>
<p>19) E. coli is a: A) Facultative Anaerobic C) Gram negative these</p>	<p>27) It occupies position near center of cell: A) Chromosome C) Nucleoid Mitochondria</p>
<p>20) Example of bacterial requiring low concentration of oxygen is: A) Spirochete coli C) Pseudomonas Campylobacter</p>	<p>28) Methicillin-resistant Staphylococcus aureus is an antibiotic-resistant "superbug" that can cause deadly infections in humans. What would these Gram-positive bacteria look like under a microscope? A) Purple spheres C) Pink rods spirals</p>
<p>21) Flagella are basically composed of? A) Protein C) Chemical above</p>	<p>29) Microbiologist place bacteria in following major categories: A) Archaeobacteria and vibrio bacteria</p>
<p>22) For respiratory metabolism, bacterial cell membrane contains: A) Proteins</p>	<p>B) Lipids</p>

<p>B) Eubacteria and Streptococcus C) Eubacteria and archaeobacteria D) Cyanobacteria and archaeobacteria</p>	<p>C) Chemosynthetic bacteria D) None of above</p>
<p>30) Periplasmic space is absent in: A) Gram positive bacteria B) Gram negative bacteria C) Both and B D) None</p>	<p>38) The flagella originate from which part of the cell? A) Basal body B) Cell membrane C) Cell wall D) Capsule</p>
<p>31) Pilli are hollow appendages in bacteria that are used for: A) Motility B) Conjugation C) Chemical detection D) None of above</p>	<p>39) The function of cell wall in prokaryotes is: A) To give cells rigidity B) To give specific shape C) To protect from osmotic lysis D) All of the above</p>
<p>32) Prokaron means before nucleus is word of _____ language. A) Dutch B) Greek C) Roman D) Spanish</p>	<p>40) The gram positive bacteria appear which colour under gram staining? A) Purple B) Red C) Pink D) Blue</p>
<p>33) Protein named as pilin is present in: A) Flagella B) Pilli C) Capsule D) Slime</p>	<p>41) The mode of reproduction for cyanobacteria is which of the following? A) Mitosis B) Binary fission C) Meiosis D) Conjugation</p>
<p>34) Purple non-sulphur is an example of: A) Photosynthetic bacteria B) Heterotrophic bacteria C) Saprotrophic bacteria D) Chemosynthetic bacteria</p>	<p>42) The most common waste material produced by bacteria is? A) Lactic acid B) Urea C) Ammonia D) Uric acid</p>
<p>35) Spores are resistant to: A) Antibodies B) Environmental stress C) Disinfectants D) All of these</p>	<p>43) The presence of peptidoglycan in Gram positive bacteria is: A) 40% of dry weight B) 50% of dry weight C) 10% of dry weight D) 80% of dry weight</p>
<p>36) The cell wall of Archaeobacteria does not contain which of the following? A) Glycoproteins B) Polysaccharides C) Proteins D) Peptidoglycan</p>	<p>44) The presence of which of these cell structures would confirm that the cell is prokaryotic? A) Cytoplasm B) Ribosomes C) Flagella D) Peptidoglycan cell wall</p>
<p>37) The filamentous appendages called pilli are present only on: A) Gram - Positive bacteria B) Gram - Negative bacteria</p>	

- 45)** The process of recombination in prokaryotes takes place in which of the following ways?
 A) Transformation B) Conjugation
 C) Transduction D) All of these
- 46)** The Prokaryotic Life is characterized by
 A) Absence of locomotion
 B) Absence of nuclear envelope
 C) Absence of Protein
 D) Absence of nuclear material
- 47)** The structure of prokaryote which is involved in attachment:
 A) Pili B) Flagella
 C) Cell wall D) Outer membrane
- 48)** Those bacteria which are fully dependent upon their host for nutrition are called?
 A) Heterotrophic bacteria
 B) Saprotrophic bacteria
 C) Chemosynthetic bacteria
 D) Parasitic bacteria
- 49)** True bacteria are termed as:
 A) Eubacteria B) Archaeobacteria
 C) Cyanobacteria D) None of above
- 50)** What allows bacteria to stain positively with gram stain?
 A) The bacteria is anaerobic
 B) The bacterial sample was pretreated with 3% ethanol
 C) The bacteria's periplasmic space
 D) The bacteria's thick peptidoglycan cell walls
- 51)** What is not a part of protoplasm?
 A) Capsule of bacteria B) Nucleus
 C) Cell membrane D) Mitochondria
- 52)** What is the name of the region where double-stranded single circular DNA is found in the prokaryotic cell?
 A) Proton Nucleus B) Nucleus
 C) Nucleoplasm D) Nucleoid
- 53)** What is the strengthening material of the prokaryotic cell wall?
 A) Cellulose
 B) Chitin
 C) Silica waxes and lignin
 D) Peptidoglycan or murein
- 54)** What is true for pili and flagella like structures of bacteria:
 A) Both are same in size
 B) Both are involved in locomotion
 C) Both are composed of proteins
 D) All of Above
- 55)** Which is present in every bacterium?
 A) Cell wall B) Slime
 C) Cell membrane D) Capsule
- 56)** Which of following is not considered as basic shape of a bacterium
 A) Cocci B) Filamentous
 C) Spiral D) Bacilli
- 57)** Which of the following bacteria do not commonly have flagella?
 A) Cocci B) Bacilli
 C) Streptobacillus D) Vibrio
- 58)** Which of the following characteristics make plasmid DNA useful for researchers?
 A) Readily incorporate cloned DNA
 B) Capable of autonomous replication
 C) Capable of being isolated from genomic DNA
 D) All of these
- 59)** Which of the following contains genes for drug and disease resistance in bacteria?

<p>A) Plasmid C) Mesosomes D) All of these</p>	<p>A) Both processes produce four haploid cells B) Both processes are a form of asexual reproduction C) Both processes involve genetic recombination D) None of these</p>
<p>60) Which of the following is a form of asexual reproduction in prokaryotic cells? A) Binary fission and mitosis B) Binary fission and meiosis C) Binary fission and transformation</p>	<p>67) Which of the following structure is not present in all bacteria? A) Cell membrane B) Chromatin C) Ribosome D) Capsule</p>
<p>61) Which of the following is false about conjugation? A) It forms a bridge between two bacterial cells B) It involves transport of genetic material via vectors C) It is a form of sexual reproduction D) Both A and B</p>	<p>68) Which of the following structure provides greater pathogenicity to the bacteria? A) Slime B) Cell wall C) Cell membrane D) Capsule</p>
<p>62) Which of the following is found in bacterial cells, but not in mature red blood? A) Nucleus B) DNA C) Cell membrane D) Mitochondria</p>	<p>69) Which of the following structures helps cyanobacteria to move? A) Flagella B) Capsule C) Gas vesicles D) None of these</p>
<p>63) Which of the following is heat resistant organelle? A) Spores B) Cysts C) Granules D) All of Above</p>	<p>70) Which of the following type of bacterial replication is most similar to mitosis? A) Transduction B) Binary fission C) Conjugation D) Transformation</p>
<p>64) Which of the following is most responsible for bacterial cell motility? A) Cilia B) Flagella C) Pili D) Pseudopodia</p>	<p>71) Which of the following would not be found in a prokaryotic cell? A) Mitochondria B) RNA C) Ribosomes D) Plasma membrane</p>
<p>65) Which of the following is not a method of genetic recombination in bacterium? A) Conjugation B) Transformation C) Transduction D) Binary Fission</p>	<p>72) Which of the following would not be observed in a bacterial cell? A) DNA B) Golgi apparatus C) Cell membrane D) Ribosomes</p>
<p>66) Which of the following is true of both bacterial conjugation and meiosis?</p>	<p>73) Which organelle is of prokaryotic</p>

origin?

- A) Mitochondria B)
Chloroplast
C) Both A and B D) None of
the above

74) Which part of bacteria is most delicate and damage can kill bacterial cell immediately?

- A) Cell wall B) Cell
membrane
C) Slime D) Capsule

75) Which true prokaryotes is a photosynthetic bacterium?

- A) Cyanobacteria B) Nostoc
C) Chlorella D) E. coli

76)

Shape and size of bacteria

Streptobacillus is basically a:

- A) Single cell B)
Chain of bacilli
C) Pairs of bacilli D All of
Above.

77) A huge microorganism, Acanthurus nigrofusus is a discovered in intestine of brown surgeonfish.

- A) Bacterium B)
Virus
C) Parasite D) Protozoa

78) Coccobacillus has a shape similar to which of the following?

- A) Egg B) Rod
C) Ball D)
None of these

79) Division of cocci in three planes results in formation of:

- A) Sarcina B) Tetrad
C) Grape like clusters D) All
of above

80) Group of 8 cocci bacteria is called?

- A) Diplococci B)
Streptococcus
C) Tetrad D) Sarcina

81) In cocci, three plane division results in the formation of sarcina which is a:

- A) Cube of 8 cocci B) Square of 4 cocci
C) Irregular structure D) Triangular
6 cocci

82) Spiral shaped bacteria is:

- A) E. coli B) Vibrio
C) Mycoplasma D)
Bacillus

83) The several distinct arrangements of cocci is based on their

- A) Long chain of cells B)
Planes of division
C) Grape like clustered shape D) All
of Above

84) The size of Spirochete is approximately?

- A) 0.75-1.25 um B) 100-200
nm
C) 0.1 -600 um D) 500
um

85) Which is a spiral shape bacteria?

- A) Spirochete B) E.
coli
C) Pseudomonas D)
Streptococcus

86) Which of the following bacteria is equal to the size of hyphen?

- A) Epulopiscium fishelsoni B)
Pseudomonas aeruginosa
C) Escherichia coli D)
Streptococcus pneumoniae

87) Which of the following bacteria possesses a spherical shape?

- A) Bacillus anthracis B)
Escherichia coli
C) Spirillum minus

D) Staphylococcus aureus	95) For sterilization, are used)
88) Which of the following has a chain-like arrangement?	A) UV rays B) IR rays
A) Streptobacillus B) Streptococci	C) Gamma rays D) X-rays
C) Both A and B D) None of these	96) Pesticide and insecticides are made up of:
89) Importance and control of bacteria	A) Physical agents B) Biological agents
Chemical substances used on living tissues that inhibit the growth of microorganism are called?	C) Chemical agents D) All of these
A) Disinfectant B) Sanitizer	97) Removal of a parasite from the body of the host is called:
C) Antibiotic D) Antiseptics	A) Sterilization B) Disinfection
90) Approximately how many species of bacteria are known to cause diseases in humans?	C) Disinfestation D) None of these
A) 100 B) 150	98) What is the main role of bacteria?
C) 200 D) 250	A) CO ₂ cycle B) Nitrogen cycle
91) Bacteria play important role in:	C) Phosphorus cycle D) All of above
A) Nitrogen cycle B) Carbon cycle	99) Out of Syllabus
C) Urea cycle D) Water cycle	Who coined the term Animalcules for microorganisms like Bacteria and protozoa?
92) Deafness is caused by excess use of:	A) Robert Koch B) Louis Pasteur
A) Tetracycline B) Streptomycin	C) Alexander Fleming D) Leeuwenhoek
C) Levofloxacin D) Erythromycin	100) Compound Microscope was first used by:
93) Discoloration of teeth is due to misuse of:	A) A) V. Leeuwenhoek B) Pasture
A) Tetracycline B) Ampicillin	C) Janssen and Hans D) None of these
C) Kanamycin D) Erythromycin	101) Example of bacteria requiring low concentration of oxygen is:
94) For sterilization, which of the following is used:	A) Spirochete B) Escherichia
A) Dry heat B) Moist heat	
C) Gamma rays D) All of these	

C) Pseudomonas D)
Campylobacter

102) Microscope's ability to distinguish between separate objects that are close together is called?

A) Magnification B) Resolving power
C) Contrast D) Scanning power

103) Rapid growth at exponential rate occurs in which phase of bacterial growth?

A) Lag
C) Stationary D) Decline

104) Robert Koch discovered bacteria that cause:

A) Tuberculosis and Typhoid
B) Tuberculosis and Cholera
C) Tuberculosis and Measles
D) All of Above

105) The nitrifying bacteria are an example of which of the following?

A) Heterotrophic bacteria
B) Saprotrophic bacteria
C) Chemosynthetic bacteria
D) Parasitic bacteria

106) Which of the following refers to the region of RNA responsible for binding ribosomes during prokaryotic translation?

A) TATA box B) Promoter
C) Terminator D) Shine-Dalgarno sequence

107) Which of the following statement is

incorrect regarding germ theory of diseases postulated by Robert Koch?

A) A specific organism can always be found in association with a given disease

B) The organism can be isolated and grown in pure culture in the laboratories

C) It is possible to recover the organism in pure culture from the experimentally infected animals.

D) The pure culture cannot produce the disease when inoculated into susceptible animal

108) Which of the following will not survive in the presence of oxygen?

A) Constitutive anaerobe B) Facultative anaerobe

C) Constitutive aerobe. D) Obligate anaerobe

Key

1)	B
2)	D
3)	C
4)	C
5)	A

6)	D
7)	B
8)	B
9)	A
10)	D

11)	A
12)	D
13)	D
14)	C
15)	A

16)	A
17)	D
18)	A
19)	D
20)	D

21)	A
22)	C
23)	C
24)	A
25)	D

26)	A
27)	C
28)	A
29)	C
30)	D



BOM ENTRY TESTS
PREPARATION

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31)	B
32)	B
33)	B
34)	A
35)	D
36)	D
37)	B
38)	A
39)	D
40)	A
41)	B
42)	A
43)	B

44)	D
45)	D
46)	B
47)	A
48)	D
49)	A
50)	D
51)	A
52)	D
53)	D
54)	C
55)	C
56)	B

57)	A
58)	D
59)	A
60)	D
61)	B
62)	B
63)	A
64)	B
65)	D
66)	C
67)	D
68)	A
69)	D

70)	B
71)	A
72)	B
73)	C
74)	B
75)	A
76)	B
77)	A
78)	A
79)	A
80)	D
81)	A
82)	B

83)	B
84)	D
85)	A
86)	A
87)	D
88)	B
89)	D
90)	C
91)	A
92)	B
93)	A
94)	D
95)	A

96)	C
97)	C
98)	D
99)	D
100)	A
101)	D
102)	B
103)	B
104)	B
105)	C
106)	D
107)	D
108)	D

REPRODUCTION

- | | |
|--|---|
| <p>1) Male reproductive system
In the male reproductive tract, sperm cells follow a specific path. Where sperm cells enter after traveling through the epididymis?
A) Urethra B) Seminiferous tubules
C) Ejaculatory duct D) Vas deferens</p> | <p>6) Fluid secreted by sertoli cells provides sperms with which of the following?
A) Liquid medium B) Nourishment
C) Protection D) All</p> |
| <p>2) 3 Where does the human body store spermatozoa?
A) Ejaculatory duct B) Seminal vesicle
C) Seminiferous tubules D) Epididymis</p> | <p>7) Fluid secreted by three sets of glands combines with sperm to form:
A) Interstitial fluid B) Semen
C) Amniotic fluid D) Both A and B</p> |
| <p>3) All of the following statements are correct except:
A) The testicles produce millions of sperm.
B) Hormones are produced by the testicles.
C) Semen is produced in the seminal vesicles
D) All males are born with one testicle</p> | <p>8) How many million sperms are produced in human per day?
A) 10 B) 20
C) 30 D) 400</p> |
| <p>4) External genitalia of human male consist of a pair of testes which lie outside the body in the sac like?
A) Bag B) Scrotum
C) Pouch D) All of these</p> | <p>9) Human sperm moves by:
A) B) Cilia
C) Pilli D) All of these</p> |
| <p>5) External male genitalia are:
A) A pair of testes B) Seminiferous tubules
C) Male copulatory organ D) Both A and C</p> | <p>10) In male reproductive system which gland neutralizes the pH of urethra?
A) Ejaculatory gland B) Prostate gland
C) Seminal vesicle gland D) Bulbourethral gland</p> |
| | <p>11) In mammalian male, the reproductive and excretory system share the same:
A) Vas deferens B) Urinary bladder
C) Ureter D) Urethra</p> |
| | <p>12) Protection and nourishment of sperms are provided by:
A) Fluid secreted by sertoli cells
B) Interstitial fluid
C) Fluid in scrotum D) All of the above</p> |

- | | |
|---|--|
| 13) Select the function/s of male reproductive system:
A) To produce enzymes B) To transfer sperms to the female
C) To produce sperms D)
Both B and C are correct | which body system?
A) Endocrine B)
Lymphatic
C) Digestive D) Male reproductive |
| 14) Sperm secrete which enzyme?
A) Acrosome B)
Hyaluronidase
C) Lipase D) Both A and B | 21) The highly complex duct system in male is called:
A) Scrotum B)
Seminiferous tubules
C) Prepuce D)
Epididymis |
| 15) Spermatids differentiate into:
A) Spermatozoa B) Mature sperms
C) Primary oocyte D) Secondary spermatocyte | 22) The hormone that is released from the testes is?
A) Progesterone B) Estrogen
C) Testosterone D) All of these |
| 16) Sperms are developed at what temperature?
A) Lower than body temperature
B) Higher than body temperature
C) Body temperature D) All of these | 23) The male gonads are known as?
A) Testes B)
Testosterone
C) Ovaries D) Ovum |
| 17) Sperms are nourished and activated through?
A) Vas deferens B) Prostate gland
C) Semen D) All of these | 24) The number of spermatids produced from primary spermatocytes is?
A) 1 B) 3
C) 3 D) 4 |
| 18) Sperms are produced in:
A) Urethra B) Pancreas
C) Sperm dust D)
Testis | 25) The primary spermatocytes undergo meiotic division to form:
A) Spermatozoa B) Secondary spermatocyte
C) Primary oocyte D) Mature sperms |
| 19) The cells that secrete testosterone
A) Nerve cells B) Fat cells
C) Muscle cells D)
Interstitial cells | 26) The scrotum is responsible for which of the following in the male reproductive system?
A) Synthesis of sperm B)
Lubrication
C) Nourishment of sperm D)
Temperature regulation |
| 20) The epididymis, vas deferens, and urethra are a series of ducts found in | 27) The sperm duct from each side passes into which of the following? |

<p>A) Ureter C) Testes Abdominal cavity</p>	<p>B) Urethra D) B) They are undifferentiated C) They are germ line cells D) They are haploid</p>
<p>28) The sperm duct open into which of the following? A) Ureter C) Testes these</p>	<p>34) Which of these transports sperm from the testis to the penis? A) Sperm duct B) Sacrotum C) Urethra D) Gamete</p>
<p>29) The spermatic cord and spermatic duct are? A) Same C) Same in function location</p>	<p>35) Which one of the following is most likely to occur in a boy during puberty? A) He produces eggs B) His shoulders broaden C) Color of his eyes changes D) None of the above</p>
<p>30) What is a key difference between spermatogenesis and oogenesis? A) Spermatogenesis results in only 1 sperm; oogenesis results in 4 eggs. B) Spermatogenesis results in 2 sperm; oogenesis results in only 1 egg. C) Spermatogenesis results in 8 sperm; oogenesis results in only 4 eggs. D) Spermatogenesis results in 4 sperm; oogenesis results in only 1 egg</p>	<p>36) Female reproductive system (including menstrual cycle) Human embryo is called fetus from the beginning of? A) 2nd month B) 3rd month C) 4th month D) 5th month</p>
<p>31) What is the name of the tube that carries sperm and urine out of the human body? A) Penis B) Seminal vesicles C) Urethra D) Ureter</p>	<p>37) 2nd meiotic division in oocyte is completed during? A) When ovum is discharged from the ovary B) Just before fertilization C) Before the onset of menstruation D) When oocyte is fertilized by sperm</p>
<p>32) Which of the following is found beneath the prostate gland? A) Vas deferens B) Seminal vesicle C) Urethra D) Cowper's gland</p>	<p>38) After fertilization the zygote increases in size and travels down the fallopian tube to become embedded in the walls of the womb This process is called: A) Ovulation B) Conception C) Implantation D) Menstruation</p>
<p>33) Which of the following is not a true characteristic of spermatogonia? A) They develop into primary spermatocytes through mitosis</p>	

- 39)** An egg is fertilized in laboratory and implanted in uterus for development. This is called:
 A) Test tube baby B) Cloning
 C) In vitro fertilization D)
 Both A and B
- 40)** Another name for the sex cell is:
 A) Hormone B) Gamete
 C) Zygote D) Testicle
- 41)** Average loss of blood during birth is about how many cm³?
 A) 250 B) 300
 C) 350 D) 400
- 42)** Between the seminiferous tubules are interstitial cells which secrete which of the following hormone?
 A) Progesterone B) Oxytocin
 C) Testosterone D) Estrogen
- 43)** Development of primary follicles is induced by:
 A) LH B) Estrogen
 C) FSH D)
 Progesterone
- 44)** Disturbance in may lead to miscarriage or premature birth.
 A) LH B)
 Progesterone
 C) FSH D)
 Estrogen
- 45)** During 6-28 days of menstrual cycle, is thickened)
 A) Epiderm B)
 Myometrium
 C) Endometrium D)
 Epimetrium
- 46)** During birth which of following act as birth canal?
 A) Oviduct B) Ovary
 C) Uterus D) Vagina
- 47)** During menstruation, which of the following sheds off?
 A) Epimetrium B)
 Endometrium
 C) Both D)
 Myometrium
- 48)** Endometrium stimulation and vascularization is done by
 A) Estrogen B)
 Progesterone
 C) FSH D) LH
- 49)** Fertilization of ovum occurs during which of the following?
 A) In uterus B) In ovary
 C) In distal part of oviduct D) In proximal part of oviduct
- 50)** Follicular phase ranges from days.
 A) 1-5 B) 15-28
 C) 11-15 D) 6-14
- 51)** Fusion of male and female gametes is called:
 A) Fertilization B)
 Implantation
 C) Development D) Growth
- 52)** Gametes in animals are produced by which of the following?
 A) Mitosis B) Meiosis
 C) Fission D) All
- 53)** Germ cells in the ovary produce many?
 A) Spermatogonia B) Oogonia
 C) Zygospores D)
 Eggs
- 54)** Human embryo remains enclosed in:
 A) Amniotic sac B) Amnion
 C) Chorion D) Allantois
- 55)** In 16-28 days takes place.
 A) Shedding to uterus B)
 Thickening of uterus wall
 C) Development of follicle D)

Implantation

- 56)** In a typical menstrual cycle of 28 days, what is the most likely fertile period?
 A) Days 5 to 10 B) Days 1 to 5
 C) Days 14 to 15 D) Days 11 to 14
- 57)** In female reproductive system, ovulation starts:
 A) After menstruation B) After proliferative phase
 C) After secretory phase D) Before proliferative phase
- 58)** In human female, the fertilized egg gets implanted in uterus:
 A) After about 7 days of fertilization
 B) After about 30 days of fertilization
 C) After about two months of fertilization
 D) After about 3 weeks of fertilization
- 59)** In human only one ovum is usually discharged from the ovary at one time this phenomenon is called?
 A) Ovulation B) Menstruation
 C) Oestrous D) All of these
- 60)** In humans placenta is established by:
 A) Hypothalamus B) Progesterone
 C) Thalamus D) Estrogen
- 61)** In humans, fertilization involves the addition of chromosomes from the sperm and the egg. The resulting cell is called a?
 A) Zygote B) Egg
 C) Embryo D) Fetus
- 62)** In which week of pregnancy organogenesis starts:
 A) 12th B) 8th
 C) 14th D) 16th
- 63)** It does not occur in female during menstruation:
 A) Breast enlargement B) Broadening of shoulder
 C) Fatigue D) Bloating
- 64)** Labor pains are induced by:
 A) Placenta disintegration B) Distension of cervix
 C) Secretion of oxytocin D) Estrogen production
- 65)** Lactation is stimulated by:
 A) LTH B) Lactogen
 C) Placenta D) ALL A, B, C
- 66)** Nutrition to egg in ovary is provided by which of the following?
 A) Germ cells B) Milk cells
 C) Follicle cells D) All of these
- 67)** Oogenesis starts:
 A) From puberty B) At menarche
 C) At adult stage D) Before birth
- 68)** Ovum receive sperm at:
 A) Animal pole B) Vegetal pole
 C) Both A and B D) None of these
- 69)** Placenta is established between:
 A) Uterine and foetal tissues B) Uterine and cervix
 C) Cervix and vagina D) Ovary and oviduct

70) Placenta is important as its function is to: A) Exchange oxygen Exchange carbon dioxide C) Exchange nutrients A, B and C are correct	A) Lactation C) Placenta formation Menstruation	B) Ovulation D)
71) Proliferative phase is also called: A) Menstrual phase Secondary phase C) Secretory phase D) None of these	79) The end or complete stop of the menstrual cycle is called: A) Ovulation Menopause C) Fertilization Menstruation	B) D)
72) Proliferative phase lasts for days. A) 1-5 C) 15-28 B) 5-13 D) 16-18	80) The event happens in menstrual cycle when level of progesterone declines: A) Ovulation Beginning of menses C) Corpus luteum formation Maturation of ovarian follicle	B) D)
73) Secondary oocyte is ovulated from: A) Corpus luteum C) Primary follicle epithelium B) Graafian D) Germinal	81) The human menstrual cycle generally repeats after how many days? A) 20 days C) 10 days B) 28 days D) 40 days	
74) Secondary oocyte maturation takes place in: A) Ovary C) Cervix tube B) Uterus D) Fallopian	82) The internal lining of the uterus wall is called: A) Endometrium Perimetrium C) Corpus luteum D) None of these	B)
75) Sex is determined after: A) 4-8 months C) 6-8 months B) 2-3 months D) 8 months	83) The number of chromosomes in a zygote are? A) n C) 3n B) 2n D) 4n	
76) Sexual characteristics in females develop during? A) Menstruation C) Puberty B) Ovulation D) Birth	84) The organs that produce reproductive cells are known as? A) Gametes C) Glands B) Gonads D) Follicles	
77) Test tube helps in: A) In vitro fertilization C) Both A and B B) In vivo fertilization D) Ex vitro fertilization	85) The oviduct is also called as: A) Fallopian tube C) Both A and B B) Uterine tube D) Uterus	
78) The discharge of ovum from ovary is called:	86) The period during which a girl sexually matures is called:	

<p>A) Menstrual cycle B) Puberty C) Childhood D) Teens</p>	<p>94) Urethra and vagina have openings to the exterior: A) Common B) Independent C) Both A and B D) None of these</p>
<p>87) The proximal part of the oviduct is significant because: A) Fertilization occurs here B) Implantation occurs here C) Placenta is established here D) None of these</p>	<p>95) Uterus opens into the vagina through: A) Uterus B) Cervix C) Oviduct (fallopian tube) D) Ovary</p>
<p>88) The time in a woman's life when menstruation usually no longer occurs: A) Late 50s B) Mid 40s C) Teens D) Early 20s</p>	<p>96) What event occurs in the menstrual cycle when the level of progesterone declines? A) Ovulation B) Menstruation C) Menopause D) Fertilization</p>
<p>89) The time when the sex organs start to become active is called: A) The fertile period B) Adulthood C) Pregnancy D) Puberty</p>	<p>97) When a female ovulates, in what phase of division is the oocyte? A) Anaphase I B) Prophase I C) Metaphase I D) Metaphase II</p>
<p>90) The total gestation period (pregnancy) is usually about: A) 28 days B) 250 days C) 280 days D) 300 days</p>	<p>98) Which cells produce oogonia in ovary? A) Stromal cells B) Epithelial cells C) Germ cells D) theca cells</p>
<p>91) The union of meiotically produced specialized sex cells from each parents produce? A) Fertilized egg B) Porifera C) Zygote D) None of these</p>	<p>99) Which characteristic is not in human girls if she is young? A) Menopause B) Menarche C) Huge hips D) Hairs</p>
<p>92) The uterine tube opens into: A) Ovary B) Ureters C) Oviduct D) None of these</p>	<p>100) Which does not occur in females at the puberty? A) Voice deepens B) Pubic hair growth C) Hips broadens D) Start of menstrual cycle</p>
<p>93) The uterus of the female reproductive system opens into the? A) Placenta B) Birth canal C) Cervix D) All of these</p>	

- 101)** Which factors affect the female reproductive cycle?
 A) Malnourishment B) Emotional stress
 C) Both A and B D) None of these
- 102)** Which hormone is produced mainly by corpus luteum in the ovary following ovulation?
 A) Progesterone
 B) Chorionic gonadotrophic hormone
 C) FSH D) LH
- 103)** Which is the largest cell in the human body?
 A) Macrophage B) Ovum
 C) Granule cell D) None of These
- 104)** Which of the following is not a secondary character in females?
 A) Shoulders broaden B) Egg production
 C) Enlarge breast D) None of these
- 105)** Which of the following is not a true characteristic of gametocytes?
 A) Male gametocytes are called spermatocytes
 B) Gametocytes divide by mitosis into other gametocytes
 C) Female gametocytes are called oocytes
 D) They are eukaryotic somatic cells
- 106)** Which of the following would not be expected during pregnancy?
 A) Maintenance of the corpus luteum
 B) Formation of the placenta
 C) Blastocyst implantation
 D) Formation of the corpus albicans
- 107)** Which of these cycles operate in human females?
 A) Oestrous cycle B) Menstrual cycle
 C) Both A and B D) None of these
- 108)** Which one of the following is not part of the female reproductive system?
 A) Ovary B) Vagina
 C) Urethra D) Uterus
- 109)** Which one of the following statements is incorrect?
 A) Eggs in the ovaries ripen when they meet a sperm
 B) Girls are born with thousands of eggs in their ovaries
 C) Hormones control the release of the egg from the ovary
 D) One egg is released from the ovary about every month
- 110)** Which term refers to the formation of egg cells that begins in the developing ovaries of a female fetus?
 A) Meiosis B) Ovulation
 C) Fertilization D) Oogenesis
- 111)** **Sexually transmitted diseases**
 During birth central nervous system of infants can be damaged by:
 A) Syphilis B) Genital herpes
 C) Gonorrhoea D) HPV
- 112)** The sexually transmitted disease caused by Treponema pallidum is:
 A) Syphilis B) Gonorrhoea
 C) Genital Herpes D) AIDS

113) Gonorrhoea is caused by .

- A) Gram positive bacteria B)
Neisseria gonorrhoea
C) Both A and B D) None

114)

Out of Syllabus

Which of the following is an ovoviviparous organism?

- A) Reptiles B) Mammals
C) Frog D)
Duckbill platypus

115) A woman receives her X chromosome from:

- A) Her mother only B) Both
her mother and her father
C) Her father only D) Extra
nuclear DNA in her mother's egg

116) Asexual reproduction requires only a single parental organism which gives rise to offspring by?

- A) Meiotic cell division B) Mitotic cell
division
C) Both A and B D) None of
these

117) Cryptorchidism is a condition where?

- A) One of both testes are not developed
B) One or both testes fail to descend
into the scrotum
C) One or both testes are not formed
D) None of these

118) Development of an egg into zygote without fertilization is called?

- A) Parthenocarpy B) Apomixes
C) Parthenogenesis D) All of
these

119) In asexual reproduction offspring are genetically?

- A. Identical to the parents
B. Identical if mutations do not occur.

C. Non identical to the parents

D. Both A and B

120) In cloning , nucleus is implanted in:

- A) Zygote B) Egg cell
C) Sperm D) Somatic
cell

121) In sexual reproduction, plants have diplohaplontic life cycle with alternating?

- A) Haploid sporophyte and diploid
gametophyte generations
B) Diploid sporophyte and diploid
gametophyte generations
C) Haploid sporophyte and haploid
gametophyte generations D) Diploid
sporophyte and haploid gametophyte
generations

122) In viviparous animals:

- A) External fertilization leads to embryo
formation
B) Internal fertilization leads to embryo
formation
C) External development leads to
embryo formation
D) None of the above

123) Off springs produced as a result of asexual reproduction are:

- A) Similar to parents B)
Identical to parents
C) Different to parents D)
None of these

124) Parthenocarpy is induced by:

- A) Gibberellins B)
Auxins
C) Cytokinins D)
Absciscic acid

125) Sperms have origin?

- A) Ectodermal B)
Mesodermal

C) Endodermal None of these	D)	C) Shark	D) Elephant
126) The animals in which there are separate male and female individuals are called? A) Unisexual B) Bisexual C) Asexual D) Hermaphrodite		131) Which characteristic is not of identical twins? A) Produced by separation of two blastomeres B) Produced asexually C) Produced when embryo is at two cell stage D) Have different genetic makeup	
127) The animals which involves development of embryo inside female body are called: A) Internal fertilization B) Viviparous C) Oviparous D) Both A & B		132) Which is a viviparous? A) Duck B) Goat C) Frog D) Lizard	
128) To overcome infertility, which technique is used: A) In vitro fertilization B) In vivo fertilization C) Both A and B D) None of these		133) Which lytic enzyme is released by the sperm? A) Trypsin B) Helicase C) Testosterone D) Hyaluronidase	
129) Viviparous animals are those in which? A) Internal fertilization with external development in eggs B) Internal fertilization and internal development followed by hatching of egg C) External fertilization with external development D) Internal fertilization with internal development inside female body		134) Which method is of asexual reproduction? A) Sporulation B) Apomixes C) Fission D) All of these	
130) What is an example of an oviparous mammal? A) Penguin B) Spiny anteater			

Key

1) D

2) D

3) D

4) B

5) D

6) D


BOM ENTRY TESTS
PREPARATION


7)	B
8)	D
9)	A
10)	D
11)	D
12)	A
13)	D
14)	D
15)	A
16)	A
17)	D
18)	D
19)	D
20)	D
21)	B
22)	C
23)	A
24)	D
25)	B
26)	D
27)	B
28)	B

29)	B
30)	D
31)	C
32)	C
33)	D
34)	A
35)	D
36)	B
37)	D
38)	C
39)	C
40)	B
41)	C
42)	C
43)	C
44)	B
45)	C
46)	D
47)	B
48)	A
49)	D
50)	D

51)	A
52)	B
53)	B
54)	B
55)	B
56)	C
57)	B
58)	A
59)	A
60)	B
61)	A
62)	B
63)	B
64)	C
65)	D
66)	C
67)	D
68)	A
69)	A
70)	D
71)	D
72)	B

73)	B
74)	D
75)	B
76)	C
77)	A
78)	B
79)	B
80)	B
81)	B
82)	A
83)	B
84)	B
85)	C
86)	B
87)	A
88)	D
89)	D
90)	C
91)	C
92)	C
93)	B
94)	B

95)	B
96)	B
97)	D
98)	C
99)	A
100)	A
101)	C
102)	A
103)	B
104)	B
105)	D
106)	D
107)	B
108)	C
109)	a
110)	D
111)	A
112)	A
113)	C
114)	D
115)	B
116)	B

117)	B
118)	A
119)	A
120)	B
121)	D
122)	B
123)	B
124)	B
125)	D
126)	A
127)	D
128)	A
129)	D
130)	D
131)	D
132)	B
133)	D
134)	D

SUPPORT AND MOVEMENT

- | | |
|--|--|
| <p>1) Cartilage
Cartilage is a form of:
A) Cardiac tissue B) Connective tissue
C) Epithelial tissue D) Nervous tissue</p> <p>2) Accumulation of crystals in cartilage is called:
A) Osteoarthritis B) Gout
C) Pseudogout D) None</p> <p>3) Cartilage has living cells that are called:
A) Osteocytes B) Osteoblasts
C) Osteoclasts D) Chondrocytes</p> <p>4) Hyaline cartilage forms joint between:
A) Growing bone B) Mature bones
C) Lamellar bone D) Secondary bone</p> <p>5) The fibrous connective tissue which attaches bone to bone is called:
A) Tendon B) Ligament
C) Reticular tissue C) Cartilage</p> <p>6) What are osteocytes?
A) White blood cell B) Bone cell
C) Brain cell D) None of these</p> <p>7) What is not true about cartilage?
A) There are many blood vessels in the cartilage
B) It is a form of connective tissue
C) It covers ends of the bone at the joint
D) Both A and B</p> <p>8) Which of the following cells secrete flexible, elastic, non-living matrix collagen?
A) Osteocytes B) Osteoclasts</p> | <p>D) Chondrocytes D) Osteoblasts</p> <p>9) Which of the following is not an important function of bone?
A) Regulation of ion concentration
B) Muscular contraction
C) Organ and nerve protection
D) Regulation of pH through hydration</p> <p>10) Which type of cartilage is the most abundant in human body?
A) Hyaline cartilage B) Elastic cartilage
C) Fibrocartilage D) None of these</p> <p>11) Types of muscles
1 Which one of the following is not a character of cardiac muscles?
A) Striated and branched B) Multinucleated
C) Self-excitatory D) None of these</p> <p>12) 8 Smooth muscles, cardiac muscles and organs are regulated by which of the following?
A) Central nervous system B) Parasympathetic nervous system
C) Sympathetic nervous D) Autonomic system</p> <p>13) A) Body movement B) ATP
C) Skeletal system D) Heat</p> <p>14) An entire skeletal muscle is surrounded by:
A) Sarcolemma B) Microtubules
C) Both A and B D) Epimysium</p> <p>15) Cardiac muscles are found in:
A) Gut B) Heart
C) Bladder D) Limbs</p> |
|--|--|

- 16)** Cardiac muscles differ from skeletal muscles by which of the following property?
 A) Structure B) Involuntary control
 C) Calcium binding protein D) Sarcotubular system
- 17)** It is a property of cardiac myocytes:
 A) Voluntary control B) Unstripped
 C) Fatigue resistance D) Spindle shaped cell
- 18)** It is present in cardiac muscles but absent in smooth muscles:
 A) Tropomyosin B) Actin
 C) Troponin D) Myosin
- 19)** Muscles are composed of:
 A) Silica B) Polyester threads
 C) Group of cell fibers D) Calcium and phosphorus
- 20)** Skeletal muscles are made up of:
 A) Actin B) Myosin
 C) Both A & B D) Actin, myosin and tropomyosin
- 21)** Striated skeletal muscle cells are under:
 A) Voluntary control B) Involuntary control
 C) Both A and B D) None of these
- 22)** The fibrous connective tissue which attaches muscle to bone is called:
 A) Tendon B) Ligament
 C) Reticular tissue D) Cartilage
- 23)** Unique feature of cardiac muscle cell is:
 A) Intercalated disc B) Involuntary
 C) Striation D) All
 Skeletal muscle associated with skeleton form:
- 24)** Vertebrates have which of the following?
 A) Cardiac muscles B) Skeletal muscles
 C) Smooth muscles D) ALL A, B, C
- 25)** What is true about skeletal muscle cell?
 A) It has light and dark band
 B) It has only one muscle
 C) It is under involuntary control
 D) None of these
- 26)** Which is not true for cardiac muscle?
 A) No distinct nucleus B) Branched
 C) Involuntary D) Intercalated disc
- 27)** Which of the following grouping is incorrect?
 A) Skeletal, striated, voluntary
 B) Cardiac, striated, involuntary
 C) Cardiac, striated, voluntary
 D) Both B and C
- 28)** Which of the following muscle fiber contains single nucleus?
 A) Smooth muscle B) Cardiac muscle
 C) Both A and B D) Skeletal muscle
- 29)** Which of the following muscles is involuntary and non-striated?
 A) Skeletal muscle B) Smooth muscle
 C) Cardiac muscle D) None
- 30)** Why skeletal muscles are called striated muscles?
 A) Appear darker than smooth muscles by naked eye
 B) Alternating dark and light bands appear on their surface when visualized by naked eye

C) Alternating dark and light bands appear on their surface when visualized via a microscope
D) All of these

by muscle tissue?

- A) 15% B) 55%
C) 30% D) 85%

31) Structure of skeletal muscles

What structure marks the separation between two sarcomeres?

- A) I band B) H zone
C) A band D) Z disc

40) Line at center of A band is:

- A) Z line B) M line
C) H zone D) I band

41) Major regulatory protein in muscle is:

- A) Myosin B) Myosin-actin
C) Troponin-tropomyosin D) Troponin-tropomyosin-actin

32) A disc-like protein that is centrally found in sarcomeres is:

- A) H line B) I line
C) M line D) Z line

42) Many sarcomeres in series make up the length of a:

- A) Microtubules B) Myofibril
C) Myosin filament D) M-line

33) A muscle of fascicle is a:

- A) Bundle of connective tissue
B) Bundle of myofibrils
C) Bundle of muscle fibres
D) Muscle cells

43) Muscles are composed of?

- A) Silica B) Polyester threads
C) Groups of cell fibers D) Calcium and phosphorous

34) A smallest contractile unit of muscle contraction called sarcomere is the area between two?

- A) H zone B) M line
C) Z line D) Z zone

44) Myofilament is made of:

- A) Protein B) Lipids
C) Carbohydrates D) All of these

35) Bright region in A band is:

- A) M line B) Z line
C) H zone D) Sarcomere

45) Myosin filaments are how many times thick as compared to actin filament?

- A) 3 times B) 6 times
C) 4 times D) 8 times

36) Cross bridges are found on:

- A) Actin B) Myosin
C) Troponin D) Tropomyosin

46) Region between two successive Z lines is:

- A) Sarcomere B) H zone
C) M line D) A band

37) Dark bands of skeletal muscles are:

- A) Z-band B) A band
C) I band D) H zone

47) Sarcomere attach end to end to form:

- A) Myofibril B) Muscles
C) Muscle fiber D) None of these

38) How many thin filaments are arrayed around each thick filament within a sarcomere?

- A) 2 B) 4
C) 6 D) 8

48) Sarcoplasm is different form cytoplasm:

- A) It contains sarcoplasmic reticulum
B) It contains glycogen

39) How much of the body heat is produced

C) It contains glycogen and oxygen binding protein, myoglobin D) All of these	band? A) Z-line B) H zone C) I band D) Z zone
49) Sarcoplasm of the muscle fiber is similar to A) Cytoplasm of other cell B) Nucleoplasm C) Mitochondria D) Cell membrane	58) Which is most likely to extend the entire length of a muscle fiber? A) Sarcomere B) Myofibril C) Myosin filament D) M-line
50) Skeletal muscle is composed of? A) Muscle fibrin B) Muscle fibers C) Sarcomere D) None of these	59) Which of the following is anisotropic? A) A band B) I band C) M line D) Z line
51) The A band further divides by: A) Z-line B) A band C) H zone D) Z zone	60) Which of the following is not true about muscle fibers? A) Better developed for slow sustained activities B) For energy, they depend on anaerobic procedures C) Myoglobin content is high D) Possess mitochondria in huge numbers
52) The contractile protein of skeletal muscle involving ATPase activity is: A) Actin B) Myosin C) Troponin D) Tropomyosin	61) Which of the following is the name of the modified endoplasmic reticulum found in muscle cells? A) T-tubule B) Sarcomere C) Cytoplasmic reticulum D) Sarcoplasmic reticulum
53) The functional unit of contractile system in striated muscle is: A) Myofibril B) Cross bridges C) Z band D) Sarcomere	62) Which of the following is true about sarcomeres? A) Actin filaments are only found in the I band B) The sarcomeres contribute to the striated appearance of smooth muscle cells C) Sarcomeres are functional units of skeletal and smooth muscle cells D) A band contains both actin and myosin filaments
54) The length of the following is reduced when muscle contracts: A) H-zone B) I-band C) Sarcomere D) Both A & B	63) Which of the following is true about the organization of actin filaments and myosin in sarcomeres?
55) The main unit of thick filament is: A) Myofibril B) Actin C) Myosin D) Z-line	
56) The space between two Z lines constitutes the: A) Sarcolemma B) Sarcophagus C) Sarcoplasm D) None of these	
57) What is located at both sides of the A	

- A) Myosin filaments appear thinner than actin filaments
 B) Prior to contraction, there is no overlap between actin and myosin
 C) The degree of overlap of actin and myosin affects the overall contraction
 D) All of these

64) Which of the following occurs during muscular contraction?

- A) Actin slides over myosin B) ATP supplies energy
 C) Calcium ions are involved D) All of these

65)

Mechanism of skeletal muscle contraction

According to sliding filament theory of muscle contraction, which of the following are functions of ATP?

- A) ATP does all of these things during muscle contraction
 B) It allows the myosin head to detach from the actin filament
 C) It moves tropomyosin off of actin binding sites
 D) Both A and B

66) Actin and myosin are _____ proteins.

- A) Globular B) Fibrous
 C) Functional D) Both A and B

67) Calcium during muscle contraction binds with:

- A) Tropomyosin B) Troponin C
 C) Troponin I D) Troponin T

68) During a muscular contraction, which of the following elements maintains constant length?

- A) I band B) H zone
 C) A band D) Sarcomere

69) How many ATP are required for one cycle of muscle contraction and relaxation?

- A) 1 B) 3
 C) 2 D) 4

70) Nerves that are innervating muscle fibers are called:

- A) Sensory nerves B) Motor neurons
 C) Cranial nerves D) Optic nerve

71) Rigor mortis after death results due to which?

- A) Decrease in body temperature after death. B) B)
 B) Accumulation of rigid proteins molecules in sarcoplasm
 C) Death of tissue due to unavailability of O₂.
 D) Unavailability of ATP, which is necessary to break

72) Role of sarcoplasmic reticulum prior to muscle contraction:

- A) It actively pumps calcium ions into its lumen B) It releases calcium ions by active transport
 C) It creates the proteins needed to cover the actin filaments
 D) It releases calcium once an action potential reaches the sarcolemma

73) Skeletal muscles cause:

- A) Constriction of blood vessels
 B) Heart beat
 C) Dilation of pupil
 D) Eye movement

74) The contraction of muscle by actin and myosin is described by which biological theory?

- A) Endosymbiotic theory
 B) Central Dogma theory
 C) Cross-bridge theory

D) Sliding filament theory	A) Actin filament B) Sarcomere C) Both A and B D) Myosin
75) The muscle which moves a body part away from the midline of the body is: A) Flexor muscles B) Extensor muscles C) Adductor muscles D) Abductor muscles	83) Which disappears during muscles contractions? A) M line B) H zone C) Z line D) A band
76) The muscle which moves a body part towards the midline of the body is: A) Flexor muscles B) Extensor muscles C) Adductor muscles D) Abductor muscles	84) Which of the following action is caused by skeletal muscle: A) Constriction of blood vessel B) Eye movements C) Heartbeat D) Dilatation of pupil
77) Tropomyosin binds to and prevents the myosin from sliding up the actin filament. A) Myosin B) Actin C) Myosin filament D) Both B and C	85) Which of the following does not occur during skeletal muscle contraction? A) ATP is hydrolysed B) Calcium binds to myosin heads C) Both A and B D) None of these
78) What is hydrolysed during muscle contraction? A) ACP B) ADP C) NAD D) ATP	86) Which of the following is true of troponin and tropomyosin? A) Troponin binds to myosin and tropomyosin binds to actin B) Tropomyosin binds to actin and prevents the myosin head from binding to actin C) Both a and b D) None of these
79) What is the purpose of calcium in the muscles? A) It helps move the myosin head into a high-energy position B) It allows tropomyosin to be pulled away from the actin filament C) Both a and b D) None of these	87) Which of the following molecules binds to troponin during muscle contraction, triggering tropomyosin to move away from the actin binding sites and allowing the myosin head to form a cross bridge? A) ADP B) Calcium C) Sodium D) ATP
80) What occurs when the thin actin and thick myosin filaments slide past each other? A) Muscle relaxation B) Muscle contraction C) Muscle twitch D) None of these	88) Which of the following proteins directly interacts with the myosin-binding site on actin? A) Tropomyosin B) Troponin C) both a and b D) none of these
81) What type of enzyme is myosin? A) ATP synthase B) ATP hydrolase C) ADP hydrolase D) ADP synthase	
82) When a muscle fiber shortens, the following shortens:	

89) Which of the following proteins does not play a fun force-tension curve of muscle contraction?

- A) Titin B) Myosin
C) Actin C) All of these

90) Which of the following sections of a sarcomere does not shorten during contraction?

- A) I band B) H zone
C) A band D) None of these

91) Which of the following step occurs immediately after binding of Ca^{2+} with troponin molecule during muscle contraction?

- A) Binding sites of actin get attached to the myosin head
B) Troponin uncovers the actin binding sites
C) Ca^{2+} goes back inside sarcoplasmic reticulum
D) Tropomyosin gets removed from the binding sites of actin filaments

92) Which two proteins are the major components of myofibrils, allowing for muscle fibre contraction?

- A) Myosin and cartilage B) Actin and myosin
C) Lamellae and actin D) Only myosin

93) **Types of joints**

Which of the following movements are possible in pivot joint?

- A) Flexion and extension
B) Adduction and abduction
C) Rotation
D) Extension flexion and rotation

94) A type of joint found at the articulation between teeth and the sockets of the

maxilla is:

- A) Syndesmosis B) Sutures
C) Gomphosis D) None of these

95) Cartilaginous joints have:

- A) Slight movement B) Free movement
C) No movement D) Both A and B

96) Fluid present in synovial joint is:

- A) Synovial fluid B) Pericardial fluid
C) Plural fluid D) Interstitial fluid

97) How many types of joints are present in body?

- A) 3 B) 4
C) 5 D) 2

98) Humerus forms joints with:

- A) Clavicle B) Sternum
C) Hyoid D) Tibia

99) Humerus forms joint with scapula

- A) Ball and socket B) Hinge
C) Pivot D) Fibrous

100) In cartilaginous joint:

- A) Joint cavity is absent B) Joint cavity is present
C) Both A and B D) None

101) Joints are classified on the basis of:

- A) The amount of movement allowed by them
B) Nature of structure they have
C) Type of bones they join
D) Both B and C

102) Joints in which both muscle and bone are in same phase angle:

- A) Ball and socket B) Fibrous
C) Cartilaginous D) Hinge joint

103) Metacarpal joint is an example of:

- A) Condylod joint B) Saddle joint
C) Hinge joints D) Ball and

socket joint

- 104** Syndesmosis is present between:
A) Short bones B) Long bones
C) Short and long bone
D) Can be present any where
- 105** The connection between two bones is:
A) Joint B) Tendon
C) Suture D) Fissure
- 106** The hinge joint and ball and socket joints are the types of:
A) Freely movable joint B) Slightly movable joints
C) Immovable joints D) None of these
- 107** Type of synovial joints:
A) Hinge joint B) Ball and socket joint
C) Both A and B D) Fibrous joint
- 108** Which joint is present in neck, due to which it shows movement?
A) Pivot joint B) Saddle joint
C) Hinge joint D) Ball and socket joint
- 109** Which of the following comes under structural classification?
A) Synchondroses B) Sutures
C) Gomphosis D) All of these
- 110** Which the following is not the unique features of synovial joint?
A) Articular capsule B) Synovial fluid
C) Articular cartilage D) Fibrocartilage
- 111** Xiphisternal joint is present between:
A) Body of clavicle and xiphoid process
B) Body of sternum and xiphoid process
C) Body of clavicle and xiphoid process
D) Body of femur and xiphoid process

112)**Gout and arthritis**

Inflammation of joint is known as:

- A) Sciatica B) Arthritis
C) Spondylosis D) Disc-slip

113 Acute form of arthritis results from:

- A) Fungal attack B) Bacterial attack
C) Viral attack D) Protist attack

114 All of the following are inflammatory arthritis except:

- A) Rheumatoid Arthritis B) Osteoarthritis
C) Gouty arthritis D) Osteomyelitis

115 An example of degenerative disease:

- A) Rheumatoid arthritis B) Osteoarthritis
C) Gouty arthritis D) Osteomalacia

116 Chronic arthritis is:

- A) Rheumatoid arthritis B) Osteoarthritis
C) Gouty arthritis D) None

117 Gout results due to defective metabolism of:

- A) Xanthine dehydrogenase
B) Xanthine carboxylase
C) Xanthine hydrogenase
D) Xanthine oxidase

118 Most chronic and inflammatory type of arthritis is:

- A) Osteoarthritis B) Rheumatoid arthritis
C) Gout D) None

119 Most common site for autoimmune disease:

- A) Skin and joint B) Muscles
C) A and D D) None

120)**Out of Syllabus**

Sperms of liverworts, mosses, ferns

move towards archegonia, in response to nucleic acid released by the ovum.

This is an example of?

- A) Chemotropic movement
- B) Chemonastic movement
- C) Haptonastic movement
- D) Chemotactic movement

121 25 Triceps are:

- A) Extensor muscles
- B) Flexor muscles
- C) Abductive muscles
- D) Strongest muscles

122 Biceps are:

- A) Extensors
- B) Flexors
- C) Adductors
- D) Abductors

123 Cranium contains how many bones:

- A) 2
- B) 4
- C) 8
- D) 14

124 How many bones humans have in the vertebral column?

- A) 52
- B) 25
- C) 33
- D) 34

125 Human eye muscles contract in:

- A) 0.01 sec
- B) 0.08 sec
- C) 0.05 sec
- D) None of these

126 Rapid movement of leaves of mimosa on touching is an example of?

- A) Tropic movements
- B) Growth movement
- C) Nastic movement
- D) Turgor movement

127 Roots of a plant show which of the following?

- A) Positive phototropism and negative geotropism
- B) Negative tactic movement and positive tropic movement
- C) Positive geotropism of stem and roots
- D) Negative phototropism and positive geotropism

128 Tibia is found in:

- A) Skull
- B) Lower leg
- C) Face
- D) Upper arm

Key

1)	B
2)	B
3)	D
4)	A
5)	B
6)	B
7)	A
8)	D
9)	D
10)	A
11)	B
12)	D
13)	C
14)	D
15)	B
16)	B
17)	C
18)	C
19)	C
20)	D
21)	A
22)	A

23)	A
24)	D
25)	A
26)	A
27)	C
28)	A
29)	B
30)	C
31)	D
32)	D
33)	C
34)	C
35)	C
36)	B
37)	B
38)	C
39)	D
40)	B
41)	B
42)	B
43)	C
44)	A

45)	A
46)	A
47)	A
48)	D
49)	A
50)	B
51)	C
52)	B
53)	D
54)	B
55)	C
56)	D
57)	C
58)	B
59)	A
60)	B
61)	D
62)	A
63)	C
64)	D
65)	B
66)	B

67)	C
68)	C
69)	A
70)	B
71)	D
72)	B
73)	D
74)	D
75)	B
76)	C
77)	B
78)	D
79)	B
80)	B
81)	B
82)	C
83)	B
84)	B
85)	B
86)	B
87)	B
88)	A

89)	A
90)	C
91)	D
92)	B
93)	C
94)	C
95)	A
96)	A
97)	A
98)	A
99)	A
100)	A
101)	A
102)	D
103)	C
104)	B
105)	A
106)	A
107)	C
108)	A
109)	D
110)	D

111)	B
112)	A
113)	B
114)	C
115)	B
116)	A
117)	D
118)	A
119)	A
120)	A
121)	A
122)	B
123)	C
124)	C
125)	D
126)	D
127)	D
128)	B

VARIATION AND GENETICS/INHERITANCE

- 1) **Mendel's law of inheritance**
How many pairs of homologous chromosomes are present in *Pisum sativum*?
A) 5 B) 6
C) 7 D) 8
- 2) A certain type of plant is only tall when it has a heterozygous genotype. If two heterozygous plants are crossed, what is the probability of their offspring will also be tall?
A) 25% B) 1
C) 50% D) 75%
- 3) A monohybrid cross yielded 3:1 in F₂. What could be mode of inheritance?
A) Segregation
B) Independent assortment
C) Both A and B D) None of these
- 4) A pea plant with yellow seed was crossed to a plant having green seeds. What will happen in F₁ if plants are true breeding?
A) Half seeds will be yellow
B) All seeds will be green
C) Both will be present in ratio of 1:2:1
D) All seeds will be yellow
- 5) A pure breeding tall pea plant was crossed to dwarf plant. What will be the frequency of dwarf plants in F₂?
A) 0.25 B) 0.5
C) 0 D) 1
- 6) A pure breeding tall plant was crossed with dwarf plant. What would be probability of "Tt" genotype in F₂?
A) 0.25 B) 0.5
C) Both A & B D) None of these
- 7) A scientist has discovered a new species of flower in which purple coloration is dominant to white. He wishes to know the genotype of a specific purple flower. Which of the following crosses would give him a definitive answer for the purple flower genotype?
A) Unknown purple x homozygous purple
B) Unknown purple x white
C) Unknown purple x unknown purple
D) None of these
- 8) Composite of an organism's observable characters or traits is called:
A) Genotype B) Phenotype
C) Recombination D) Replication
- 9) During test cross, if all off springs are phenotypically dominant then parents are?
A) Heterozygous
B) One homozygous other heterozygous
C) Homozygous
D) None of these
- 10) Genotype ratio of Mendel's law of independent assortment is which of the following?
A) 3:1 B) 1:02:01
C) 9:3:3:1 D) None of these
- 11) Homozygous chromosomes include which of the following?
A) Diploid cells B) Polyploid cells
C) Both A and B D) None of these
- 12) How many gametes are produced from genes of diploid organism which is

heterozygous for 4 loci?

- A) 4 B) 8
C) 12 D) 32

13) In a dihybrid cross, what fraction of offspring will be homozygous for both traits?

- A) $1/2$ B) $1/4$
C) $1/8$ D) $1/16$

14) In nature, garden pea is which of the following?

- A) Cross fertilized B) Cross pollinated
C) Self-fertilized D) None of These

15) In peas, the gene for yellow color (C) is dominant to the gene for green color (c). To determine the genotype of an unknown pea, what kind of kind of pea should you cross with it?

- A) Another unknown green
B) Any genotype
C) Homozygous dominant
D) Homozygous recessive (cc)

16) Mendel laid the foundation of:

- A) Classical genetics B) Modern genetics
C) Cell biology D) Neo-Darwinism

17) Mendel studied seven pairs of traits of pea plant that were present on chromosomes.

- A) 4 B) 7
C) 8 D) 9

18) Mendel's law of inheritance were presented in:

- A) 1861 B) 1865
C) 1892 D) 1857

19) Number of gametes produced by an organism having genotype of RrPp:

- A) 2 B) 3
C) 4 D) 5

20) One plant is homozygous dominant for purple flowers, and the other is homozygous recessive for white flowers. What fraction of the F₂ population will have white flowers?

- A) $1/4$ B) $1/2$
C) $1/8$ D) $1/16$

21) Phenotypic ratio of F₂ generation of monohybrid cross:

- A) 3:1 B) 9:3:3:1
C) 1:2:1 D) 9:1

22) Round shaped pea seed is crossed with wrinkled shaped seed. This refers to:

- A) P₁ generation B) F₁ generation
C) F₂ generation D) F₃ generation

23) True breeding variety is produced by which of the following?

- A) Cross fertilization B) Self-fertilization
C) Both A and B D) None of the above

24) What is the phenotypic ratio for a cross between a plant with blue flowers BB and a plant with white flowers bb?

- A) 25% blue, 75% white
B) 75% blue, 25% white
C) All white D) All blue

25) What would be the color of flowers in F₁ generation when a 4'O clock plant having red colored flower is crossed with plant having white colored flower:

- A) Half purple and half red
B) Half white and half red
C) All purple D) All white

26) Which of the following characters of pea plant is dominant?

- A) Yellow pods B) White flowers
C) Wrinkled seeds D) Axial flowers

27) Which of the following is heterozygote?

- A) RR B) rr
C) Both A & B D) None of these

28) Which of the following is monohybrid cross?

- A) TTYy x Ttyy B) TT x tt
C) Both A and B D) None of these

29) Which of the following represents a phenotype?

- A) X-linked recessive B) Aa
C) Autosomal dominant D) Brown hair

30) Your neighbor has a flower garden in which there are red flowers and white flowers. These flowers are diploid organisms, and flower color is an autosomal trait. The gene for red flowers (R) is dominant, while the gene for white flowers (r) is recessive. Which of the following could be the genotype of a red flower?

- A) Rr B) RR, Rr, or rr
C) rr D) RR or Rr

31) Your neighbour has a flower garden in which there are red flowers and white flowers. These flowers are diploid organisms, and flower colour is an autosomal trait. The gene for red flowers (R) is dominant, while the gene for white flowers (r) is recessive. Which of the following is the genotype of a white flower?

- A) RR B) rr
C) Rr D) Rr

32)

Multiple alleles

ABO system has different phenotype on the basis of specific on the surface of

RBCs

- A) Antibody B) Antigen
C) Anti A-antigen D) Anti O-antigen

33) A man with blood group A marries a woman of blood group "B". Both are heterozygous. What is the offspring's having phenotype "O"?

- A) 10% B) 25%
C) 50% D) 75%

34) A man with type A blood and a woman with type AB+ blood have a child. Which blood type is impossible for that child to have?

- A) A- B) B-
C) AB+ D) O-

35) A man with type AB blood marries a woman with type A blood. Which of the following blood types might their sons inherit?

- A) Type A only B) Type B only
C) Type AB only D) Type A, type B, or type AB

36) ABO blood group system was discovered in:

- A) 1811 B) 1901
C) 1801 D) 1911

37) ABO blood group system was first introduced by:

- A) Landsteiner B) Bernstein
C) Morgan D) Fleming

38) ABO has how many phenotypes?

- A) 3 B) 4
C) 6 D) 8

39) Assume that blood type is not a sex-linked trait. A mother with genotype "A/O" and a father with genotype "A/B" could not have a child with which blood type?

- A) A B) B

C) AB

D) O

C) 782

D) 1101

- 40) Assuming that blood type is not a sex-linked trait, what is the probability that a mother with genotype "A/O" and a father with genotype "A/B" will have a child with type B blood?

A) 50% B) 25%
C) 75% D) None of these

- 41) If father have blood group A and mother have blood group B then children can have:

A) A only B) AB only
C) B only D) A, B, AB, O all

- 42) Rh blood group system is:

A) Multiple allele B) Polygenic
C) Both A and B D) None

- 43) **Gene linkages and crossing over**

The number of linkage groups in humans is?

A) 24 B) 23
C) 1/23 D) 1/24

- 44) Genes of same chromosomes are:

A) Linked
B) Non-linked
C) Always assort independently
D) Both B and C

- 45) Crossing over brings about:

A) Recombinant genes
B) New traits in species
C) Genetic recombination
D) New species

- 46) **Sex linkages in Drosophila**

In Morgan's experiment when males and females of F₁ generation mate with each other and produce F₂ generation. The number of red eyed males were:

A) 2059 B) 2459

- 47) Colored eyes in male Drosophila is due to:

A) Hemizygous B) Homozygous
C) Heterozygous D) None

- 48) **Sex linkage in human (Genetics of hemophilia)**

A trait determines by a gene on the X chromosome is said to be:

A) Pseudoautosomal B) Sex linked
C) Both A & B D) None of the above

- 49) A gamete without sex gamete is called:

A) Male gamete B) Nullo gamete
C) Advanced gamete D) None

- 50) A single ovum of human being contains:

A) X chromosome B) XX chromosome
C) Y chromosome D) May be all

- 51) Chances for a birth of male and female in humans:

A) 1:2 B) 1:1
C) 2:1 D) 2:2

- 52) Defective genes are present on X chromosome. It will normally be transmitted in male off springs by:

A) Father B) Mother
C) Segregation D) Mutation

- 53) For a single gene trait, a number of genetic disorders are caused when an individual inherits?

A) Two dominant allele B) One dominant allele
C) One recessive allele D) Two recessive allele

- 54) Genes of baldness can express only in the presence of hormone:

- A) Progesterone B) Estrogen
C) Aldosterone D) LH
- 55) Haemophilia B is due to abnormality of factor?
A) VIII B) X
C) IX D) XI
- 56) Hemophilia is:
A) Mendelian disorder B) Chromosomal disorder
C) Both A and B D) None of above
- 57) How many sex chromosomes are present in human?
A) 2 B) 3
C) 1 D) 4
- 58) It is a autosomal recessive allele:
A) Hemophilia a B) Hemophilia b
C) Hemophilia c D) Red monochromacy
- 59) Traits passed form maternal grandfather to grandson:
A) X-linked dominant B) Y-linked
C) Autosomal D) X-linked recessive
- 60) When a hemophilia carrier woman marries a normal man, who among her offspring may be affected?
A) All her children B) Half of her daughters
C) All her daughters D) Half of her sons
- 61) Which of the following is inherited via an autosomal recessive allele?
A) Hemophilia B) Huntington's disease
C) Color-blindness D) Cystic fibrosis
- 62) Which of the following is not sex linked recessive trait?
A) Testicular feminization syndrome B) Color blindness
C) Haemophilia D) Hypophosphatemic rickets
- 63) Which trait is passed directly from father to son?
A) Y linked B) X linked
C) X linked dominant D) X linked recessive
- 64) Which traits cannot pass from father to all of his sons?
A) Sex-linked recessive B) Autosomal
C) Y linked D) None of theses
- 65) **Out of Syllabus**
Which of the following is male determining gene in humans?
A) Tfm B) SRY
C) Both A and B D) None of these
- 66) A human cell from the ovary has 22 chromosomes and an X chromosome. It is which of the following?
A) Egg B) Sperm
C) Somatic cell D) Gamete
- 67) A male and female have 6 daughters. Chances of next daughter will be:
A) 10 B) 60
C) 50 D) 100
- 68) A woman is a carrier for a sex-linked disorder. She marries a man whose father had the disorder, and whose mother did not. The man is unaffected. If they have a child, what is the probability that the child is also a carrier?
A) 25% B) 50%
C) 75% D) 1%
- 69) A woman receives his X chromosome from:

- A) His mother only
B) Both her mother and her father
C) His father only
D) Extra nuclear DNA in her mother's egg
- 70)** All of the following are continuously varying traits except:
A) Kernel color in wheat
B) Skin color in humans
C) Height in humans
D) Tongue rolling in humans
- 71)** All of the following are continuously varying traits except:
A) Kernel colour in wheat
B) Skin colour in humans
C) Height in human
D) Tongue rolling in humans
- 72)** Baldness is most frequent in which of the following?
A) Men
B) Women
C) Both A and B
D) Children
- 73)** Bombay phenotype shows:
A) Dominance
B) Pleiotropy
C) Epistasis
D) Polygenic inheritance
- 74)** Characteristics feature of male *Drosophila* is:
A) Sex combs on back legs
B) Sex combs on front legs
C) Sex combs on middle legs
D) None of them
- 75)** Egg is determinant of offspring's gender in:
A) Man
B) *Drosophila*
C) Grasshopper
D) Butterfly
- 76)** Gametes consist of:
A) Two alleles
B) Only one allele of gene
C) No allele
D) None of these
- 77)** Gene for blue opsin is present on which chromosome?
A) 6
B) 7
C) 8
D) 11
- 78)** How many sex chromosomes are present in a human being?
A) 1 pair
B) 2 pairs
C) 3 pairs
D) 4 pairs
- 79)** If a heterozygous individual shows the complete effect of both alleles, the type of inheritance would be?
A) Complete dominance
B) Non dominance
C) Incomplete dominance
D) Codominance
- 80)** If replication was completely conservative then?
A) One heavy and one light strand would be seen
B) Both heavy strands would be seen
C) Both light strands would be seen
D) None of these
- 81)** In males, gene for color blindness is present on:
A) Y chromosome
B) Autosome 11
C) X chromosome
D) Autosome 1
- 82)** In males, the gene for colour blindness is located in .
A) X-chromosome
B) Y-chromosome
C) Both X and Y chromosomes
D) Either X or Y chromosome
- 83)** In which organisms males are haploid?
A) Aphids
B) Mosquito
C) Butterfly
D) Honey bee
- 84)** Inbreeding increases:
A) Heterozygous
B) Genetic diversity
C) Genetic linkage
D) Homozygous
- 85)** Inheritance in man is traced by which of

the following?

- A) Mathematical method
B) Statistical method
C) Genetic method D) Pedigree method

86) Interaction between genes occupying different loci is known as?

- A) Dominance B) Pleiotropy
C) Epistasis D) None of these

87) Male is haploid in:

- A) Humans B) Drosophila
C) Birds D) Grasshopper

88) Mating between relatives is called which of the following?

- A) Ex breeding B) Breeding
C) Inbreeding D) Outbreeding

89) Mating with non-relatives is known as?

- A) Inbreeding B) Breeding
C) Outbreeding D) None of these

90) Most protein coding genes are found in:

- A) Repetitive DNA B) RNA
C) Single copy DNA D) None of these

91) Mutations in the sequence of genes are carried by only:

- A) Locus B) Population
C) Allele D) Genetic sequence

92) Number of autosomes in liver cells of humans:

- A) 44 B) 23
C) 22 D) 46

93) Number of chromosomes in grass hopper is:

- A) Male: 23, Female: 24 B) Male: 24, Female: 23
C) Male: 23, Female: 23 D) Male: 24, Female: 24

94) Red-green colorblindness is an X-linked

recessive disorder. Jacob's paternal grandfather and father are both colorblind, but his mother has two normal alleles. What is the probability that Jacob is red-green colorblind?

- A) 0% B) 25%
C) 50% D) 75%

95) Skin colour in man is controlled by how many pairs of genes:

- A) 1 B) 2
C) 3 D) 4

96) Such inheritance in which traits vary quantitatively is:

- A) Continuously varying trait
B) Incomplete dominance
C) Test cross D) Test cross

97) The gene for muscular dystrophy is X-linked. A female carrier and an unaffected male have one daughter together that is homozygous. The daughter has a son with unaffected male. What is the probability that the son will not be affected?

- A) 25% B) 50%
C) 75% D) 0%

98) The ordered list of loci known for a particular genome is called:

- A) Gene map B) Loci
C) Alleles D) Chromosomes

99) The phenomenon in which the effect of one allele in heterozygous genotype completely masks the effect of other is called:

- A) Codominance B) Dominance
C) Incomplete dominance
D) Complete dominance

100) Visible genetic traits include which of the following?

- A) Hair color B) Eye color

C) Number of limbs	D) All of these	the following?
101 Which of the following is called the sex-linked disease?	A) DNA B) RNA	C) Heredity D) Genotype
A) Leukemia B) Alzheimer's	110 Organisms that have one copy of each gene on each chromosome are:	A) Haploid B) Diploid
C) Malignancy D) Colour blindness	C) Unicellular D) None of these	
102 ZZ/ZW type of sex determination is found in:	111 Pink color in flower is:	A) Phenotype B) Genome
A) Humans B) Fruit fly	C) Genotype D) Trait	
C) Moths D) Grasshopper	112 Population genetics focus on:	A) Inherited traits B) Qualitative traits
103)	C) Quantitative traits D) All of these	
Basic Definition	113 The gene which cannot be determined by observing the organism is?	A) Dominant B) Allele
If both the alleles are same with respect to genes then they are called:	C) Phenotype D) Recessive	
A) Heterozygous B) Unicellular	114 The position of a gene on chromosome is called:	A) Locus B) Arm
C) Homozygous D) None of these	C) Position D) Location	
104 A fully expressed allele is referred to as:	115 The process of determining the locus for particular biological traits includes:	A) Replication B) Recombination
A) Dominant B) Recessive	C) Gene Mapping D) None	
C) Homozygous D) Heterozygous	116 The set of all genes in any population is termed as:	A) Population pool B) Species pool
105 A group of interbreeding individuals belonging to a particular species and sharing a common geographic area is called:	C) Gene pool D) All of these	
A) Community B) Population	117 To form a female zygote, the sperm cell must contribute which chromosome?	A) X B) 2X
C) Race D) Family	C) Y D) XY	
106 Alternative form of a gene is called:	118 Which term means "same alleles"?	A) Heterozygous B) Hybrid
A) Genome B) Gene pool	C) Homozygous D) None of them	
C) Allele D) Genetics		
107 Chromosomes that have different alleles of a given gene at locus is called:		
A) Homozygous B) Specialization		
C) Y chromosomes D) Heterozygous		
108 Filial is a Latin word. It means which of the following?		
A) Spring B) Issue		
C) Progeny D) None of these		
109 Gene is the molecular unit of which of		

Key

1)	C	18)	B	35)	D	52)	B	69)	B	86)	C	103)	C
2)	D	19)	C	36)	B	53)	D	70)	D	87)	D	104)	A
3)	A	20)	A	37)	A	54)	D	71)	D	88)	C	105)	B
4)	D	21)	A	38)	B	55)	C	72)	A	89)	C	106)	C
5)	A	22)	A	39)	D	56)	A	73)	C	90)	C	107)	D
6)	B	23)	B	40)	B	57)	A	74)	B	91)	D	108)	C
7)	D	24)	D	41)	D	58)	C	75)	D	92)	C	109)	C
8)	B	25)	C	42)	A	59)	D	76)	B	93)	A	110)	A
9)	C	26)	D	43)	B	60)	D	77)	B	94)	A	111)	A
10)	D	27)	D	44)	A	61)	D	78)	A	95)	C	112)	A
11)	A	28)	B	45)	C	62)	D	79)	D	96)	A	113)	D
12)	D	29)	D	46)	D	63)	A	80)	D	97)	D	114)	A
13)	C	30)	D	47)	A	64)	A	81)	C	98)	A	115)	C
14)	C	31)	B	48)	B	65)	B	82)	A	99)	D	116)	C
15)	D	32)	B	49)	B	66)	A	83)	D	100)	D	117)	A
16)	A	33)	B	50)	A	67)	C	84)	D	101)	D	118)	C
17)	A	34)	D	51)	B	68)	A	85)	D	102)	C		

MISCELLANEOUS QUESTIONS

- Which of the following statements is correct distinction between autotrophs and heterotrophs
 - Only heterotrophs require chemical compounds from the environment
 - Cellular respiration is unique to heterotrophs
 - Only heterotrophs have mitochondria
- Auxins are responsible for the promotion and growth of roots from?
 - Layering
 - Calluses
 - Cutting
 - Both B and C
- Biorhythms are also called?
 - Diurnal tempo
 - Diurnal rhythms
 - Diurnal time
 - All of these
- Critical day length for cocklebur is which of the following?
 - 8.5 hrs.
 - 10 hrs.
 - 14 hrs.
 - 15.5 hrs.
- Cytokine's delay the aging of leaf crops such as cabbage and lettuce.
 - Attached
 - Delayed
 - Fresh
 - Open
- Developing seeds are rich source of which of the following?

- | | | | | | | | | | | | | | | | |
|--|---|--|--|---|---|---|--|--|--|--|---|--|---|---|--|
| <p>A) Auxins B) Gibberellins
B) Cytokinins D) All of these</p> | <p>7) Each chromosome of a bone marrow cell has how many chromatids during anaphase?
A) No chromatid B) 2 chromatids
C) 1 chromatid D) Several chromatids</p> | <p>8) Gibberellins may be substituted for which color of light?
A) Red B) Blue
C) Green D) White</p> | <p>9) Growth and development of plant cells is the role of?
A) Parenchymatous cells
B) Chlorenchymatous cells
C) Meristematic cell
D) Sclerenchymatous cells</p> | <p>10) Humans regulate their internal body temperature within a very narrow range. This is an example of?
A) Homeostasis B) Evolution
C) Genetics D) Metabolism</p> | <p>11) It is correct about metaphase:
A) Chromosome is thickest and largest
B) Chromosome is thinnest and shortest
C) Chromosome is thinnest and largest
D) Chromosome is thickest and shortest</p> | <p>12) Klinefelter's syndrome:
A) One X chromosome is missing
B) Sex chromosome fails to segregate
C) Additional sex chromosome is present
D) None of these</p> | <p>13) Move in response to chemical signals is termed as:
A) Chemotaxis B) Chemonolysis
C) Chemography D) Chemosynthesis</p> | <p>14) Platypus and panda are all representatives of which of the following?
A) Homoeothermic B) Poikilothermic
C) Hyperthermic D) None of these</p> | <p>15) Resumption of normal growth by a dormant embryo is called?
A) Seed dormancy B) Fruit ripening
C) Germination D) All of these</p> | <p>16) Terrestrial animals can tolerate dehydration by:
A) Anhydrobiosis B) Sweating
C) Thermoregulation D) None</p> | <p>17) The clear fluid present in the anterior chamber of eye is?
A) Optic humor B) Spot humor
C) Vitreous humor D) Aqueous humor</p> | <p>18) The idea that opposed the idea of abiogenesis was proposed by :
A) Rudolph Virchow B) Robert Brown
C) Robert Hooke D) Lorenz Oken</p> | <p>19) The place of attachment of leaf with the shoot is called?
A) Pith B) Pit
C) Pulvinus D) All of these</p> | <p>20) Vascular cambium initially appears as actively dividing cells between?
A) Primary xylem and secondary xylem

B) Primary xylem and secondary phloem
C) Secondary xylem and secondary phloem
D) Primary xylem and primary phloem</p> | <p>21) What is the chemical characteristic of auxins?
A) Indole propionic acid
B) Indole carboxylic acid</p> |
|--|---|--|--|---|---|---|--|--|--|--|---|--|---|---|--|

- C) Indole acetaldehyde
D) Indole acetic acid

22) What is the significance of endospores?

- A) They allow fungi to survive in extreme climates
B) They allow gram-negative bacteria to reproduce
C) They allow fungi to store nutrients that can survive extreme conditions
D) They are produced by gram-positive bacteria which can survive extreme conditions

23) Which of them excretes in form of uric acid?

- A) Birds B) Human
C) Frog D) None of these

24) Which one is not a day neutral plant?

- A) Cotton B) Maize
C) Cucumber D) Tobacco

25) Which statement is incorrect about ethylene production?

- A) Climacteric is burst of respiratory activity in fruit ripening
B) It is associated with ethane production
C) It helps in fruit ripening
D) It helps in fruit set

26) Which symbiont helps in uptake of phosphorus and sulphur?

- A) Bacteria B) Virus
C) Fungi D) Protista

27) Who proposed chromosomal theory of inheritance?

- A) Sutton and Boveri B) Margulis and Schwartz
C) Morgan and Mendel D) Johannsen and Cuvie

Key

1)	D
2)	D
3)	B
4)	A
5)	C
6)	D

7)	C
8)	A
9)	C
10)	A
11)	D
12)	C

13)	A
14)	D
15)	C
16)	A
17)	D
18)	A

19)	C
20)	D
21)	D
22)	D
23)	A
24)	D

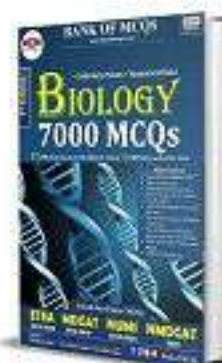
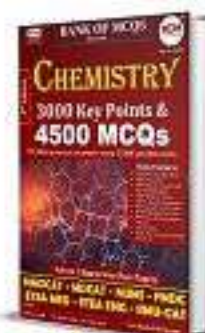
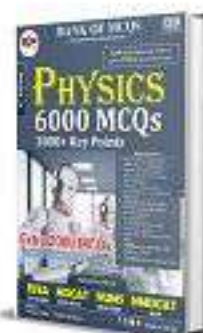
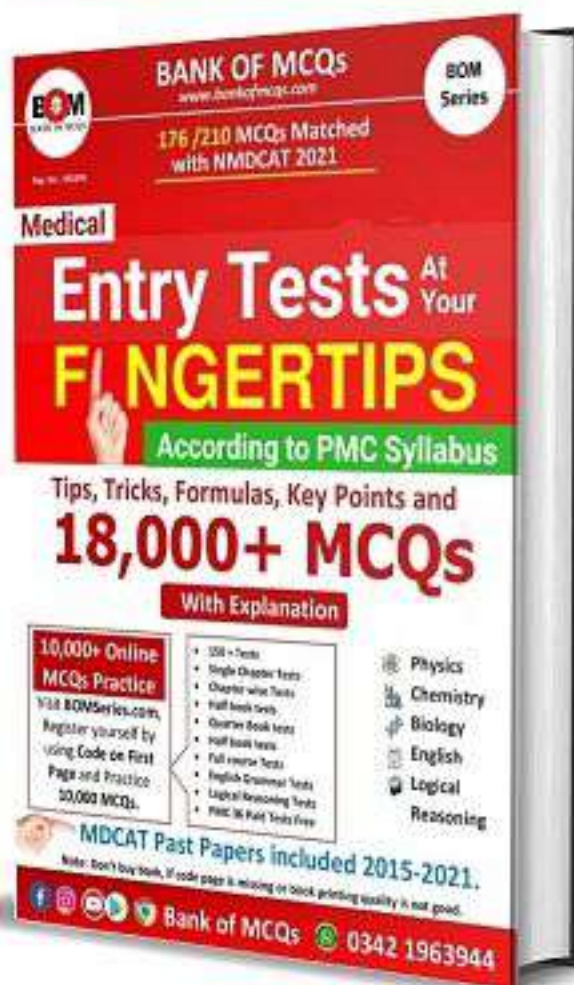
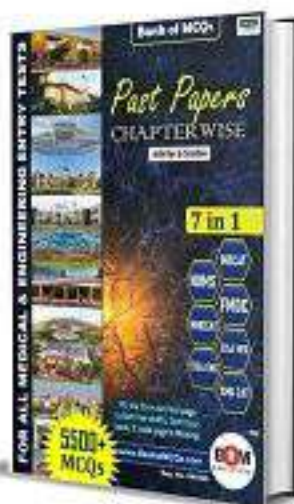
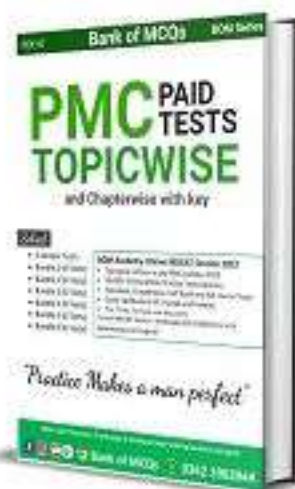
25)	C
26)	C
27)	A



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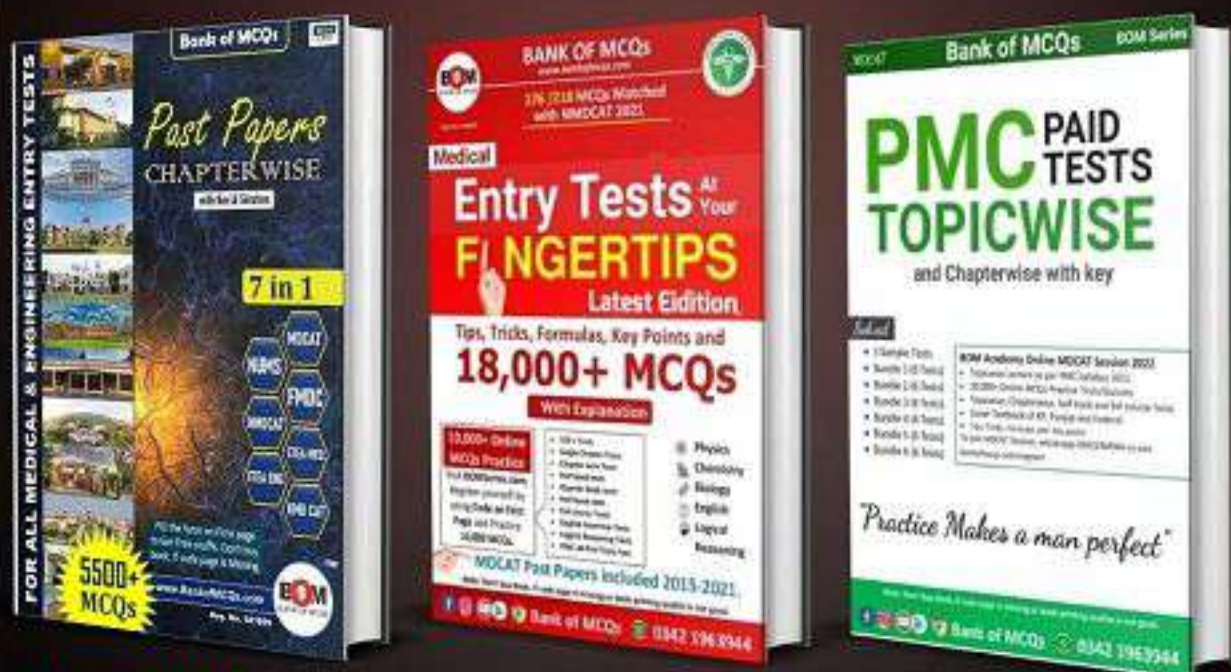


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Physics MCQs Topicwise

Force and Motion

- | | |
|--|---|
| 1. Distance displacement And acceleration
Acceleration in the Simple pendulum is always _____ to displacement
a. Inversely proportional
b. Directly proportional
c. Acting negative
d. Independent | b. π
c. Zero
d. 10π |
| 2. Acceleration of an object is defined as the rate of change of
a. Displacement
b. Time
c. Velocity
d. Distance | 7. Displacement of object with respect a constant moving(v) frame is same direction is
a. $X-vt$
b. $X+vt$
c. X
d. $X+vt+at^2$ |
| 3. Mass m_1 has a velocity of 0 m/s and mass m_2 has a velocity of 5 m/s. mass $m_1 > m_2$. Which one has larger interior?
a. M_2
b. M_1
c. Both m_1 and m_2
d. Not enough information | 8. Acceleration of object which starts rest to reach 20 m/s in 10 sec in
a. 2 m/s^2
b. 10 m/s^2
c. 1 m/s^2
d. 2 m.s^2 |
| 4. Rate of change in displacement is known as:
a. Speed
b. Velocity
c. Acceleration
d. Momentum | 9. The value of acceleration due to gravity on earth is
a. 5 m/s^2
b. 6 m/s^2
c. 15 m/s^2
d. 9.8 m/s^2 |
| 5. Instantaneous velocity is define at
a. Particular displacement
b. Instant acceleration
c. Instant time
d. Average time | 10. Acceleration due to gravity near earth is
a. Nonuniform
b. Uniform
c. Decreasing with distance
d. Increasing with time |
| 6. Average speed of a object after a completing a circle of 5m radius in 5 seconds.
a. 2π | 11. A motion with increasing velocity can be represented on displacement-time graph by
a. A horizontal line
b. A curve line with decreasing gradient
c. A straight line with constant gradient
d. A curve line with increasing gradient |
| | 12. Which of the given motion is a type of |

2D motion

- a. Circular
- b. Pendulum motion
- c. Projectile motion
- d. All of these

13. If displacement-time graph is a curve, which of the following is correct:
- a. Area under graph represent displacement
 - b. Gradient of the graph is constant
 - c. Gradient of the tangent of graph represents acceleration
 - d. Gradient of the tangent of graph represents velocity

14. SI unit of acceleration is

- a. M
- b. M^2
- c. m/s
- d. m/s^2

15. If we are moving with constant velocity frame then the inertial state is same as
- a. Rest frame
 - b. Acceleration frame
 - c. Non-inertial frame
 - d. All of these

16. The distance and displacement can be equal if
- a. An object moving on a circular path
 - b. An object oscillates
 - c. An object moves in a straight line
 - d. An object moves on a parabolic path

17. If velocity varies with time in quadratic manner then acceleration
- a. Constant
 - b. Zero
 - c. Linearly varying
 - d. Varies as t^3

18. Rate of change of displacement with respect to time is
- a. Acceleration
 - b. Velocity
 - c. Speed
 - d. Power

19. If one body is at rest then if we try to move it then it will resist by
- a. Inertial of motion
 - b. Inertia of rest
 - c. Inertial of turning
 - d. Inertia of acceleration

20. Acceleration of earth around sun in its orbit is always
- a. Tangential
 - b. Radial
 - c. Zero
 - d. None of these

21. For a car which applies brakes from 10 m/s to stop the car in 10 sec its acceleration is
- a. $1 m/s^2$
 - b. $2 m/s^2$
 - c. $-1 m/s^2$
 - d. $-2 m/s^2$

22. The displacement is a
- a. Velocity quantity
 - b. Neither vector nor scalar quantity
 - c. Dimensionless quantity

23. In which case, the object is speeding up
- a. Velocity is positive acceleration is negative
 - b. Velocity is negative acceleration is negative
 - c. Velocity is negative acceleration is zero
 - d. Velocity is negative acceleration is positive

- | | |
|--|---|
| 24. The acceleration is a
a. Vector quantity
b. Scalar quantity
c. Dimensionless quantity
d. None of these | a. Negative
b. Zero
c. Positive
d. Infinite |
| 25. An object moves 20 m in 5 sec. what is the gradient of the displacement-time graph?
a. 25
b. 15
c. 4
d. $\frac{1}{4}$ | 30. A car travels 30 m toward east, then it takes turn and travels 40 m towards west. It takes 50 seconds. Its average velocity is
a. -10 m/s
b. -1/5 m/s
c. 7/5 m/s
d. -5 m/s |
| 26. Instantaneous velocity is defined as
a. Dx/dt
b. $\Delta x/\Delta t$
c. $\Delta x \cdot \Delta t$
d. $\Delta v/\Delta t$ | 31. The displacement between A and B is defined as
a. Change in position of an object from A to B
b. Any distance between two points
c. Longest distance from A to B
d. Longest distance between two points |
| 27. In which situation, distance is three times than its displacement?
a. Object moves and come back to its initial position
b. Object moves 20 m towards east and 10 m towards west
c. Object moves 20 m towards east and 10 m towards south
d. Object moves 20 m towards north and 10 m towards west | 32. For a straight trajectory of a particle instantaneous velocity is
a. $2 \times$ (average velocity)
b. Average velocity
c. Zero
d. Not enough info |
| 28. A motion with constant velocity can be represented on displacement-time graph by.
a. A horizontal line
b. A curve line with decreasing gradient
c. A straight line with constant gradient
d. A curve line with increasing gradient | 33. Vector is quantity which
a. Has direction
b. Has magnitude
c. Follow rules of vector addition
d. Both direction and magnitude |
| 29. Acceleration of moving train when it start its motion is. | 34. Speed is a
a. Tensor
b. Vector
c. Scalar
d. None of these |
| | 35. Average vclocity is defined as
a. Displacement /time
b. Distance/time |

<p>c. Distance*time d. Displacement*time</p>	<p>This is due to ____ a. Inertia of motion b. Inertia of rest c. Inertia of turning d. Inertia of acceleration</p>
<p>36. If displacement-time graph is a curve, which of the following is correct. a. Area under graph represent displacement b. Gradient of the graph is constant c. Gradient of the tangent of graph represents acceleration d. Gradient of the tangent of graph represents velocity</p>	<p>42. If the velocity varies linearly with time then acceleration is called a. Non-uniform b. Discrete c. Instantaneous d. Uniform</p>
<p>37. Displacement is a a. A tensor b. Vector c. Scalar d. None of these</p>	<p>43. We can calculate velocity of an object from displacement-time graph by a. Calculating area under the graph b. Finding gradient of displacement-time graph c. Calculating area above the graph d. Finding the length of the graph</p>
<p>38. What is the FPS unit of displacement a. Kilometer b. Meter c. Foot d. Pound</p>	<p>44. An object is moving at constant speed, which of the following is always true: a. Distance is greater than displacement b. Distance is lesser than displacement c. Distance is equal to displacement d. We cannot answer</p>
<p>39. If displacement-time graph is a curve, which of the following is correct. a. Area under graph represent displacement b. Gradient of the graph is constant c. Gradient of the tangent of graph represents acceleration d. Gradient of the tangent graph represents velocity</p>	<p>45. When a stone is thrown horizontally with 2 m/s from a building of height 5 m then just before hitting ground its acceleration is a. 12 m/s^2 b. 13 m/s^2 c. 9.8 m/s^2 d. 7.6 m/s^2</p>
<p>40. Acceleration describes how. a. Speed is changing b. The speed and force are changing c. The speed and direction of motion are changing d. The direction of motion are changing</p>	<p>46. Centrifugal acceleration of a car moving around in a circle of radius 5 m with 10 m/s velocity a. 20 m/s^2 b. 10 m/s^2</p>
<p>41. People sitting in a moving buss experience a jerk when the bus stops.</p>	

- c. 6 m/s^2
d. 11 m/s^2
47. Instantaneous velocity is defined at
a. Particular displacement
b. Instant acceleration
c. Instant time
d. Average time
48. The SI unit of velocity is
a. m/s
b. $1/\text{s}$
c. m/s^2
d. m/s^3
49. Circular motion of a particle while attached to a string centripetal acceleration is provided by
a. Tension in string
b. Gravitational force
c. Normal force
d. None of these
50. If an object moves with constant velocity then its acceleration is
a. Zero
b. Non-zero
c. Infinite
d. None of these
51. Acceleration of earth around sun in its orbit is always
a. Tangential
b. Radial
c. Zero
d. None of these
52. If the velocity of an object is increasing with time then acceleration is
a. Negative
b. Positive
c. Zero
d. None of the above
53. The value of acceleration due to gravity on moon is ____ of earth.
- a. $1/4$ th
b. $1/10$ th
c. $2/3$ rd
d. $1/6$ th
54. If we are moving with constant velocity frame then the inertial state is same as
a. Rest frame
b. Acceleration frame
c. Non-inertial frame
d. All of these
55. When a stone is thrown horizontally with 2 m/s from a building of height 5 m then just before hitting ground its acceleration is
a. 12 m/s^2
b. 13 m/s^2
c. 9.8 m/s^2
d. 7.6 m/s^2
56. In which case, the object is speeding up.
a. Velocity is positive acceleration is negative
b. Velocity is negative acceleration is negative
c. Velocity is negative acceleration is zero
d. Velocity is negative acceleration is positive
57. Displacement of sun with respect to earth is
a. R
b. $2\pi r$
c. $2r$
d. R^2
58. Instantaneous velocity is
a. Always positive
b. Always negative
c. Positive and negative
d. Not enough info
59. If displacement = 15 m and time $t = 10$

seconds, then average velocity is

- a. 12.5 m/s
- b. 1.5 m/s
- c. 2.5 m/s
- d. 3 m/s

60. Velocity is defined as

- a. Distance divided by the time during which the displacement occurs
- b. Distance travelled in a specific direction
- c. Displacement divided by the time during which the displacement occurs
- d. Displacement travelled in a specific direction

61. Vertically velocity vs time graph for a projectile motion

- a. Varies linearly
- b. Follows a parabolic path
- c. Is constant
- d. Is non-linear

62. When an object moves on a circular path and come back to its initial position then:

- a. Only its distance is zero
- b. Only its displacement is zero
- c. Neither distance nor displacement is zero
- d. Both distance and displacement is zero

63. The SI unit of velocity is

- a. m/s
- b. 1/s
- c. m/s^2
- d. m/s^3

64. A motion with uniform negative acceleration can be represented on displacement-time graph by:

- a. A horizontal line
- b. A curve line with decreasing gradient
- c. A straight line with constant gradient
- d. A curve line with increasing gradient

65. When an object moves in a straight line then:

- a. Its displacement is equal to distance
- b. Its displacement is greater than distance
- c. Its displacement is less than distance
- d. We cannot measure displacement

66. For a linear relationship between displacement and time we get d-t graph as

- a. Straight line passing through origin
- b. Straight line parallel to t-axis
- c. Quadratic relationship
- d. Cubic relationship

67. If the velocity of an object is increasing with time then acceleration is

- a. Negative
- b. Positive
- c. Zero
- d. None of the above

68. Displacement and distance moved by an object in a straight path is

- a. Zero
- b. Same
- c. Different
- d. Not enough info

69. Inertia refers to tendency of object to

- a. Be at rest
- b. Be at constant motion

<p>c. Remain the same state as previous</p> <p>d. Be at acceleration motion</p>	<p>a. Zero</p> <p>b. Non-zero</p> <p>c. Infinite</p> <p>d. None of these</p>
<p>70. 1 light year distance is</p> <p>a. Distance travelled by earth in one year</p> <p>b. Distance traveled by star in one year</p> <p>c. Distance travelled by light in one year</p> <p>d. Distance travelled by light in one galactic year</p>	<p>76. Circular motion of a particle while attached to a string centripetal acceleration is provided by</p> <p>a. Tension in string</p> <p>b. Gravitation force</p> <p>c. Normal force</p> <p>d. None of these</p>
<p>71. Acceleration of a particle at any moment from a-t graph we calculate is called ____ acceleration</p> <p>a. Average</p> <p>b. Instantaneous</p> <p>c. Periodic</p> <p>d. Linear</p>	<p>77. Velocity is a</p> <p>a. Tensor</p> <p>b. Vector</p> <p>c. Scalar</p> <p>d. None of these</p>
<p>72. Projectile motion is not depend on the ____ of particle</p> <p>a. Initial velocity</p> <p>b. Mass</p> <p>c. Launch angle</p> <p>d. Acceleration</p>	<p>78. Passengers sitting in a stationary car experience a jerk when the car suddenly starts. This is due to</p> <p>a. Inertia of motion</p> <p>b. Inertia of rest</p> <p>c. Inertia of turning</p> <p>d. Inertia of acceleration</p>
<p>73. A horizontal line is displacement-time graph represents:</p> <p>a. Uniform accelerated motion</p> <p>b. Motion with constant velocity</p> <p>c. Motion with constant speed</p> <p>d. Body at rest</p>	<p>79. Centripetal acceleration always acts ____ the center</p> <p>a. Away</p> <p>b. Towards</p> <p>c. Normally</p> <p>d. Tangentially</p>
<p>74. If one body is at motion then if we try to stop it then it will resist by</p> <p>a. Inertia of motion</p> <p>b. Inertia of rest</p> <p>c. Inertia of turning</p> <p>d. Inertia of acceleration</p>	<p>80. Then net force acting in an inertial frame is</p> <p>a. Positive</p> <p>b. Negative</p> <p>c. Zero</p> <p>d. None of these</p>
<p>75. If an object moves with constant speed then its acceleration always is</p>	<p>81. Velocity of an object changes from 20 m/s to 50 m/s in 5 sec. what is the acceleration of the object?</p> <p>a. 6 m/s</p>

- b. 6 m/s^2
- c. 10 m/s
- d. 10 m/s^2

82. Pseudo forces arises in
- a. Inertial frames
 - b. Constant moving frames
 - c. Rest frame of reference
 - d. Accelerating frame of reference
83. The acceleration of a moving object can be defined as
- a. Rate of change in speed
 - b. Rate of change in velocity
 - c. Rate of change in distance
 - d. Rate of change in displacement
84. The net force acting in an inertial frame is
- a. Positive
 - b. Negative
 - c. Zero
 - d. None of these
85. Velocity of an object changes from 20 m/s to 50 m/s in 5 sec. what is the acceleration of the object?
- a. 6 m/s
 - b. 6 m/s^2
 - c. 10 m/s
 - d. 10 m/s^2
86. Rockets use thrust forces which produces
- a. Constant acceleration
 - b. Variable acceleration
 - c. Constant velocity
 - d. Linearly varying velocity
87. A straight moving bus takes a sharp right turn. What will happen to the passengers sitting inside the bus?
- a. They will tilt rightwards
 - b. They will tilt leftwards
 - c. They will stay the way they were

- d. They will start jumping

88. If the velocity of particle is varying linearly with time then shape of $d-t$ curve would be
- a. Linear
 - b. Quadratic
 - c. Cubic
 - d. Decreasing linearly
89. When an object moves on a circular path, then:
- a. Its displacement is constant
 - b. Its displacement changes due to change in distance
 - c. Its displacement changes due to change in direction of motion
 - d. Its displacement is always zero
90. When an object moves on a circular path, then:
- a. Its displacement is constant
 - b. Its displacement changes due to change in distance
 - c. Its displacement changes due to change in direction of motion
 - d. Its displacement is always zero
91. If we apply 100 N force on 10 kg box then its acceleration is
- a. 20 m/s^2
 - b. 5 m/s^2
 - c. 10 m/s^2
 - d. 40 m/s^2
92. If we are standing in bus and when conductor's apply a brake then we feel
- a. Pseudo force pushes backwards
 - b. Pseudo force pushes forwards
 - c. Real force pushes backwards
 - d. Real force pushes forwards
93. The magnitude of the displacement is
- a. Size of object A
 - b. Straight line distance between

the initial position and the final position of the body	d. $X+vt+at^2$
c. Size of object B	99. The unit of velocity is
d. Any distance between the initial position and the final position of the body	a. M
	b. Ms
	c. m/s
	d. m/s^2
94. A car travels 30 m towards east, then it takes turn and travels 40 m towards north. It takes 50 seconds. Its average velocity is	100. Decrease in velocity per unit time is called
a. $7/5$ m/s	a. Acceleration
b. 1 m/s	b. Positive acceleration
c. $1/5$ m/s	c. Deceleration
d. 5 m/s	d. Uniform acceleration
95. Average velocity of a object after a completing a circle of 5 m radius in 5 seconds	101. The acceleration of a moving object can be defined as
a. 2π	a. Rate of change is speed
b. π	b. Rate of change in velocity
c. Zero	c. Rate of change in distance
d. 10π	d. Rate of change in displacement
96. Acceleration in the simple pendulum is always _____ to displacement	102. Centripetal acceleration always acts _____ the center
a. Inversely proportional	a. Away
b. Directly proportional	b. Towards
c. Acting negative	c. Normally
d. Independent	d. Tangentially
97. Rate of change in displacement is known as	103. Displacement of an object is moving around a complete circle is
a. Speed	a. $2\pi r$
b. Velocity	b. $2r$
c. Acceleration	c. πr
d. Momentum	d. Zero
98. Displacement of object with respect a constant moving(v) frame in same direction I s	104. Newton Laws Newton's first law falsified
a. $X-vt$	a. Galileo theory
b. $X+vt$	b. Aristotle theory
c. X	c. Einstein's theory\
	d. Maxwell's theory
	105. Newton's first law falsified
	a. Galileo theory

- b. Aristotle theory
- c. Einstein's theory
- d. Maxwell's theory

freely falling body

- a. Positive
- b. Negative
- c. Zero
- d. None of these

106. Newton's second law states that the rate of change of _____ is equal to external force

- a. Velocity
- b. Mass
- c. Momentum
- d. Positive

112. A projectile is launched with vertical Kinetic energy K at angle 0 then its variation with kinetic energy K_0 is

- a. Parabolic
- b. Periodic
- c. Hyperbolic trajectory
- d. Linear

107. A car travels 30 m toward east, then it takes turn and travels 40 m towards west. It takes 50 seconds. Its average velocity is

- a. -10 m/s
- b. -1/5 m/s
- c. 7/5 m/s
- d. -5 m/s

113. Projectile motion of object on earth is always

- a. Linear
- b. Parabolic
- c. Cubic
- d. Inverse

108.

Projectile motion

When a particle is launched at angle 90 degree with respect to horizontal then vertical acceleration is

- a. -9.8 m/s^2
- b. 9.8 m/s^2
- c. 0
- d. 5 m/s^2

114. Projectile when launched at 90 degree with respect to horizontal then its trajectory is

- a. Parabolic
- b. Periodic
- c. Hyperbolic trajectory
- d. Linear

109. Centrifugal force is a

- a. Real force
- b. Friction force
- c. Pseudo force
- d. None of these

115. If a projectile is launched with 3 m/s velocity at 60 degree angle then at highest point its horizontal velocity is

- a. 3 m/s
- b. 2 m/s
- c. 1.5 m/s
- d. 1.8 m/s

110. At the highest point of trajectory which of the following quantities is zero

- a. Horizontal velocity
- b. Total velocity
- c. Vertical velocity
- d. None of these

116. Acceleration of rolling object is zero at _____ point of hill

- a. Highest
- b. Lowest
- c. Middle
- d. None of these

111. Acceleration is always _____ for a

117. Projectile motion has _____

acceleration at each point of trajectory

- a. Variable
- b. Constant
- c. Zero
- d. None of these

- a. 100j
- b. 1.875j
- c. 18.75j
- d. 187.5j

118. A projectile when launched at 90 degree with respect to horizontal then its trajectory is

- a. Parabolic
- b. Periodic
- c. Hyperbolic trajectory
- d. Linear

124. A ball is released from the top of the tower, the ratio of work done by the gravity in first, second and third second of the motion.

- a. 1 : 2 : 3
- b. 1 : 4 : 9
- c. 1 : 3 : 5
- d. 1 : 5 : 3

119. At every point of trajectory of projectile which of the following quantities is always zero

- a. Horizontal velocity
- b. Total velocity
- c. Vertical acceleration
- d. Horizontal acceleration

125. A block of mass 50 kg slide over a horizontal distance of 1 m, if the coefficient between the surfaces is 0.2 then work done against friction is

- a. 98j
- b. 72j
- c. 56j
- d. 34j

120.

Work and Energy

121. **Work**

_____ work on arbitrary system means a transfer of energy to the system

- a. Positive
- b. Negative
- c. Can be positive or negative
- d. None of the above

126. A block of mass 60 kg just slides over a horizontal distance of 0.9 m. if the coefficient of friction between their surface is 0.15 then work done against friction will be

- a. 79.4 j
- b. 97.54 j
- c. 105.25 j
- d. 81 j

122. 1 joule is equal to

- a. 10^4 erg
- b. 10^5 erg
- c. 10^6 erg
- d. 10^7 erg

127. A block of mass 60 kg just slides over a horizontal distance of 0.9m. if the coefficient of friction between their surfaces is 0.15 then work done against friction will be

- a. 79.4j
- b. 97.54j
- c. 105.25j
- d. 81j

123. A 4kg eagle picks up a 75g snake and raises it 2.5 m from the ground to a branch. What is the work done to raise the bird's centre of mass to the branch? (Assume $g = 10 \text{ m/s}^2$)

128. A body moves a distance of 10 m along



a straight line under the action of 5 N force. If work done is 25 J, then angle between the force and direction of motion of the body will be:

- a. 75°
- b. 60°
- c. 45°
- d. 30°

earth at the same level with a velocity of 500 m/s. the work in overcoming the resistance of air will be:

- a. 500 J
- b. 5000 J
- c. 3750 J
- d. 475 J

129. A body moves a distance of 10 m along a straight line under the action of 5 N force. If work done is 25J, then angle between the force and direction of motion of the body will be:

- a. 75°
- b. 60°
- c. 45°
- d. 30°

134. A bullet of mass 5×10^{-5} has the velocity of 200 m/s, kinetic energy of the bullet is

- a. 100 J
- b. 1000 J
- c. 10 J
- d. None of these

130. A body of mass 10 kg is moved parallel to the ground, through a distance of 2m . the work done against gravitational force is

- a. Zero
- b. 196j
- c. -196j
- d. 48j

135. A charge of 2 C placed in electric field of 10 N/C what will be the work done in moving charge a distance of 5 m

- a. 100j
- b. 50j
- c. 150j
- d. 200j

131. A body of mass 2 kg is raised vertically raised by 2m then work will be

- a. 38.2 j
- b. 392.1 j
- c. 39.2 j
- d. 40j

136. A constant force of 10 N is applied in horizontal direction and distance travelled in the direction of force is 2m, then work done is

- a. 50j
- b. 20j
- c. 22j
- d. 10j

132. A bullet fired from gun can pierce to a target due to

- a. Heat energy
- b. Mechanical energy
- c. Acceleration
- d. Kinetic energy

137. A constant force of 10 N is applied on a body which causes displacement of 12 cm what will be the work done

- a. 120 J
- b. 12 J
- c. 1.2 J
- d. 18 J

133. A bullet of mass 10 g leaves a rifle at an initial velocity of 1000 m/s and strikes

138. A constant force of 20 N is applied in horizontal direction and distance travelled in the direction of force in 5m,

then work done is

- a. 200 J
- b. 50 J
- c. 20 J
- d. 100 J

139. A constant force of $F = (1 - 2j - 3k)$ causes a displacement $d = (2i - 5j + k)$, what will be the net work done if F in N and displacement is in meter

- a. 15 J
- b. 9 J
- c. 8 J
- d. 18 J

140. A cubic vessel of height 1 m is full of water, the minimum work done in taking water out

- a. 500j
- b. 1000j
- c. 5j
- d. 10j

141. A disc of radius 2 m and mass 100 kg roll on a horizontal surface, its center of mass has speed of 2 cm/s, how much work is needed to stop it.

- a. 1 j
- b. 3 j
- c. 20 j
- d. 2 j

142. A disc of radius 2 m and mass 100 kg roll on a horizontal surface, its center of mass has speed of 2 cm/s, how much work is needed to stop it

- a. 1 j
- b. 3j
- c. 30 j
- d. 2 j

143. A field in which work done in a moving a body along the close path is zero called

- a. Electric field
- b. Conservative field
- c. Magnetic field
- d. None of these

144. A force $F = (0.5x + 10)$ N acts on a particle, calculate the work done by the force in displacing particle from $x = 0$ to $x = 2$ m

- a. 20 j
- b. 21 j
- c. 22j
- d. 23j

145. A force $F = 7 - 2x + 3x^2$ is applied on 2 kg body, wrk done to displace the body from $x = 0$ to $x = 5$ m

- a. 70j
- b. 270j
- c. 35j
- d. 135j

146. A force of $F = 1 + y$ N is acting in y direction, work done by this force to move the particle from $y = 0$ to $y = 1$ m

- a. 0.5j
- b. 1j
- c. 2j
- d. 1.5j

147. A force of $F = 20 + 10y$ N is acting in y direction, work done by this force to move the particle from $y = 0$ to $y = 1$ m

- a. 20j
- b. 15j
- c. 5j
- d. 25j

148. A gardener move a lawn roller through a distance of 50 m. applied force is 50 N inclined at 60 degree of direction of motion what will be the work done by the gardener

- a. 1250j

- b. 2500j
- c. -1250j
- d. -2500j

149. A horse is pulling a cart of mass 50 kg in the horizontal direction, if the distance travelled is 20 m then what will be the work done by normal force

- a. 1000 j
- b. -1000 j
- c. 0
- d. 500 j

150. A man hold a bucket by applying force 10 N, then moves a horizontal distance of 5 m and vertical distance of 10 m, find out the net work done

- a. 100 J
- b. 150 J
- c. 50 J
- d. 200 J

151. A man move a roller through a distance of 20m. 10 N of applied force is inclined at 60 degree of direction of motion what will be the work done by the man

- a. 100j
- b. 50j
- c. -100j
- d. -50j

152. A man pulls a bucket of water from a h meter deep wel, if mass of rope is m and mass of bucket with water is M, then work one by man is

- a. $(M/2 + m)gh$
- b. $(M + m)gh/2$
- c. $(M+m/2)gh$
- d. $(M+m)gh$

153. A man pushes a wall and failed to displace it, he does

- a. Negative work
- b. Positive work but not maximum

- c. No work at all
- d. Maximum work

154. A man standing in a bus and pushing the wall of the bus in direction of motion work done by the man is

- a. Positive
- b. Zero
- c. Negative
- d. None of these

155. A man standing in a bus and pushing the wall of the bus in direction of motion work done by the man is

- a. Positive
- b. Zero
- c. Negative
- d. None of these

156. A particle moves from point P (1,2,3) to Q(2,1,4) under the action of a constant force $F = (2i + j + k)$, work done by force is

- a. 2 j
- b. 4j
- c. 16j
- d. 8j

157. A particle of mass 'm' in projected from the ground with an initial speed u_0 at an angle 'a' with the horizontal. At the highest point of its trajectory it makes a completely inelastic collision with another particle of mass which was thrown vertically upward from the ground with the same initial speed u_0 . The angle that the composite system makes with the horizontal immediately after the collision is

- a. 37°
- b. $45^\circ - a$
- c. $45^\circ + a$
- d. 90°

- 158.** A particle of mass 10 kg is moving with velocity $10(x)^{1/2}$, here x is displacement. The work done by net force 62 during the displacement of particle from $x = 4$ to $x = 9$
- 1250j
 - 1000j
 - 3500j
 - 2500j
- 159.** A position dependent force $F = 7 - 2x + 3x^2$ N act on a body of mass 2 kg and displaces it from $x = 0$ to $x = 5$, the work done in joule is
- 70
 - 270
 - 35
 - 135
- 160.** A spring having spring constant of 10 N/m² is stretched to 5 m, what will be the work done
- 250j
 - 50j
 - 250j
 - 125j
- 161.** A steel ball of mass 5 g is thrown downward with velocity 10 m/s from height 19.5m. it penetrates sand by 50 cm. the change in mechanical energy will be: ($g = 10 \text{ m/s}^2$)
- 1j
 - 1.25j
 - 1.5 j
 - 1.75 j
- 162.** A steel ball of mass 5g is thrown downward with velocity 10 m/s from height 19.5m. it penetrates sand by 50 cm. the change in mechanical energy will be: ($g = 10 \text{ m/s}^2$)
- 1j
 - 1.25j
 - 1.5 j
 - 1.75 j
- 163.** A stone of 1 kg is thrown upward it reaches a max height of 5m, work done by the gravity is
- 50j
 - 49j
 - 49j
 - 55j
- 164.** A uniform chain of length 2 m is kept on a table such that a length of 60 cm hangs 37 freely from the edge of the table. That total mass of the chain is 4 kg. what is the work done in pulling the entire chain on the table?
- 7.2 j
 - 3.6j
 - 120j
 - 1200j
- 165.** A variable force $F = 2x$ is applied what will be the work done in moving the particle from $x = 10$ to 0
- 100 j
 - 50 j
 - 50 j
 - 100 J
- 166.** A variable force $F = x$ is applied what will be the work done in moving the particle from $x = 0$ to 1
- 2j
 - 1j
 - 0.5 j
 - 5j
- 167.** An object is displaced from point A (0,1,1) m to point B (1,4,3) m under a constant force $F = (1+2j+3k)$. find the work done by this force in this process
- 13 j

- b. 15 j
- c. 0
- d. -13 j

- b. 100j
- c. 10j
- d. -10j

168. An object is displaced from point A (0,1,1)m to point B (1,4,3) m under a constant force $F=(i+2j+3k)$. find the work done by this force in this process.

- a. 13j
- b. 15j
- c. 0j
- d. -13j

169. An object is displaced from point A (2,3,4) m to point B (1,2,3) m under a constant force $F = (2i + 3j + 4k)$. find the work done by this force in this process

- a. 9j
- b. 0
- c. -9j
- d. 20j

170. An object is displaced from position vector $r_1 = (2i + 3j)$ m to $r_2 = (4j + 6k)$ m under a force $F = (3x^2 i + 2y j)$ N. find the work done by this force

- a. 55j
- b. 83j
- c. 0
- d. -83j

171. Area of force – displacement curve gives the information about

- a. Power
- b. Impulse
- c. Force
- d. Work

172. Consider a drop of water of mass 1 gm falling from a height of 1 km. it hits the ground with a speed of 50 m/s, take $g = 10 \text{ m/s}^2$. The work done by gravitational force is

- a. 1.25j

173. Effect of work is equal to

- a. Change in total energy
- b. Change in kinetic energy
- c. Change in power
- d. Change in power

174. For a particular displacement how is the work done related to time

- a. Depend on time
- b. Independent of time
- c. Both of these
- d. None of these

175. If a horse pulls a cart, work done by horse is

- a. Negative
- b. Zero
- c. Positive
- d. None of these

176. If a porter is carrying a load and waiting for arrival of train then work done by the porter is

- a. Positive
- b. Zero
- c. Negative
- d. None of these

177. If force $F = 4i - 2j$ and displacement is $d = 3i + 4j$, the work done will be

- a. 4j
- b. 8j
- c. 2j
- d. 12j

178. What is the SI unit of work

- a. Joule
- b. Newton
- c. Watt
- d. None of these

179. When a force is parallel to the direction

of motion of body, the work done is

- a. Zero
- b. Minimum
- c. Infinity
- d. Maximum

180. When a man walks on a surface horizontally with constant velocity, work done by

- a. Friction is zero
- b. Contact force is zero
- c. Gravity is zero
- d. All of these

181. When a man walks on a surface horizontally with constant velocity, work done by

- a. Friction is zero
- b. Contact force is zero
- c. Gravity is zero
- d. All of these

182. When a spring is stretched by, work done by stretching force is

- a. Positive
- b. Negative
- c. Zero
- d. None of these

183. When brakes are applied to moving vehicle the work done by the braking system is

- a. Positive
- b. Negative
- c. Zero
- d. None of these

184. When brakes are applied to moving vehicle, the work done by the braking system is

- a. Positive
- b. Negative
- c. Zero
- d. None of these

185. When the direction of the force and displacement are opposite, work done is

- a. Negative
- b. Positive
- c. Zero
- d. None of these

186. When total work done on a particle is positive then

- a. KE remain constant
- b. Momentum increases
- c. KE decreases
- d. All of these

187. Which of the following is not a conservative force

- a. Friction
- b. Electric
- c. Magnetic
- d. Gravitational

188. Which of the following types of force can do no work on the particle upon which it acts

- a. Frictional force
- b. Gravitational force
- c. Centripetal force
- d. Elastic force

189. Work done by a conservative force in a complete cycle is

- a. Zero
- b. More than zero
- c. Less than zero
- d. None of these

190. Work done by friction

- a. Can be zero
- b. Can be positive
- c. Can be negative
- d. All of these

191. Work done by friction force is always

- a. Negative

- b. Positive
- c. Zero
- d. Maybe positive, maybe negative

192. Work done by friction force is always

- a. Negative
- b. Positive
- c. Zero
- d. Maybe positive, maybe negative

193. Work done by non conservative force is

- a. Reversible
- b. Non-reversible
- c. Can be both
- d. None of them

194. Work done by the centripetal force on a body moving in cycle is zero because

- a. The body moves parallel to F
- b. The body move opposite to F
- c. The body move right angle to F
- d. Centripetal and centrifugal balance each other

195. Work done in pulling up a block of wood weighing 2 kN for a length of 10 m on a smooth plane inclined at an angle of 15 degree with the horizontal is

- a. 4.36 kJ
- b. 5.17 kJ
- c. 8.91 kJ
- d. 9.82 kJ

196. Work done is said to be negative if force and displacement are

- a. Parallel
- b. Perpendicular
- c. Anti parallel
- d. None of these

197. Work done on a ceiling fan by gravity is

- a. Maximum
- b. Zero
- c. Minimum
- d. Infinity

198. Work has the dimension as that of

- a. Torque
- b. Momentum
- c. Power
- d. Angular momentum

199. Work is a

- a. Vector quantity
- b. Scalar quantity
- c. Sometime scalar some time vector
- d. None of these

200. Work is done by the applying force when

- a. Applied force is variable
- b. Applied force is perpendicular to the motion
- c. Applied force generated motion
- d. Applied force is constant

201. Work is said to be done when a body move through certain distance by the action of

- a. Energy
- b. Force
- c. Momentum
- d. Power

202. **Energy**

If mass and speed both are doubled kinetic energy will

- a. Increase 4 times
- b. Increase 6 times
- c. Increases 8 times
- d. Increases 10 times

203. If momentum is increased by 20% then K.E. increase by

- a. 0.44
- b. 0.55
- c. 0.66
- d. 0.77

204. If the speed of the body is doubled, then

- a. KE doubled
- b. PE doubled
- c. Momentum doubled
- d. Acceleration is doubled

205. KE of body is increased by 44%, what is the percentage increase in the momentum

- a. 10%
- b. 20%
- c. 30%
- d. 44%

206. The K.E. of a body of mass 2 kg and momentum of 2 Ns is:

- a. 1j
- b. 2j
- c. 3j
- d. 4j

207. The linear momentum is increased by 10%, percentage change in the kinetic energy will be

- a. 0.21
- b. 0.11
- c. 0.22
- d. 0.1

208. Two bodies of mass m and $4m$ moving with same kinetic energy, ratio of kinetic energy will be

- a. 4 : 1
- b. 1 : 1
- c. 1 : 4
- d. 1 : 2

209. Two force of 5 N and 15 N are working on a body in opposite direction. If body displaced by 5 m in direction of net force, what will be the work done by net force

- a. 50j
- b. -50j
- c. 25j

d. 100j

210. Two masses 1 g and 4 g are moving with equal kinetic energies. The ratio of the magnitude of their linear momenta is

- a. 4 : 1
- b. 1 : 2
- c. 0 : 1
- d. 1 : 6

211. Two masses 1 g and 4g are moving with equal kinetic energies. The ratio of the magnitude of their linear momenta is

- a. 4 : 1
- b. 1 : 2
- c. 0 : 1
- d. 1 : 6

212. What is kinetic energy of body 5 kg and momentum 154 kg.m/sec

- a. 30j
- b. 55j
- c. 50j
- d. 22.5j

213. What is kinetic energy of body 5kg and momentum 15 kg.m/sec

- a. 30j
- b. 55j
- c. 50j
- d. 22.5j

214. When momentum of body increased by 200%, its kinetic energy increases by

- a. 200%
- b. 300%
- c. 400%
- d. 800%

215. Which is the unit of energy

- a. Joule
- b. Erg
- c. Unit(Kwh)
- d. All of these

216.

Rotation and Circular Motion

217.

Displacement & Velocity

7 radian is equal to _____ degree approximately

- a. 300
- b. 400
- c. 500
- d. None of these

218. A body moving along the circumference of a circle completes two revolutions. If the radius of the circular path is R , the total angular displacement covered is?

- a. πr
- b. $2\pi r$
- c. Zero
- d. 4π

219. A body performing circular motion with a constant speed has a constant

- a. Momentum
- b. Angular velocity
- c. Acceleration
- d. Radius vector

220. A point on a wheel has a constant angular velocity of 3 rad/s. the angle turned through in 15 seconds is:

- a. 45 rad
- b. 10π rad
- c. 90π rad
- d. 5 rad

221. A string 2m long is used to whirl a 200g stone in horizontal circle at a speed of 2m/s. find tension in string.

- a. $0.4n$
- b. $1.4n$
- c. $2.4n$
- d. $3.4n$

222. A wheel whose radius is 50 cm rotates at an angular velocity of 6 rad/sec. the linear velocity of the rim of the wheel is closest to

- a. 1.5 m/s
- b. 4.5 m/s
- c. 3.0 m/s
- d. 7.5 m/s

223. A body is moving in a circle at constant speed. Which statement is true?

- a. The resultant force acts towards the centre of the circle
- b. There is no resultant force
- c. The resultant force acts away from the centre of the circle
- d. None of these

224. A belt passes over a wheel of radius 25 cm. if a point on the belt has a speed of 5 m/s, the belt is moving with an angular velocity of

- a. 3.2 rad/s
- b. 0.32 rad/s
- c. 20 rad/s
- d. 0.032 rad/s

225. Angular displacement is a

- a. Vector quantity
- b. Scalar quantity
- c. Neither scalar nor vector quantity
- d. None of these

226. An arc of length equal to the circumference of a circle subtends an angle?

- a. π radian
- b. 2π radian
- c. $\pi/2$ radian
- d. 4π radian

227. An electric fan rotating at 3 rev s⁻¹ is switched off. It comes to rest in 18.0 s.

assuming deceleration to be uniform.
How many revolutions did it turn
before coming to rest?

- a. 30 rev
- b. 27 rev
- c. 40 rev
- d. 10 rev

228. An object is travelling in a circle at constant speed. Its angular velocity is

- a. Changing
- b. The same
- c. Increasing
- d. Decreasing

229. An object moving in a circle is tied to a string. What happens when the string is cut?

- a. It continues moving in a circle
- b. It flies off along a tangent
- c. It falls straight down
- d. None of these

230. Angle between radius vector and centripetal acceleration is

- a. 0°
- b. π
- c. 2π
- d. None of these

231. Angular displacement is zero when

- a. angle = 0
- b. $v = 0$
- c. $r = 0$
- d. both b and c

232. Angular velocity is also called as

- a. Instantaneous velocity
- b. Rotational velocity
- c. Tangential velocity
- d. Linear velocity

233. Angular velocity of 60 revolutions per minute is the same as

- a. $1/2\pi$ rad/s

- b. 120π rad/s
- c. $30/\pi$ rad/s
- d. 2π rad/s

234. Centripetal force acts

- a. Outwards
- b. Inwards
- c. Both of them
- d. None of them

235. Determine the angular velocity if 4.8 revolutions are completed in 4 seconds.

- a. 9.6 radians/sec
- b. 7.5 radians/sec
- c. 8 radians/sec
- d. 0.96 radians/sec

236. Determine the angular velocity if 4.8 revolutions are completed in 4 seconds.

- a. 9.6 radians/sec
- b. 7.5 radians/sec
- c. 8 radians/sec
- d. 0.96 radians/sec

237. Determine the linear velocity of a point rotating at an angular velocity of 12π radians per second at a distance of 8 centimeters from the center of the rotating object.

- a. 31.6 cm/s
- b. 301.6 cm/s
- c. 30.6 cm/s
- d. 3016 cm/s

238. Determine the linear velocity of a point rotating at an angular velocity of 12π radians per second at a distance of 8 centimeters from the center of the rotating object.

- a. 31.6 cm/s
- b. 301.6 cm/s
- c. 30.6 cm/s
- d. 3016 cm/s

239. For an object moving in a circle, the



angle between linear velocity and the position vector is

- a. 0 degrees
- b. 30 degrees
- c. 90 degrees
- d. 60 degrees

240. For angular acceleration clockwise rotations means torque is

- a. Positive
- b. Negative
- c. Zero
- d. Infinite

241. For anti-clockwise rotations direction of angular velocity is

- a. Positive
- b. Negative
- c. Zero
- d. Infinite

242. For constant linear acceleration, angular acceleration and radius are

- a. Equal
- b. Inversely related
- c. Directly related
- d. No relation

243. For constant linear acceleration, angular acceleration and radius are

- a. Equal
- b. Inversely related
- c. Directly related
- d. No relation

244. Force clockwise rotations direction of angular velocity is

- a. Positive
- b. Negative
- c. Zero
- d. Infinite

245. If a car moves with a uniform speed of 2 ms^{-1} in a circle of radius 0.4, its angular speed is?

- a. 4 rads^{-1}
- b. 5 rads^{-1}
- c. 1.6 rads^{-1}
- d. 2.8 rads^{-1}

246. If a car moves with a uniform speed of 2 ms^{-1} in a circle of radius 0.4, its angular speed is?

- a. 4 rads^{-1}
- b. 5 rad^{-1}
- c. 1.66 rad^{-1}
- d. 2.8 rad^{-1}

247. If a rotating body is moving anti-clockwise, the direction of angular velocity is

- a. Towards the centre
- b. Along the linear velocity
- c. Away from the centre
- d. Perpendicular to both radius and linear velocity

248. If a wheel of radius r turns through an angle of 30° , then the distance through which any point on its rim moves is?

- a. $\pi/3r$
- b. $\pi r/6$
- c. $\pi/30 r$
- d. $\pi/180r$

249. If an object is undergoing an orbital motion around another object it is called

- a. Revolution
- b. Rotation
- c. Both of them
- d. None of them

250. If angular velocity increases the _____ also increases

- a. Time period
- b. Frequency
- c. Vibration
- d. None of these

251. If $r = 1\text{m}$ and $\phi = 1$ degree then what is the value of S

- a. 0.01745m
- b. 1m
- c. 2m
- d. None

252. If $r = 1\text{m}$ and $\phi = 1$ degree then what is the value of S

- a. 0.01745 m
- b. 1m
- c. 2m
- d. None

253. If radial distance is 2 m and linear acceleration is 2 m the angular acceleration becomes

- a. 4
- b. $1/4$
- c. 6
- d. 1

254. If radius of object is doubled the centripetal force acting on same object becomes

- a. Double
- b. Half
- c. Eight times
- d. Remain same

255. One radian is equal to

- a. 57.3 degrees
- b. 47.3 degrees
- c. 67.5 degrees
- d. 59.5 degrees

256. One radian means

- a. Arc length of unit radius is half
- b. Arc length of unit radius is unity
- c. One degree
- d. All of these

257. One rpm is equal to _____ 0.10472 rad/sec

- a. 2

- b. 1.5
- c. 2.5
- d. 0.105

258. One rpm is equal to _____ 0.10472 rad/sec

- a. 2
- b. 1.5
- c. 2.5
- d. 0.105

259. The angle through which a body moves is called

- a. Angular displacement
- b. Angular velocity
- c. Angular acceleration
- d. None of these

260. The angular acceleration becomes four times when

- a. $\alpha = 2, r = 2$
- b. $\alpha = 4, r = 4$
- c. $\alpha = 3, r = 0$
- d. $R = 0, \alpha = 0$

261. The angular acceleration becomes infinite when r becomes

- a. Zero
- b. Doubled
- c. Very large
- d. None of these

262. The angular acceleration has units

- a. Rad/sec
- b. Sec/rad
- c. Sec^2
- d. None of these

263. The angular acceleration is maximum when

- a. $R = \text{maximin}$
- b. $R = 0$
- c. $R = 1$
- d. None of these

264. The angular displacement is assigned



positive sign when the rotation is

- a. Clockwise
- b. Anti-clockwise
- c. Perpendicular
- d. Parallel

tangential acceleration at the end of 19 s is,

- a. 400:1
- b. 14:20
- c. 800:1
- d. 7:40

265. The angular displacement is taken to be positive when the rotation is

- a. Linear
- b. Non-linear
- c. Clockwise
- d. Anticlockwise

266. The angular displacement of an object after one complete revolution is

- a. 0 radian
- b. π radian
- c. 2π radian
- d. $(1/3)\pi$ radian

267. The angular displacement of an object after one complete revolution?

- a. 0 radian
- b. π radian
- c. 2π radian
- d. $(1/3)\pi$ radian

268. The angular frequency is related to linear frequency by relation

- a. Inversely
- b. Directly
- c. Equally
- d. None of these

269. The angular speed for the daily rotation of Earth in rad s^{-1} is?

- a. 2π
- b. π
- c. 4π
- d. $7.3 \times 10^{-5} \text{ rad s}^{-1}$

270. The angular speed of a particle, moving in a circle of radius 20 cm, increases from 2 rad/s to 40 rad/s in 9s the ratio of its centripetal acceleration to

271. The angular speed of the wheels of a bicycle is 8π radian/sec there period of rotation is

- a. .25 sec
- b. .4 sec
- c. $\pi/4$ sec
- d. 4 sec

272. The angular velocity at a particular instant is called:

- a. Instantaneous angular speed
- b. Instantaneous angular velocity
- c. Angular speed
- d. None of these

273. The angular velocity of a minute hand of a clock is?

- a. $2\pi/60 \text{ rads}^{-1}$
- b. $\pi/24 \text{ rads}^{-1}$
- c. $2\pi/3600 \text{ rads}^{-1}$
- d. $\pi/3600 \text{ rads}^{-1}$

274. The centripetal acceleration is maximum when object moves with r

- a. Increasing
- b. Decreasing
- c. Constant
- d. None of these

275. The centripetal force direction is positive when object rotates

- a. Anti-clockwise
- b. Clockwise
- c. Upward
- d. None of these

276. The centripetal force is zero when centrifugal force is

a. Equal

b. Zero

c. Maximum

d. None of these

277. The dimensions of angular velocity area. $[LT^{-1}]$ b. $[LT]$ c. $[LT^{-2}]$ d. $[T^{-1}]$ **278.** The direction associated with angular displacement is given by

a. Left hand rule

b. Head to tail rule

c. Right hand rule

d. None of these

279. The direction of linear velocity of a body moving in a circle is?

a. Along radius away from center

b. Along radius towards centre

c. Changing with motion

d. Along the tangent

280. The direction of which angular quantity cannot be measured by right hand

a. Angular velocity

b. Angular acceleration

c. Torque

d. All of these

281. The frequency of a particle performing circular motion changes from 60 rpm to 180 rpm in 20s, then the angular acceleration isa. $0.1\pi \text{ rad/s}^2$ b. $0.2\pi \text{ rad/s}^2$ c. $0.3\pi \text{ rad/s}^2$ d. $0.4\pi \text{ rad/s}^2$ **282.** The linear acceleration of a body moving in a circular path is

a. Negative

b. Positive

c. Constant

d. Zero

283. The linear acceleration will be maximum when angle between r and a is

a. 0

b. 90

c. 60

d. None of these

284. The minute hand of a large clock is 3.0 m long. What is its mean angular speeda. $1.4 \times 10^{-4} \text{ rads}^{-1}$ b. $1.0 \times 10^{-3} \text{ rads}^{-1}$ c. $5.2 \times 10^{-3} \text{ rad s}^{-1}$ d. $1.7 \times 10^{-3} \text{ rad s}^{-1}$ **285.** The number of revolutions in 3π radians is

a. 2

b. $3/2$

c. 6

d. $1/6$ **286.** The rate of change of angular velocity is called

a. Angular displacement

b. Angular acceleration

c. Angular velocity

d. Acceleration

287. The ratio of angular speed of the minute hand of clock the that of tis hour hand is

a. 3600 : 1

b. 60 : 1

c. 24 : 1

d. 12 : 1

288. The relation between linear and angular acceleration isa. $A = a \times r$ b. $A = a \times rv$ c. $V = a \times r$ d. $R = a \times v$

289. The relation between linear and angular velocity is
- $V = r \times \omega$
 - $V = \omega x r$
 - $\omega = v x r$
 - $r = v \times \omega$
290. The shaft of a motor rotates at a constant angular speed of 360 rev/min. angle turned through in 1 sec in radian is?
- π
 - 3π
 - 6π
 - 12π
291. The SI unit of angular displacement is
- Metre
 - Kilometer
 - Radian
 - None of these
292. The tires on a bicycle have a diameter of 24 inches. If the tires are turning at a rate of 50 revolutions per minute, determine the bicycle's speed in miles per hour (mph)
- 3.1
 - 6.3
 - 3.9
 - 3.6
293. The value of quantity G in the law of gravitation
- Depend on mass of Earth only
 - Depends on radius of Earth only
 - Depends on both
 - It independent of mass and radius of Earth
294. The velocity along tangent is
- Escape velocity
 - Angular velocity
 - Linear velocity
 - All of these
295. What force provides the centripetal force to planet moving around the sun?
- Coulomb force
 - Gravitational force
 - Magnetic force
 - None of these
296. What is 1 radian in degrees approximately
- 53.3 degree
 - 360 degrees
 - π degrees
 - π^2 degrees
297. What is 30 degrees in radians?
- $\pi/3$
 - $\pi/6$
 - $\pi/2$
 - $\pi/4$
298. What is angular velocity?
- Change in angular rotation / change in time
 - Change in displacement / change in time
 - Change in speed / change in time
 - Change in acceleration / change in time
299. What is the formula for centripetal acceleration?
- $A = v/t$
 - $A = v/r$
 - $A = v^2/r$
 - None of these
300. What is the measure in radians of the angle $A = 330^\circ$?
- $11\pi/3$
 - $7\pi/4$
 - $7\pi/6$
 - $11\pi/6$
301. What is the measure in degrees of the

angle $A = 7\pi/6$?

- a. 150
- b. 210
- c. 100
- d. 120

302. When a body moves in a circle of radius r with angular speed ω , its centripetal acceleration is

- a. ωr
- b. $\omega^2 r$
- c. $\omega r T^2$
- d. ω/r

303. When a body moves in a circle, the angle between its linear velocity and angular velocity is always?

- a. 180
- b. 0
- c. 90
- d. 45

304. When a body moves in a circle, the angle between its linear velocity and angular velocity is always?

- e. 180
- f. 0
- g. 90
- h. 45

305. When brakes of a car are applied, angular velocity of a flywheel reduces from 900 cycles/min to 720 cycle/min in 6 s. Angular retardation is

- a. $\pi \text{ rad/s}^2$
- b. $9\pi \text{ rad/s}^2$
- c. $8\pi \text{ rad/s}^2$
- d. None of these

306. Which of the following is not a unit of angular displacement

- a. Degree
- b. Revolution
- c. Meters

d. Radian

307. Which quantity is a scalar quantity

- a. Angular displacement
- b. Angular velocity
- c. Angular acceleration
- d. None of these

308.

309.

310.

311.

312.

313.

314.

315.

316.

317.

318.

319.

320.

321. a.

322.

Centripetal Force and Acceleration

A body moving along the circumference of a circle completes two revolutions. If the radius of the circular path is R , the total angular displacement covered is?

- a. πr
- b. $2\pi r$
- c. Zero
- d. 4π

323. A body is travelling in a circle of radius r at a speed v . its centripetal acceleration will be:

- b. $A = r^2 / v$
- c. $A = r / v$
- d. $A = v^2 / r$
- e. $A = v / r$

324. A car accelerates from 0 to 72 km/h in 5 seconds. If it has wheels of diameter 50

cm. the angular acceleration of its wheels is

- a. 1.6 rad/s^2
- b. 8 rad/s^2
- c. 16 rad/s^2
- d. 160 rad/s^2

325. A car is moving in a circular track of diameter 100 m at a constant speed of 40 m/sec. find the centripetal acceleration?

- a. 42 m/s^2
- b. 52 m/s^2
- c. 32 m/s^2
- d. 30 m/s^2

326. A car is moving in a circular track of radius 20 m at a constant speed of 20 m/sec. find the centripetal acceleration?

- a. 20 m/s^2
- b. 40 m/s^2
- c. 30 m/s^2
- d. 10 m/s^2

327. A car of mass 2000 kg moving in a circular path of radius 10 m at a constant speed of 30m/sec. find the centripetal force required for this purpose.

- a. 1800N
- b. 18N
- c. 180kN
- d. 18kN

328. A force which acts on an object moving in a circle and is directed towards the center of the circle is called

- a. Bending force
- b. Centripetal force
- c. Centrifugal force
- d. None of these

329. A mixer grinder rotates clockwise it's angular velocity will be:

- a. Zero
- b. Negative
- c. Uniform but not zero
- d. Positive

330. A particle is performing uniform circular motion has constant

- a. Velocity
- b. Acceleration
- c. Position
- d. Momentum

331. Find angular acceleration when $\Delta\omega$ is 250 rpm and Δt is 5.00 s.

- a. 5.24 rad/sec^2
- b. 6 rad/sec^2
- c. 10 rad/sec^2
- d. None of these

332. Find the radius of the circular path if a car is moving with a velocity of 25 m/s and has a centripetal acceleration of 10 m/s^2 ?

- a. 72.3 m/s
- b. 30 m/s
- c. 62.5 m/s
- d. 52.5 m/s

333. If angular frequency is doubled, centripetal force is

- a. Twice
- b. Four times
- c. Eight times
- d. Remain same

334. Centripetal force acts

- a. Outwards
- b. Inwards
- c. Both of them
- d. None of them

335. If angular frequency is doubled, centripetal force is

- e. Twice
- f. Four times

- g. Eight times
- h. Remain same

336. If radius of object is doubled the centripetal force acting on same object becomes

- e. Double
- f. Half
- g. Eight times
- h. Remain same

337. The angular speed of a particle, moving in a circle of radius 20 cm, increases from 2 rad/s to 40 rad/s in 9s the ratio of its centripetal acceleration to tangential acceleration at the end of 19 s is,

- e. 400:1
- f. 14:20
- g. 800:1
- h. 7:40

338. The centripetal acceleration is maximum when object moves with r

- e. Increasing
- f. Decreasing
- g. Constant
- h. None of these

339. The centripetal force direction is positive when object rotates

- e. Anti-clockwise
- f. Clockwise
- g. Upward
- h. None of these

340. The centripetal force direction is positive when object rotates

- a. Anti-clockwise
- b. Clockwise
- c. Upward
- d. None of these

341. The centripetal force is zero when centrifugal force is

- e. Equal
- f. Zero
- g. Maximum
- h. None of these

342. What force provides the centripetal force to planet moving around the sun?

- e. Coulomb force
- f. Gravitational force
- g. Magnetic force
- h. None of these

343. What is the formula for centripetal acceleration?

- e. $A = v/t$
- f. $A = v/r$
- g. $A = v^2/r$
- h. None of these

344. When a body moves in a circle of radius r with angular speed ω , its centripetal acceleration is

- e. ωr
- f. $\omega^2 r$
- g. $\omega r T^2$
- h. ω/r

345.

WAVES

346.

Waves and its characteristics, speed of sound

In case of harmonic oscillator total energy remains

- a. Variable
- b. Infinity
- c. Constant
- d. Zero

347. If a transverse wave traveling in a denser medium is incident on a rarer medium, it is

- a. Reflected without any change in phase

- b. Reflected with phase change of 90 deg
- c. Reflected with phase change of 180 deg
- d. Reflected with phase change of 270 deg

348. 20 waves pass through a point in a medium, in 5 seconds. What is the time required to pass one wave?

- a. 1/4 sec
- b. 4 sec
- c. 1/2 sec
- d. 2 sec

349. A first harmonic stationary sound wave is produced in the air of the cylinder which is half filled with water. More water is added to the cylinder. Now first harmonic stationary wave is produced with a different frequency. What is the change in frequency and the nature of displacement in air the water surface?

- a. Nature of displacement = antinode change in frequency = decrease
- b. Nature of displacement = antinode change in frequency = increase
- c. Nature of displacement = node change in frequency = increase
- d. Nature of displacement = node change in frequency = decrease.

350. A line normal to the wavefront, showing the direction of propagation of light is called

- a. Tangent
- b. Radius
- c. Wavelength
- d. Ray of light

351. A longitudinal standing wave, in second

harmonic mode, is established in a tube that is open at both ends. The length of the tube is 0.80 m. what is the wavelength of the waves that make up the standing wave?

- a. 0.20 m
- b. 0.40 m
- c. 0.80m
- d. 1.60 m

352. A longitudinal standing wave, in second harmonic mode, is established in a tube open at only one end. The frequency of the standing wave is 660 Hz, and the speed of sound in air is 343 m/s. what is the length of the tube?

- a. Twice as fast
- b. Has as fast
- c. Four times as fast
- d. The same

353. A monochromatic light is incident on a single slit, and a diffraction pattern forms on the screen. If α is the angle between central maximum and first minimum, then which of the following change will increase α ?

- a. Increase the width of slit
- b. Decrease the width of slit
- c. Increase the distance between screen and slit
- d. Decrease the distance between screen and slit

354. A monochromatic light is incident on two slits and interference pattern is produced on screen at the distance 1. Now one slit is covered, no light coming from it. What is the change in pattern on the screen?

- a. The width of central maximum is decreased

- b. The width of outer maximum is decreased
- c. The intensity of central maximum will increase
- d. Less number of fringes will be observed

355. A monochromatic light is incident on two slits and interference pattern is produced on screen at the distance L . now one slit is covered, no light coming from it. What is the change in pattern on the screen?

- a. The width of central maximum is decreased
- b. The width of outer maximum is decreased
- c. The intensity of central maximum will increase
- d. Less number of fringes will be observed

356. A monochromatic light is incident on two slits and interference pattern is produced on screen at the distance L . now one slit is covered, no light coming from it. What is the change in pattern on the screen?

- a. The width of central maximum is decreased
- b. The width of outer maximum is decreased
- c. The intensity of central maximum will increase
- d. Less number of fringes will be observed

357. A sound wave travels from a region of hot air into a region of cold air. How does frequency and wavelength of sound change?

- a. Frequency decreases wavelength

decreases

- b. Frequency increases wavelength decreases
- c. Frequency does not change wavelength decreases
- d. Frequency does not change wavelength does not change

358. A speed of the sound, v , in a medium of elastic modulus E and density d , is given by

- a. $V = E/d$
- b. $V = E \cdot d$
- c. $V^2 = E \cdot d$
- d. $V^2 = E/d$

359. A transverse wave on a string has an amplitude A . A tiny spot on the string is colored red. As one cycle of the wave passes by, what is the total distance traveled by the red spot?

- a. A
- b. $2A$
- c. $A/2$
- d. $4A$

360. A travelling transverse wave has amplitude a and wavelength λ . What is the minimum distance between a crest and a trough in the direction of propagation of waves.

- a. $2a$
- b. $a/2$
- c. 2λ
- d. $\lambda/2$

361. A wave have the speed 0.50 m/s . if its wavelength is 1.5 m . what is the period of the wave?

- a. 0.33 m
- b. 3 m
- c. 1.5 m
- d. 6 m

362. A wave is produced by
 a. Disturbance
 b. Heating
 c. Freezing
 d. Clapping
363. A wave passes through a medium, each particle of the medium performs 100 complete vibrations in 5 seconds. What is the frequency of the wave?
 a. 2 Hz
 b. 20 Hz
 c. 4 Hz
 d. 40 Hz
364. An object is moving in a circle. It completes 6 revolution in every 3 seconds. What is its frequency?
 a. $0.5 \pi \pi$ Hz
 b. $2 \pi \pi$ Hz
 c. 0.5 Hz
 d. 2 Hz
365. Frequency of a travelling wave is 2000 Hz. Its speed is 300 m/s. what is its wavelength?
 a. $20/3$ m
 b. 20×3 m
 c. $3/20$ m
 d. $2/3$ m
366. Glass block is immersed in a tank which is filled with a liquid of high refractive index. Light is incident from the liquid on one side of glass block at an angle greater than critical angle. Which of the following statements are true?
 a. Light is partially transmitted into the glass block bending towards the normal and partially reflected
 b. Light is partially transmitted into the glass block bending away from the normal and partially reflected
 c. Light is completely transmitted into the glass and did not reflected into the liquid.
 d. Light is completely reflected back into the liquid
367. In a periodic wave, the distance between a crest and the next consecutive trough is 15 cm. what is the wavelength of the wave?
 a. 10 cm
 b. 5 cm
 c. 7.5 cm
 d. 30 cm
368. In a periodic wave, the distance between second and fifth crests is 15 cm, what is the wavelength of the wave?
 a. 45 cm
 b. 5 cm
 c. $1/5$ cm
 d. $1/3$ cm
369. In a periodic wave, the distance between two consecutive crests is known as
 a. Wavelength
 b. Amplitude
 c. Displacement
 d. None of these
370. In a standing waves, the distance between two consecutive nodes is
 a. Equal to one wavelength
 b. Equal to two wavelength
 c. Equal to half of wavelength
 d. Equal to quarter of wavelength
371. In a stationary waves, if the string is made to vibrate in n loops, the frequency of stationary waves set up on the string will be
 a. $F_n = n \times f_1$

- b. $F_n = n + f_1$
- c. $F_n = f_1 / n$
- d. $N * f_n = f_1$

- b. 10 cm/s
- c. 2 m/s
- d. 40 cm/s

372. In a stationary wave, the distance between a node and an adjacent antinode is equal to

- a. λ
- b. 2λ
- c. $\lambda/2$
- d. $\lambda/4$

373. In a stationary wave, the distance between a node and consecutive antinode is

- a. A quarter of wavelength
- b. $3/4$ of wavelength
- c. One wavelength
- d. Half of wavelength

374. In a stationary wave, the distance between adjacent antinodes is equal to

- a. λ
- b. 2λ
- c. $\lambda/2$
- d. $\lambda/4$

375. In a stationary wave, the distance between adjacent nodes is equal to

- a. λ
- b. 2λ
- c. $\lambda/2$
- d. $\lambda/4$

376. In a stationary wave, the distance between two consecutive crests is

- a. One wavelength
- b. $3/4$ wavelength
- c. $1/2$ wavelength
- d. $3/2$ wavelength

377. Ten complete waves passes through a point in 2 seconds. If the wavelength is 20 cm, what is the speed of the wave?

- a. 1 m/s

378. The density of oxygen is 16 times the density of hydrogen. If the speed of sound in oxygen is v , then what is the speed of sound in hydrogen?

- a. $v/4$
- b. $4v$
- c. $v/2$
- d. $2v$

379. The distance between two consecutive crests of a travelling wave is 10 cm. if the speed of the wave 50 cm/s, then its frequency would be

- a. 40 Hz
- b. $1/5$ Hz
- c. 5 Hz
- d. 500 Hz

380. The distance between two consecutive nodes in a stationary wave is equal to

- a. One wavelength
- b. 2.5 wavelength
- c. 3 wavelength
- d. Half wavelength

381. The phenomenon of polarization of light reveals that light waves are

- a. Transverse waves
- b. longitudinal waves
- c. mechanical waves
- d. done of these

382. The point which are in phase are separated from one another through a distance of

- a. 1 wavelength
- b. 1.5 wavelength
- c. 0.5 wavelength
- d. 2.5 wavelength

383. The shortest distance between two

points on a travelling wave that have a phase difference of $(\pi/3)$ is 5 cm. if the wave has frequency 500 Hz, what is the speed of the wave?

- a. 300 m/s
- b. 150 m/s
- c. 300 cm/s
- d. 150 cm/s

384. The shortest distance between two points on the wave that have a phase difference of $(\pi/3)$ is 5 cm. what is its wavelength?

- a. 10 cm
- b. 20 cm
- c. 30 cm
- d. 40 cm

385. The speed of sound in air is approximately

- a. 1500 m/s
- b. 5000 m/s
- c. 330 m/s
- d. 50 m/s

386. The speed of sound in Rubber, butyl is 1830 m/s. if its density is 1.35 g/cm^3 then its elastic modulus would be

- a. $4.5 \times 10^6 \text{ pa}$
- b. $45 \times 10^6 \text{ pa}$
- c. $4.5 \times 10^8 \text{ pa}$
- d. $5 \times 10^5 \text{ pa}$

387. The speed of sound, v , is not affected by a variation in the pressure of the gas. Because:

- a. Speed, v , does not depend on pressure
- b. Speed, v , does not depend on density
- c. Density is proportional to pressure
- d. None of the above

388. The speed v of the wave is the string depends upon the tension F of the string and m , the mass per unit length of the string. It is given by

- a. $v^2 = F/m$
- b. $v = F/m$
- c. $v \cdot m = F$
- d. $v = F \cdot m$

389. The stationary waves can be set up on the string only with the frequencies of harmonic series determined by:

- a. The tension, length and mass per unit length of the string
- b. The tension and mass per unit length of the string only
- c. The length and mass per unit length of the string only
- d. The tension and length of the string only.

390. The two points of a medium are separated through a distance of 10 cm. what is the phase angle between these two points if the wavelength of the wave is 0.1 m.

- a. $\pi\pi$
- b. $2\pi\pi$
- c. $3\pi\pi$
- d. $3\pi\pi/4$

391. The wave which propagate by the oscillation of material particles are called:

- a. Matter waves
- b. Mechanical waves
- c. Electromagnetic waves
- d. Microwaves

392. Wavelength of a sound wave in air is 10 cm, what is the frequency of the sound wave?

- a. 33 Hz

- b. 330 Hz
- c. 3300 Hz
- d. 33000 Hz

wave.

- a. 0 deg
- b. 45 deg
- c. 90 deg
- d. 180 deg

393. Wavelength of a travelling wave is 20 cm. what is the phase angle between the two points separated through a distance of 25 cm?

- a. 2π
- b. 2.5π
- c. 3π
- d. D
- e. 1π

394. What is an optically active medium?

- a. Which absorbs light
- b. Which absorbs polarized light
- c. Which rotates plane of polarization
- d. Which refract polarized light

395. What is echo of sound?

- a. When sound reflects back
- b. When sound gets absorbed
- c. When sound penetrates into objects
- d. All of them

396. What is the unity of frequency?

- a. 1/Hertz
- b. $1/\text{second}^2$
- c. Second

397. What is the wavelength of the wave if the phase angle between two points of the medium is $3\pi/4$ and they are separated through a distance of 3 cm?

- a. 8 cm
- b. 9 cm
- c. 1 cm
- d. 12 cm

398. What is the phase difference between the center of compression and the center of rarefaction in longitudinal

399. When a light ray travels from the medium of low refractive index to a medium of high refractive index. Its.

- a. Speed decreases, frequency decreases, wavelength unchanged
- b. Speed decreases, frequency unchanged, wavelength unchanged
- c. Speed unchanged, frequency increases, wavelength decreases
- d. Speed decrease, frequency unchanged, wavelength decreases

400. When a monochromatic light travels from glass into air, then...

- a. Its frequency and wavelength both stay same
- b. Its frequency stays same but wavelength increases
- c. Its frequency increases but wavelength stays same
- d. Its frequency decreases and wavelength increases

401. When a standing wave is set up in a pipe which is open from one end, which of the following statement is true?

- a. Sum of the number of antinodes and the number of nodes is always even
- b. Wavelength = length string/number of nodes
- c. The shape of the string at any instant shows a symmetry about

- the midpoint of the string
 d. Frequency = number of nodes * fundamental frequency

- 402.** When a standing wave is set up on a string fixed at both ends, which of the following statement is true?
 a. Sum of the number of antinodes and the number of nodes is always even
 b. Wavelength = length string / number of nodes
 c. The shape of the string at any instant shows a symmetry about the midpoint of the string
 d. Frequency = number of nodes * fundamental frequency
- 403.** When a wave comes across the boundary of two media, a part of it is reflected back. Which statement is true about reflected wave:
 a. The reflected wave has larger wavelength and larger frequency
 b. The reflected wave has same wavelength and larger frequency
 c. The reflected wave has same wavelength and larger frequency
 d. The reflected wave has same wavelength and same frequency
- 404.** When path difference between two waves are integral multiple of wavelength, the resultant effect is called
 a. Destructive interference
 b. Constructive interference
 c. Beats
 d. Diffraction
- 405.** When path difference between two waves are odd integral multiple of half the wavelength, the resultant effect is called

- a. Destructive interference
 b. Constructive interference
 c. Beats
 d. Diffraction

- 406.** When path difference between two waves are odd integral multiple of half the wavelength, the resultant effect is called
 a. Destructive interference
 b. Constructive interference
 c. Beats
 d. Diffraction
- 407.** When the antinodes are all at their extreme displacements,
 a. The energy stored is wholly kinetic
 b. The energy stored in wholly potential
 c. The energy stored in kinetic and potential
 d. The energy stored is wholly chemical
- 408.** Whenever a transverse wave travelling a denser medium, is reflected from the boundary of the rarer medium
 a. An incident crest on reflection disappears
 b. An incident trough on reflection becomes double
 c. An incident crest on reflection becomes a trough
 d. An incident crest on reflection remains crest
- 409.** Whenever a transverse wave travelling in a dense medium, is reflected from the boundary of the rarer medium.
 a. The direction of its displacement remains same
 b. The direction of its displacement

is reversed

- c. The displacement disappears
- d. The displacement becomes double

410. Whenever a transverse wave travelling in a denser medium, is reflected from the boundary of the rarer medium

- a. The direction of its displacement remains same
- b. The direction of its displacement is reversed
- c. The displacement disappears
- d. The displacement becomes double

411. Whenever a transverse wave, travelling in a rarer medium, encounters a denser medium.

- a. An incident crest on reflection disappears
- b. An incident trough on reflection remains through
- c. An incident crest on reflection becomes a trough
- d. An incident crests on reflection remains crests

412. Whenever a transverse wave, travelling in a rarer medium, encounters a denser medium. It....

- a. Bounces back such that the direction of its displacement remains same
- b. Bounces back such that the direction of its displacement is reversed
- c. Travels into second medium and the direction of its displacement is reversed
- d. Travels into second medium and the direction of its displacement

remains same

413. Which group consists of only electromagnetic waves

- a. Microwaves, radio waves, infra red
- b. Microwaved, radio waves, sound
- c. Microwaves, water waves, infrared
- d. n/a

414. Which o the following statement about wave motion is true?

- a. Wave transport energy and matter
- b. Wave transport energy without transporting matter
- c. Wave transport matter but not energy
- d. Wave on a rope, radio waves, infra red

415. Which of the following frequency of sound wave is audible

- a. 5 Hz
- b. 5000 Hz
- c. 2500 kHz
- d. 50 kHz

416. Which of the following is the experimental evidence in support of the Huygen's wave theory?

- a. Reflection
- b. Refraction
- c. Young's double slit experiment
- d. Polarization

417. Which of the following is the experimental evidence in support of the huygen's wave theory?

- a. Refletion
- b. Reflection
- c. Young's double slit experiment
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418. Which of the following is the experimental evidence in supportive of a Huygens wave theory?

- a. Reflection
- b. Reflection
- c. Young's double slit experiment
- d. Polarization

419. Which of the following phenomenon proves that light waves are transverse waves?

- a. Polarization
- b. Refraction
- c. Interference
- d. Diffraction

420. Which of the following statement is correct about infrared radiation and X-rays?

- a. Radio waves has frequency larger than x-rays but less than infrared waves
- b. Infrared radiation travels faster than x-rays in vacuum
- c. Infrared radiation has lower frequency than x-rays
- d. Infrared waves can not be diffracted like x-rays

421. Which unit is used in the measurement of displacement

- a. M
- b. m/s
- c. 1/s
- d. N

422.

Superposition of waves and standing waves

A park has an outdoor organ. When the air temperature increases, the fundamental frequency of one of the organ pipes:

- a. Is impossible to determine
- b. Stays the same
- c. Decreases
- d. Increases

423. A pipe is filled with a gas and open at one end. If the length of the pipe is 0.6 m and the speed of sound in the gas is 400 m/s. then frequencies of the first two harmonics are

- a. 125 Hz and 250 Hz
- b. 250 Hz and 750 Hz
- c. 250 Hz and 500 Hz
- d. 125 Hz and 375 Hz

424. A pipe is open at both ends, a stationary wave is formed in the air of the pipe. Which statement is true.

- a. There is always a central antinode
- b. There is always a central node
- c. The sum of number of nodes and the number of antinodes is always an even number
- d. The sum of the number of nodes and the number of antinodes is always an odd number

425. A point source broadcasts sound into a uniform medium. If the distance from the source is tripled how does the intensity change?

- a. It becomes one-ninth as large
- b. It becomes one-third as large
- c. It becomes three times larger
- d. It becomes nine times larger

426. A sound wave has a wavelength of 0.20 m. what is the phase difference between two points along the wave which are 0.65 m apart?

- a. 0 deg
- b. 45 deg

- c. 90 deg
- d. 180 deg

427. A sound wave has been wavelength λ . What is the minimum possible distance between two points with phase difference 90 deg?

- a. $\lambda/2$
- b. $3\lambda/2$
- c. $5\lambda/2$
- d. $5\lambda/4$

428. A standing-wave pattern is formed when the length of the string is

- a. An odd multiple of quarter wavelength
- b. An integral multiple of quarter wavelength
- c. An integral multiple wavelength
- d. An integral multiple of half wavelength

429. A stationary wave is formed in a pipe which is open at one end. If length of pipe is L, then what is the maximum possible wavelength of the wave?

- a. L
- b. 2L
- c. 3L
- d. 4L

430. A stationary wave is set up in a pipe of length L, which is open from both ends. There are three nodes. How many antinodes are there in the stationary wave?

- a. 2
- b. 3
- c. 4
- d. 6

431. A stationary source of sound produce wave of wavelength L and speed v. now, the source moves away from the

observer. What is the wavelength and speed of the sound as measured by the observer?

- a. Wavelength decreases speed does not change
- b. Wavelength increases speed does not change
- c. Wavelength increases speed increases
- d. Wavelength increases speed decreases

432. A stationary source of sound produce wave of wavelength L and speed v. now, the source moves away from the observer. What is the wavelength and speed of the sound as measured by the observer?

- a. Wavelength decreases speed does not change
- b. Wavelength increases speed does not change
- c. Wavelength increases speed increases
- d. Wavelength increases speed decreases

433. A stationary wave is formed in a pipe which is open at both ends. If two complete loops are formed and the wavelength of the wave is 10 cm, what is the length of the pipe?

- a. 15 cm
- b. 10 cm
- c. 5 cm
- d. 20 cm

434. A stationary wave is formed in a pipe which is open at both ends. If length of pipe is L, then what is the maximum possible wavelength of the wave.

- a. 2L

- b. $\frac{1}{2} L$
- c. L
- d. $3 L$

435. A stationary wave is formed in a pipe which is open at one end. If length of pipe is 5 cm, then what is the maximum possible wavelength of the wave?

- a. 5 cm
- b. 10 cm
- c. 15 cm
- d. 20 cm

436. A stationary wave is set up in a pipe of length L . if the pipe is open at one end and closed at other, what is fifth harmonic frequency? First harmonic frequency

- a. 4
- b. 6
- c. $\frac{1}{5}$
- d. 5

437. A stationary wave is setup on a string of length 10 cm. four loops are formed. What is the distance between two consecutive crests?

- a. 4.5 cm
- b. 5 cm
- c. 2.5 cm
- d. 1.25 cm

438. A stationary wave is setup on a string which is fixed at both ends. The frequency of the wave is 400 Hz. If the speed of wave is 480 m/s, then what is the length of the string?

- a. 1.2 m
- b. 0.84m
- c. 0.60m
- d. 0.42m

439. A steel wire hangs vertically from a fixed point, supporting a weight of 80 N

at its lower end. The diameter of the wire is 0.50 mm and its length from the fixed point to the weight is 1.5 m. if density of steel wire = $7.8 \times 10^3 \text{ kg/m}^3$, then what is the fundamental frequency emitted from the wire.

- a. 76 Hz
- b. 176 Hz
- c. 50 Hz
- d. 150 Hz

440. A surface around a point source of light, on which all the points have the same phase of vibration is known as

- a. Equipotential
- b. Surface of sphere
- c. Wavefront
- d. Ellipsoid

441. A tuning fork A produces 4 beats with another tuning fork B. if the frequency of tuning fork B is 320 Hz, then the frequency of tuning fork A is

- a. 320×4
- b. $320 / 4$
- c. $320 + 4$
- d. 320

442. An oil film on water surface shows color due to

- a. Diffraction
- b. Interference
- c. Dispersion
- d. Polarization

443. As the wavelength of light used increases. The distance between bright fringes in the interference pattern

- a. Increases
- b. Decreases
- c. Remains same
- d. None of these

444. Beats can be used for

- a. Counting the heart beat
- b. Tuning a string instrument
- c. Measuring frequency of pendulum
- d. None of the above

445. Beats can be used to find

- a. Speed
- b. Frequency
- c. Amplitude
- d. Wavelength

446. Coherent sources are

- a. Monochromatic sources
- b. Sources which produce waves of equal amplitude
- c. Monochromatic source which produce waves of constant phase difference
- d. Sources which produce wave of same frequency

447. Critical angle is the angle of incidence in the medium for which the angle of refraction in the rarer medium is equal to:

- a. 0 deg
- b. Angle of incidence
- c. Twice the angle of incidence
- d. 90 deg

448. Diffraction is prominent when the wavelength of light is

- a. Five time small as compared with the size of the obstacle
- b. Large as compared with the mass of the obstacle
- c. Large as compared with the size of the obstacle
- d. One half as compared with the size of the obstacle

449. End, only odd harmonics are generated, which are given by the equation

- a. $F_n = (n \cdot v) / (4 \cdot l)$ where $n = 1, 3, 5, \dots$
- b. $F_n = (n \cdot v) / (4 \cdot l)$ when $n = 1, 3, 5, \dots$
- c. $F_n = (n \cdot v) / (4 \cdot l)$ where $n = 1, 2, 3, 4, 5, \dots$
- d. $F_n = (n \cdot v) / (4 \cdot l)$ where $n = 1, 2, 3, 4, 5, \dots$

450. If a transverse wave travelling in a denser medium is incident on a rarer medium, it is

- a. Reflected without any change in phase
- b. Reflected with phase change of 90 deg
- c. Reflected with phase change of 180 deg
- d. Reflected with phase change of 270 deg

451. If a pipe is closed at one end and open at the other, the closed end is a

- a. Antinode
- b. Node
- c. Rarefaction
- d. Crest

452. If displacements due to two individual waves are y_1 and y_2 . Then the resultant displacement y , of the particle of the medium is

- a. $Y = y_1 \cdot y_2$
- b. $Y = y_1 / y_2$
- c. $Y = y_1 - y_2$
- d. $Y = y_1 + y_2$

453. If f_1 and f_2 are frequencies of two tuning forks, such that $f_1 < f_2$, then number of beats produced in one second are

- a. $F_2 - f_1$
- b. $F_2 \cdot f_1$

- c. $F_1 - f_2$
d. $F_2 + f_1$

454. If the wavelength of a wave is 200 cm and its time period is T . what is the distance travelled by a crest on the wave in $1.25T$.

- a. 30 cm
b. 25 cm
c. 15 cm
d. 40 cm

455. In a double slit experiment the second order maximum occurs at $\theta = 0.25^\circ$. the wavelength is 650 nm. Determine the slit separation

- a. 0.30 mm
b. 0.30 cm
c. 0.30 nm
d. 0.30 m

456. In a double slit experiment, a monochromatic light was used. The wavelength of light was 500 nm. The distance between slits is 1.0 mm. what is the separation between fringes if they are observed at a distance of 3.0 m?

- a. 15 mm
b. 15 cm
c. 1.5 mm
d. 1.5 cm

457. In a periodic wave, the distance between a crest and the next consecutive trough is 15 cm. what is the wavelength of the wave?

- a. 10 cm
b. 5 cm
c. 7.5 cm
d. 30 cm

458. In a Young's double-slit experiment, fringes are very close to each other.

How can we increase the distance between fringes?

- a. By increasing the distance between light source and slits
b. By increasing the distance from slits to the screen
c. By increasing the distance between slits
d. By increasing the frequency of light

459. In single slit diffraction, when wavelength λ increases

- a. Width of central maxima increases
b. Width of central maxima does not change
c. Central maxima becomes brighter
d. Width of central maxima decreases

460. In SONAR we use

- a. Water waves
b. Sound waves
c. Microwaves
d. Ultraviolet rays

461. Let L be the light source. Its intensity at the distance of $3x$ from L is I . What is its intensity of light at the distance of $2x$ from the source of light?

- a. $9I/4$
b. $3I/2$
c. $4I/9$
d. $2I/3$

462. Let L be the light source. Its intensity at the distance of $3x$ from L is I . what is its intensity of light at the distance of $2x$ from the source of light?

- a. $9I/4$
b. $3I/2$

- c. $41/9$
- d. $21/3$

- 463.** Light of wavelength 450 nm is incident on a diffraction grating on which 5000 lines/cm have been ruled. Determine the angle corresponding to third order.
- a. 13
 - b. 26
 - c. 42.5
 - d. 39.5

- 464.** Light of wavelength 450 nm is incident on a diffraction grating on which 5000 lines/cm have been ruled. How many orders of spectra can be observed on either side of the direct beam?
- a. 1
 - b. 2
 - c. 3
 - d. 4

- 465.** Michelson measured the length of standard metre in terms of the wavelength as:
- a. Green cadmium light
 - b. Violet cadmium light
 - c. Red cadmium light
 - d. Blue cadmium light

- 466.** Michelson showed that the standard metre was equivalent to
- a. 1,553 wavelength of red light
 - b. 1,553 wavelength of blue light
 - c. 1,553, 163.5 wavelengths of red light
 - d. 1,553, 163.5 wavelengths of blue light

- 467.** Michelson's interferometer is an instrument that can be used to measure:
- a. Speed
 - b. Frequenc

- c. Distance
- d. Amplitude

- 468.** Michelson's interferometer works on the principle of
- a. Interference of light
 - b. Refraction of light
 - c. Reflection of light
 - d. Diffraction of light

- 469.** Superposition of two wves having slightly different frequency, same amplitude and travelling in the same direction, is called
- a. Interference
 - b. Diffraction
 - c. Beats
 - d. Stationary waves

- 470.** The phase angle between two points in a medium is $3\pi/4$. If the distance between these points is 20 cm, then wavelength of the wave is?
- a. $8/15$ m
 - b. $15/8$ m
 - c. $8/15$ cm
 - d. $15/8$ cm

- 471.** The phase angle between two points in a medium is $4\pi/5$. What is the separation between these two points if the wavelength of the wave is 5m.
- a. $5/4$ m
 - b. 4π m
 - c. 2m
 - d. 10 m

- 472.** The phase angle between two points in a medium is $4\pi/5$. What is the separation between these two points if the wavelength of the wave is 5.
- a. $5/4$ m
 - b. 4π m
 - c. 2 m

d. 10 m

473. Two pulses move in opposite directions on a string and are identical in shape except that one has positive displacements of the elements of the string and the other has negative displacements. At the moment the two pulses completely overlap on the string, what happens?

- The energy associated with the pulses has disappeared
- The string does not move afterwards
- The string forms a straight line for a moment
- Pulses vanished and will not appear again

474. Two travelling waves of the same frequency, same amplitude and travelling in opposite direction results in

- Beats
- Standing waves
- Diffraction
- None of these

475. Two travelling waves of the same frequency, same amplitude and travelling in opposite direction results in

- Beats
- Standing waves
- Diffraction
- None of these

476. Two tuning forks produce 6 beats per second. Which of the following are possible frequencies of these tuning forks.

- 12 Hz and 24 Hz
- 8 Hz and 14 Hz

c. 10 Hz and 20 Hz

d. 66 Hz and 11 Hz

477. Two tuning forks produce N beats. If one of these tuning forks has the frequency f , then the frequency of the other would be:

- $N - f$
- N / f
- $N * f$
- $N + f$

478.

Doppler effect

Radar system is an application of

- Doppler's effect
- Mechanical effect
- Electric effect
- Magnetic effect

479.

Simple harmonic motion and its characteristics

A pendulum undergoes simple harmonic motion. The phase difference between the displacement and the acceleration of the particle is

- 0
- $\pi\pi/2$
- $\pi\pi$
- $3\pi\pi/2$

480. A simple pendulum has mass M , length L and time period T . What is the period of oscillation of the pendulum with mass $4M$ and length $0.36 L$?

- $0.6T$
- T
- $2T$
- $3T$

481. An object is undergoing simple harmonic motion. Its time period is T and total energy is E . The amplitude of vibration is reduced to half. What is the

new time period and total energy of the system?

- Time period = $T/2$ total energy = $E/4$
- Time period = T total energy = $E/4$
- Time period = $T/2$ total energy = $E/2$
- Time period = T total energy = $E/2$

482. In mass-spring system, which of the following does not depend on the initial displacement of the spring?

- Maximum kinetic energy of the mass
- Average speed of the mass
- Total energy of the mass
- Angular frequency of the oscillation

483. In simple harmonic motion, which two quantities are always in opposite direction?

- Kinetic energy and potential energy
- Kinetic energy and velocity
- Velocity and acceleration
- Acceleration and displacement

484. One vibration can be defined as

- Motion of the body from one extreme position to the other extreme position
- Motion of body from one extreme position to the same extreme position
- Motion of the body from one extreme position to the mean position
- Motion of the body from mean position and back to the mean

position

485. Oscillatory or vibratory motion can be defined as

- Upward motion from mean position
- Right hand motion of the pendulum
- To and for motion about the mean position
- Random movement of gas particles

486. The direction of the restoring force is always towards:

- Right hand
- Up ward
- Rest or mean position
- Extreme position

487. The negative sign in $F = -k.x$, indicates that:

- F is directed opposite to x
- F is directed along x
- F is always equal to x
- None of these

488. The number of vibration executed in one second is called

- Period
- Frequency
- Amplitude
- Wavelength

489. The object oscillates due to

- A restoring force
- Its weight
- Centripetal force
- Force of friction

490. The oscillating object overshoots the rest position due to

- Restoring force
- Inertia
- Gravitational potential energy

d. Elastic potential energy

491. Time period of the wave is $1/4$ sec. how long does it take to pass 20 complete waves from a point?

- a. 5 sec
- b. 80 sec
- c. $1/80$ sec
- d. $1/5$ sec

492.

THERMODYNAMICS

493.

Temperature and First Law of thermodynamics

A car of mass M is moving with speed v . the brake of mass m and specific heat capacity c , is used to stop the car. If half of the kinetic energy of the car is absorbed by the brake, then what is the increase in temperature of the brake?

- a. $Mv^2 \text{ ---- } 4mc$
- b. $Mv^2 \text{ ---- } 2mc$
- c. $Mv^2 \text{ ---- } 4Mc$
- d. $Mv^2 \text{ ---- } 2Mc$

494. A closed container contains an ideal gas. Which of the following changes will result in decrease in temperature?

- a. Volume = decrease temperature = decrease
- b. Volume = decrease temperature = increase
- c. Volume = increase temperature = decrease
- d. Volume = increase temperature = increase

495. A fraction of internal energy is due to the molecular vibration, which is different in different states of matter. Which of the following gives the correct

order of fraction of internal energy due to molecular vibration?

- a. Solid > gas > liquid
- b. Gas > liquid > solid
- c. Solid > liquid > gas
- d. Gas > liquid > solid

496. A gas expands 0.25 m^3 at constant pressure 10^3 N/m^2 then work done is

- a. 0.25 ergs
- b. 25 ergs
- c. 250 joules
- d. 250W

497. A gas expands from V_1 to V_2 at pressure P . work done is

- a. $P/(V_2 - V_1)$
- b. $(P_2 - P_1)V$
- c. $P(V_1 V_2 / (V_2 - V_1))$
- d. $P(V_2 - V_1)$

498. A heat engine performs 100 J of work and at the same time rejects 400 J of heat energy to the cold reservoirs. What is the efficiency of the engine?

- a. 20%
- b. 25%
- c. 4%
- d. 50%

499. A monatomic gas at pressure P and volume V expands isothermally to volume $2V$ and then adiabatically to volume $16V$, the final pressure is

- a. $16p$
- b. $64p$
- c. $32p$
- d. $P/64$

500. A monatomic gas is heated from temperature T_1 and T_2 under two different conditions at (i) constant Volume and (ii) constant pressure. So

change is U is

- More for (i)
- More for (ii)
- Same for both
- Independent of number of moles

501. A monatomic ideal gas is thermally insulated, so no heat can flow between it and its surroundings. Is it possible for the temperature of the gas to rise?

- Yes. The temperature can rise if work is done by the gas
- No. the only way that the temperature can rise is if heat is added to gas
- Yes, the temperature can rise if work is done on the gas
- No, the only way that the temperature can rise is by adding more molecules in container

502. A refrigerator operates for a certain time, and the work done by the electrical energy during this time is $W=1000\text{J}$. what can be said about the heat delivered to the room containing the refrigerator?

- The heat delivered to the room is less than 1000J
- The heat delivered to the room is equal to 1000J
- The heat delivered to the room is greater than 1000J
- No heat is delivered to the room

503. A reversible Carnot engine convert $1/6^{\text{th}}$ of heat into input work then efficiency of engine is

- 0.5
- 0.6
- 0.1666
- 0.32

504. A reversible engine works between two temperatures whose difference is 100°C . if it absorbs 746J of heat from the source and rejects 546J to the sink, calculate the temperature of the source and the sink.

- 100°C , 20°C
- 100°C , 0°C
- 80°C , 0°C
- 80°C , 20°C

505. A sample of 0.1g of water at 100°C and normal pressure ($1.013 \times 10^5\text{Nm}^{-2}$) requires 54cal of heat energy to convert to steam at 100°C . if the volume of the steam produced is 167.1cc , the change in internal energy of the sample, is

- 104.3kJ
- 208.6kJ
- 42.2kJ
- 84.5kJ

506. A sample of 0.1g of water at 100°C and normal pressure ($1.013 \times 10^5\text{nm}^{-2}$) requires 54cal of heat energy to convert to steam at 100°C . if the volume of the steam produced is 167.1cc , the change in internal energy of the sample, is

- 104.3kJ
- 208.6kJ
- 42.2kJ
- 84.5kJ

507. A sealed container contains water at 10°C and 0°C . if the system is thermally isolated, then what happens to the total energy of the system?

- It decreases
- It increases

- c. It increase then remains same
- d. It remains same

508. A succession of events which bring the system back to its initial condition is called

- a. Oscillation
- b. Vibration
- c. Cycle
- d. Circle

509. A temperature of 162 C is equivalent to what temperature in kelvins?

- a. -111 K
- b. 362 K
- c. 425K
- d. 111K

510. A thermally insulated rigid container contains an ideal gas. It is heated through a resistance coil of 100Ω by passing a current of A for five minutes, then change in internal energy of the gas is

- a. 0 kJ
- b. 10kJ
- c. 20 kJ
- d. 30 kJ

511. According to first law of thermodynamics,

- a. $dQ = dW - dU$
- b. $dQ = dU$
- c. $dQ = dU + dW$
- d. $dQ = dW$

512. Adiabatic process can be defined as

- a. $PV^\gamma = \text{constant}$
- b. $PV^\gamma = RT$
- c. $P / V^\gamma = \text{constant}$
- d. $PV^\gamma = nRT$

513. All changes which occur suddenly or which involve friction or dissipation of energy through conduction, convection

or radiation are:

- a. Irreversible changes
- b. Chemical changes
- c. Cyclic changes
- d. Reversible changes

514. Amount of heat supplied to 0.02 kg of nitrogen to raise its temperature by 45 degree is

- a. 935j
- b. 934j
- c. 967j
- d. 954j

515. an adiabatic change is the one is which:

- a. No heat is added to or taken out of a system
- b. No change of temperature takes place
- c. Boyle's law is applicable
- d. Pressure and volume remains constant

516. An ideal gas at 15.5 C and a pressure of 1.72×10^5 Pa occupies a volume of 2.81 m^3 . How many moles of gas are present

- a. 2.01 mol
- b. 21 mol
- c. 201 mol
- d. 2001 mol

517. An ideal gas at 15.5C and pressure of 1.72×10^5 Pa occupies a volume of 2.81 m^3 if the volume is raised to 4.16 m^3 and the temperature raised to 28.2 C, what will be the pressure of the gas?

- a. 121×10^5 Pa
- b. 1.21×10^5 Pa
- c. 1.21 Pa
- d. 121 Pa

518. An ideal gas has a volume of 20 ml, a temperature of 10°C and a pressure of

100 kPa. The volume of the gas is reduced to 10 ml and the temperature is raised to 20°C. what is the new pressure of the gas?

- a. 370 kPa
- b. 207 kPa
- c. 400 kPa
- d. 27 kPa

- 519.** An ideal gas is compressed to half of its initial volume. Which of these process would result in maximum work done?
- a. Adiabatic
 - b. Isobaric
 - c. Isochoric
 - d. Isothermal

- 520.** An ideal gas of N molecules are enclosed in a container at a constant pressure p . the graph between volume of gas and its absolute temperature is a straight line. What is the gradient of the graph?
- a. $N R$ ----- P
 - b. $N R P$
 - c. $N K$ ----- P
 - d. $N k p$

- 521.** An ideal reversible heat engine has
- a. 1 efficiency
 - b. Highest efficiency
 - c. An efficiency which depends on the nature of substance
 - d. None of these

- 522.** An ideal reversible heat engine is 1 efficient only if
- a. Hot reservoir is at 0K
 - b. Hot reservoir is at 0C
 - c. Cold reservoir is at 0C
 - d. Cold reservoir is at 0K

- 523.** Area of PV diagram gives
- a. Internal energy
 - b. Work done

- c. Entropy
- d. Heat

- 524.** Cyclic path is one in which initial state is equal to
- a. 2(final state)
 - b. Final state
 - c. 3(final state)
 - d. Not enough information

- 525.** Cyclic path is one in which initial state is equal to
- a. 2(final state)
 - b. Final state
 - c. 3 (final state)
 - d. Not enough information

- 526.** During adiabatic expansion internal energy decrease by 2, then work done in this process is
- a. 2j
 - b. 1j
 - c. -1j
 - d. -2j

- 527.** During an adiabatic process pressure of gas is found to be proportional to the cube of its temperature. The ratio of C_p/C_v is
- a. 2
 - b. 44319
 - c. 44257
 - d. 44289

- 528.** During an adiabatic process the pressure of the gas is found to be proportional to fourth power of temperature. The ideal gas would be
- a. H_2
 - b. He
 - c. CH_2
 - d. Mixture of H_2 and He

- 529.** During an isothermal process which of the following is true?

- a. Temperature increases
- b. Temperature decreases
- c. $dW = dQ$
- d. none of them

530. During an isothermal process which of the following is true?

- a. Temperature increases
- b. Temperature decreases
- c. $dW = dQ$
- d. none of them

531. Efficiency of heat engine in Terms of Temperature of reservoir and sink is defined as

- a. T_1/T_2
- b. $1+T_1/T_2$
- c. $1-T_1/T_2$
- d. T_2/T_1

532. Equal masses of paraffin and water are mixed in a container of negligible thermal capacity. Initial temperature of water is 80 C and that of paraffin is 20 C. the final temperature of mixture is

- a. 70C
- b. 60C
- c. 50C
- d. 40C

533. First law of thermodynamics is a special case fo

- a. Newton's law
- b. Charles's law
- c. Conservation of energy
- d. Conservation of entropy

534. First law of thermodynamics sate

- a. System can do work
- b. System has temperature
- c. System has pressure
- d. Heat is form of energy

535. For an adiabatic process, the first law of thermodynamics can be written as

- a. Work done by the system = decrease in internal energy of system
- b. Work done by the system = increase in internal energy of system
- c. Work done on the system = decrease in internal energy of system
- d. Work done on the system = decrease in internal energy of system + heat released

536. For an isothermal process, the first law of thermodynamics can be written as

- a. Heat absorbed = work done on the system
- b. Heat absorbed = work done by the system
- c. Heat released = work done by the system
- d. Heat released = work done by the system + change in internal energy

537. If dU and dW represent internal energy and work done then which is true?

- a. $dU = -dW$ in a adiabatic process
- b. $dU = dW$ in isothermal process
- c. $dU = dW$ in adiabatic process
- d. $dU = dW$ in isothermal process

538. If for a gas $dW = 0$, $dQ < 0$ then

- a. Temperature increases
- b. Pressure increases
- c. Pressure decreases
- d. Volume decreases

539. If heat given is 6 kcal and work done is 6 kJ, then internal energy is

- a. 19.1 kJ
- b. 25.2 kJ
- c. 25 kJ

d. Zero

540. If N is the number of molecules of a gas in a container. Then number of moles can be calculated as

- a. $AN + NA$
- b. $NA \text{ ----- } N$
- c. $N \text{ ----- } NA$
- d. $N * NA$

541. If $P = P_0$ and $V = V_0$ gas expands isothermally to $P = 3P_0$ then volume is

- a. $3V_0$
- b. $2V_0$
- c. $V_0/3$
- d. $V_0/2$

542. If Q , E and W are the parameters in cyclic process then

- a. $W = 0$
- b. $Q = 0 = W$
- c. $E = 0$
- d. $W = 0$

543. If system changes from a state $P_1 V_1$ to $P_2 V_2$ by two paths then quantity which remains unchanged is

- a. dQ
- b. dW
- c. $dQ - dW$
- d. $dQ + dW$

544. If the heat absorbed is 10 J and work done is 5 J , the change in internal energy is

- a. -5 J
- b. 10 J
- c. 15 J
- d. 5 J

545. If the system goes from two different paths to same final state then Q_1 and W_1 and Q_2 and W_2 are heat absorbed and work done then

- a. $Q_1 = Q_2$

b. $W_1 = W_2$

c. $Q_1 + W_1 = Q_2 + W_2$

d. $Q_1 - W_1 = Q_2 - W_2$

546. If the system goes from two different paths to same final state then change in internal energy for both system is ____

- a.
- b. Different
- c. May be same
- d. Not enough information

547. If the temperature of a reservoir of carnot engine working with efficiency 70% is 1000 K , then temperature of sink is

- a. 300 K
- b. 400 K
- c. 500 K
- d. 700 K

548. In adiabatic expansion

- a. $\Delta u = 0$
- b. $\Delta U = \text{negative}$
- c. $\Delta U = \text{positive}$
- d. $\Delta W = 0$

549. In Boyle's law, which quantity is constant

- a. P
- b. T
- c. V
- d. R

550. In the VT diagram slope of curve is

- a. R
- b. nR/P
- c. P
- d. R/P

551. In thermodynamics first law is related with

- a. Pressure conservation
- b. Entropy conservation
- c. Temperature conservation

d. Energy conservation	pressure is
552. In thermodynamics first law is related with	a. 2p
a. Pressure conservation	b. 1p
b. Entropy conservation	c. 3p
c. Temperature conservation	d. 4p
d. Energy conservation	558. Internal energy is ____ of path
553. In which of the following processes the heat is neither absorbed nor released by a system?	a. Independent
a. Isochoric	b. Dependent
b. Isothermal	c. Highly dependent
c. Adiabatic	d. Not enough information
d. Isobaric	559. Internal energy of the system depends on
554. In which process the net work done is zero	a. Initial and final states of the system and the path from initial to final state
a. Cyclic	b. Initial and final state of the system only
b. Free expansion	c. Initial state of the system and the path from initial to final state
c. Isochoric	d.
d. Adiabatic	560. Internal energy remains same throughout the process in
555. In which process the net work done is zero?	a. Adiabatic process
a. Cyclic	b. Isothermal process
b. Free expansion	c. Cyclic process
c. Isochoric	d. Both (i) and (ii)
d. Adiabatic	561. Isothermal process can be defined as
556. Initial pressure and volume are P and V respectively. first it expanded isothermally to 4V then compressed adiabatically to volume V, the final pressure is	a. $PV = \text{constant}$
a. 2P	b. $PV = RT$
b. 1P	c. $P/V = \text{constant}$
c. 3P	d. $P/V = nRT$
d. 4P	562. Isothermal system has constant
557. Initial pressure and volume are P and V respectively. first it expanded isothermally to 4V then compressed adiabatically to Volume V, the final	a. Temperature
	b. Pressure
	c. Entropy
	d. Energy conservation
	563. Molar mass of water is
	a. 0.018 kg/mol
	b. 0.108 kg/mol

- c. 0.027 kg/mol
d. 0.0638 kg/mol
- 564.** On a TS diagram which of the events have larger slope?
a. Isobaric process
b. Isochoric process
c. Isothermal process
d. None of them
- 565.** One kcal =
a. 4.18 j
b. 4180j
c. 2.09j
d. 2090j
- 566.** P-C diagram of a diatomic gas is a straight line passing through origin. What is the molar heat capacity of the gas in the process?
a. R
b. 1.5 R
c. 3R
d. 4R/3
- 567.** Slope of adiabatic (ks) and isothermal (kt) curve related as
a. $K_s = y k_t$
b. $K_s = k_t / y$
c. $K_s = k_t$
d. $K_s = 2 k_t$
- 568.** Temperature is defined by
a. First law of thermodynamics
b. Zeroth law of thermodynamics
c. Second law of thermodynamics
d. Third law of thermodynamics
- 569.** The Boltzmann's constant, k_B , is defined as
a. $N_A + R$
b. R/N_A
c. N_A / R
d. $N_A \cdot R$
- 570.** The efficiency of Carnot engine can

never be 1, because:

- a. We can not achieve the higher temperature
b. We do not have an ideal working substance
c. There is always energy losses
d. We need cold reservoir at absolute zero temperature, which is not available
- 571.** The efficiency of diesel engine is
a. 10% to 20%
b. 20% to 35%
c. 35% to 40%
d. 40% to 50%
- 572.** The efficiency of diesel engine is
a. 10% to 20%
b. 20% to 35%
c. 35% to 40%
d. 40% to 50%
- 573.** The efficiency of petrol engine is
a. 10% to 25%
b. 25% to 30%
c. 30% to 40%
d. 40% to 50%
- 574.** The efficiency of the heat engine can be defined as
a. Q_2 / Q_1
b. Q_1 / Q_2
c. $1 - Q_2 / Q_1$
d. $1 - Q_1 / Q_2$
- 575.** The efficiency of the heat engine can be defined as
a. Q_2 / Q_1
b. Q_1 / Q_2
c. $1 - Q_2 / Q_1$
d. $1 - Q_1 / Q_2$
- 576.** The efficiency of the heat engine can be increased by
a. Decreasing the temperature of

- high temperature reservoir
- Increasing the temperature of high temperature reservoir
 - Increasing the temperature of low temperature reservoir
 - Increasing the temperature of both temperature reservoir and low temperature reservoir

times greater than the work it performs. What fraction of the energy input is expelled to the cold reservoir?

- 0.25
- 0.75
- 1
- Impossible to determine

- 577.** The energy input to an engine is 4.00 times greater than the work it performs. What is its thermal efficiency?
- 4.00
 - 1.00
 - 0.25
 - Impossible to determine

- 582.** The energy input to an engine is 60 J, and the work it performs is 15 J. what fraction of the energy input is expelled to the cold reservoir?
- 0.25
 - 75%
 - 1%
 - Impossible to determine

- 578.** The energy input to an engine is 60 J, and the work it performs is 15 J. what fraction of the energy input is expelled to the cold reservoir?
- 0.25
 - 75%
 - 1
 - Impossible to determine

- 583.** The increase in temperature of the object is an indication of:
- Decrease in the internal energy
 - Increase in the internal energy
 - Increase in the potential energy only
 - Decrease in the kinetic energy only

- 579.** The energy input to an engine is 60 J, and the work it performs is 15 J. what fraction of the energy input is expelled to the cold reservoir?
- 0.25
 - 75%
 - 1
 - Impossible to determine

- 584.** The internal energy change in system that has absorbed 2kcal of heat and done 500J of work is
- 8900 j
 - 8800j
 - 7900j
 - 7500j

- 580.** The engine is supposed to work between 727 degree C and 227 degree C, then maximum possible efficiency is
- $1/2$
 - $1/4$
 - $3/4$
 - 1

- 585.** The pendulum of a certain pendulum clock is made of brass. When the temperature increases, what happens to the period of the clock?
- It increases
 - It decreases
 - It remains the same
 - It decreases with the square of temperature

- 581.** The energy input to an engine is 4.00

586. The sum of all forms of molecular energies (kinetic and potential) of a substance is termed as its:

- Absolute temperature
- Internal energy
- Potential energy
- Kinetic energy

587. The thermodynamics zeroth law is related with

- Work
- Energy
- Thermal equilibrium
- Entropy

588. The turbine in a steam power plant takes steam from boiler at 427°C and exhaust into a low temperature reservoir at 77°C . what is the maximum possible efficiency?

- 20%
- 25%
- 4%
- 50%

589. The value of Boltzmann's constant, k_B , is

- $8.314 \text{ J/mol}\cdot\text{K}$
- $1.38 \times 10^{-23} \text{ J/K}$
- $6.63 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$
- $1.6 \times 10^{-19} \text{ C}$

590. The value of triple point of water is

- 1 K
- 100 K
- 273.16 K
- 0 K

591. The value of universal gas, R , constant is

- $8.314 \text{ J/mol}\cdot\text{K}$
- $1.38 \times 10^{-23} \text{ J/K}$
- $6.63 \times 10^{-11} \text{ Nm}^2/\text{kg}^2$
- $1.6 \times 10^{-19} \text{ C}$

592. The work done can also be calculated

by

- Gradient of tangent of the, curve of P-V graph
- Area of the curve under P-V graph
- Area of the, curve under P-T graph
- Gradient of tangent of the, curve of P-T graph

593. Two containers hold an ideal gas at the same temperature and pressure. Both containers hold the same type of gas, but container B has twice the volume of container A. what is the average translational kinetic energy per molecule in container B?

- Twice that of container A
- The same as that of container A
- Half that of container A
- Impossible to determine

594. Two containers X and Y are filled with an ideal gas. X has 1 mol of gas and Y has 2 mol of gas. Volume of Y is four times that of X. pressure in Y is half that in X. what is temperature of gas in Y ----- temperature of gas in x

- 2
- 1
- 1 ----- 2
- 1 ----- 4

595. Two identical gases expands i) isothermally ii) adiabatically. Work done is more in

- Isothermal process
- Adiabatic process
- Neither of them
- Equal in both case

596. Two spheres are made of the same metal and have the same radius, but one

is hollow and the other is solid. The spheres are taken through the same temperature increase. Which sphere expands more?

- They expand by the same amount
- The hollow sphere expands more
- The solid sphere expands more
- There is not enough information to say

597. Under a cyclic path, internal energy after complete cycle is same as

- 2 (initial)
- Initial heat
- Initial internal energy
- Initial work

598. Under what condition of temperature and pressure does a real gas approximate to an ideal gas?

- Pressure = low temperature = low
- Pressure = low temperature = high
- Pressure = high temperature = low
- Pressure = high temperature = high

599. What does the constant N represent in the equation of state for an ideal gas $PV = NkT$?

- Number of molecules of gas
- Number of molecules of the gas
- Number of nucleons
- Number of protons

600. What does the constant N represent in the equation of state for an ideal gas $PV = NkT$?

- Number of molecules of gas
- Number of moles of the gas
- Number of nucleons

d. Number of protons

601. What is the internal energy change in system that has absorbed 800 J of heat and work done is 500J?

- 200J
- 550J
- 660J
- 300J

602. When an ideal gas of constant mass is heated in a container of fixed volume. What is the reason for the increase in pressure of the gas?

- Number of molecules per unit volume increases
- Molecules occupy greater volume of the container
- Average force per impact at the container wall increases
- Molecules collide with each other with greater force

603. When heat is given to isobaric process then

- Work is done by the gas
- Internal energy of gas decreases
- Both (a) and (b)
- None of them

604. When no heat enters or leaves the system, it is called

- Isothermal
- Adiabatic
- Isovolumetric
- Isobaric

605. When the amount of work done is 33 cal and internal energy is 167 cal then heat supplied is

- 167 cal
- 175 cal
- 500 cal
- 600 cal

- 606.** When we heat a substance, energy associated with its atomic or molecules is increased. It means
- Heat is converted to internal energy
 - Heat is converted to nonly potential energy of the particles
 - Heat is converted to only kinetic energy of the particles
 - Heat is converted to temperature of gas
- 607.** Which of the following about C_p and C_v is correct?
- $C_p + C_v = R$
 - $C_p = R - C_v$
 - $C_p + R = C_v$
 - $C_p = R + C_v$
- 608.** Which of the following cannot determine the state of thermodynamics system?
- P and V
 - P and T
 - T and V
 - P and R
- 609.** Which of the following cases (if any) required the greatest amount of heat? In each case the material is the same.
- 1.5 kg of the material is to be heated by 7.0°C
 - 3.0 kg of the material is to be heated by 3.5°C
 - 0.50 kg of the material is to be heated by 21°C
 - The amount of heat required is the same in ach of the three previous cases
- 610.** Which of the following is a thermodynamic coordinate
- P
 - T
 - V
 - R
- 611.** Which of the following is an assumption of the kinetic model of an ideal gas?
- Gas is at high pressur
 - Ecollision between particles are el
 - There are weak forces of attraction between particles in gas
 - Total energy of particles is proportional to the temerpature
- 612.** Which of the following is an example of isothermal process?
- The rapid escape of air from a burst tyre
 - The rapid expansion and compression of air through which a sound wave is passing
 - Cloud formation in the atmosphere
 - Slow compression or expansion of gas
- 613.** Which of the following is equivalent to a temerpautre 150K ?
- 123°C
 - -123°C
 - 423°C
 - -423°C
- 614.** Which of the following is equivalent to a temperature -150°C ?
- 123k
 - -123k
 - 423k
 - -423k
- 615.** Which of the following is equivalent to a temperature -50°C ?
- -223K

- b. 223K
- c. -323K
- d. 323 K

616. Which of the following is not an assumption for the kinetic model of an ideal gas?

- a. Particles collide elastically
- b. Kinetic energy of a given particle is same
- c. The duration of collision between molecules is very short
- d. Intermolecular potential energy of the molecules is zero

617. Which of the following is not an assumption of the kinetic model of an ideal gas?

- a. The size of the molecules is much smaller than the separation between molecules
- b. Molecules suffer negligible momentum change during wall collisions
- c. Molecules do not exert force on each other except during a collision.
- d. The gas molecules are in random motion and may change their direction of motion after every collision

618. Which of the following is not an assumption of the kinetic model of an ideal gas?

- a. Particles collide elastically
- b. Kinetic energy of a given particle is same
- c. The duration of collision between molecules is very short
- d. Intermolecular potential energy of the molecules is zero

619. Which of the following is not an assumption of the kinetic model of an ideal gas?

- a. Collisions between molecules and walls of container are elastic
- b. The duration of collision between molecules is very short
- c. All particles of gas have same speed
- d. All particles of gas have same mass

620. Which of the following is not an assumption of the kinetic model of an ideal gas?

- a. The size of the molecules is much smaller than the separation between molecules
- b. Molecules suffer negligible momentum change during wall collisions.
- c. Molecules do not exert force on each other except during a collision
- d. The gas molecules are in random and may change their direction of motion after every collision

621. Which of the following is not an example of an adiabatic process.

- a. The rapid escape of air from a burst tyre
- b. The rapid expansion and compression of air through which a sound wave is passing
- c. Cloud formation in the atmosphere
- d. Slow compression or expansion of a gas

622. Which of the following is the statement of the first law of thermodynamics?

- a. Difference between heat given to the system and work done by the system appears as internal energy of the system
- b. Difference between work done and change in internal energy is equal to the heat absorbed by the system
- c. Sum of heat absorbed and the increase in internal energy is equal to the work done by the system
- d. Sum of heat absorbed and the work done by the system is equal to the decrease in internal energy of the system

623. Which of the following process is reversible?

- a. Transfer of heat by radiation
- b. Electrical heating by nichrome wire
- c. Transfer of heat by conduction
- d. Isothermal compression

624. Which of the following statement is not true about heat engine?

- a. All real engines are less efficient than Carnot engine
- b. All real engines are less efficient due to friction and heat losses
- c. Efficiency of carnot engine working between same two tempratures, depends on the nature of working substance
- d. The larger the temperature difference of two reservoirs, the greater is the efficiency

625. Which of the terms is related with thermodynamics

- a. System

- b. Surrounding
- c. Boundary
- d. All of these

626. Which of this is constant in isochoric process?

- a. Total heat
- b. Work done
- c. Entropy
- d. Internal energy

627. Which of this is constant in isothermal process?

- a. Total heat
- b. Work done
- c. Entropy
- d. Internal energy

628. Which of this is constant is isochoric process?

- a. Total heat
- b. Work done
- c. Entropy
- d. Internal energy

629. Which one of the following is not the unit of heat

- a. Calories
- b. Joule
- c. Watt.sec
- d. Watt

630. Which one of the following process is irreversible?

- a. Slow compression of an elastic spring
- b. Slow evaporation of a substance in an idolated vessel
- c. Slow compression of a gas
- d. A chemical explosion

631. Which statement is incorrect?

- a. In a isobaric process $\Delta P = 0$
- b. In a isochoric process $\Delta W = 0$
- c. In a isothermal process $\Delta T = 0$

d. In a isothermal process ΔQ	d. 800
632. Work done in a isobaric process is given by a. PdT b. PdV c. VdP d. P^2dV	637. A 500 W electric heater is used to heat 1 kg of water without energy losses. The specific heat capacity of water is 4.2 kJ/kg K. what is the time taken to heat the water from 25°C to 75°C? a. 7 second b. 42 seconds c. 7 minutes d. 420 minutes
633. Work done in a isobaric process is given by a. PdT b. PdV c. VdP d. P^2dV	638. A heater is used for 5 minutes to heat 500g of water from 20°C to 50°C. what is the power of heater? Specific heat capacity of water is 4.2 J/g°C. a. 1260W b. 12.6 kW c. 210 kW d. 12.6 W
634. Work done in an adiabatic process of gas from T_1 to T_2 is a. $nR/(y-1)(T_1-T_2)$ b. $nR/(y-1)(T_2-T_1)$ c. $nR(T_2-T_1)$ d. $R(T_2-T_1)$	639. A liquid has mass m and specific heat capacity c . the rate of change in temperature of liquid is R . what is the rate at which heat is transferred from the liquid a. Rmc b. $R \text{ ----- } mc$ c. $Mc \text{ ----- } R$ d. $Rm \text{ ----- } c$
635. Specific heat and Molar specific heat/specific heat capacity 100 W heater is used to melt 50 g of ice at 0°C. how long should the heater be switched on? Specific latent heat of fusion of ice is 334 J/g. a. 28 mins b. 16.7 min c. 2.8 min d. 167 min	640. For ideal polyatomic gas molar specific heat is equal to a. 24.9 J/mol.K b. 12.9 J/mol.K c. 15 J/mol.K d. 16 J/mol.K
636. A 1.0 kW heater supplies energy to a liquid of mass 1 kg. the temperature of the liquid changes by 80 K in a time of 400 s. the specific heat capacity of the liquid is 4.0 kJ/kg·K. what is the average power lost by the liquid. a. 100 b. 200 c. 400	641. How much energy is required to raise the temperature of 5.00 kg of lead from 20.0°C to its melting point of 327°C? the specific heat of lead is 128 J/kg·°C a. $1.96 \times 10^5 \text{ J}$ b. $4.04 \times 10^5 \text{ J}$

c. $1.07 \times 10^5 \text{ J}$ d. $8.15 \times 10^4 \text{ J}$

642. If $1.002 \times 10^6 \text{ J}$ of thermal energy is required to melt some ice at its melting point, what is the mass of ice that melts? Specific latent heat of fusion of ice is 334 J/g

a. 1 kg

b. 2 kg

c. 3 kg

d. 4 kg

643. Initial mass of water, at its boiling point, is 0.8 kg, 4 kW of heater is used to boil it completely. Assuming the specific latent heat of vaporization of water is 2 MJ/kg , what is the time taken to vaporize all the water

a. 400s

b. 4000s

c. 250s

d. 2500s

644. Some ice, at its melting point, is added to $m \text{ kg}$ of water at initial temperature 290 K . If c is the specific heat capacity of water and L is latent heat of fusion of ice. Ice melts completely. Final temperature of the water is 273 K . What is the minimum mass of ice that is required?

a. $17 mc$ ----- L b. L ----- $17mc$ c. $17m$ ----- Lc d. $290m$ ----- Lc

645. Specific heat of water is

a. 1 J/K.g b. 4.18 J/Kg.K c. 4180 J/kg.K d. 2090 J/kg.K

646. Specific latent heat of fusion of ice is

334 J/g . how much energy is needed to melt 2 kg of ice at 0°C .

a. $6.68 \times 10^5 \text{ J}$ b. $6.68 \times 10^5 \text{ KJ}$ c. 668 J d. 668 kJ

647. Specific latent heat of fusion of ice is 334 J/g . how much energy is needed to melt 100 g of ice at 0°C .

a. 33.4 J b. 33.4 kJ c. 3.34 J d. 3.34 kJ

648. The amount of heat transfer required to raise the temperature of one mole of the gas through 1 K at constant pressure" is called:

a. The molar specific heat at constant pressure

b. Molar heat capacity

c. Specific latent heat

d. Specific heat capacity

649. The molar specific heat of a diatomic gas is measured at constant volume and found to be $29.1 \text{ J/mol}^\circ\text{K}$. What are the types of energy that are contributing to the molar specific heat?

a. Translation only

b. Translation and rotation only

c. Translation and vibration only

d. Translation, rotation and vibrational

650. The heat required to raise the temperature of one mole of the substance through 1 K is called

a. Specific latent heat

b. Molar heat capacity

c. Molar specific heat

d. Specific heat capacity

651. What are the units of the ratio: specific latent heat of vaporization of water -----
----- specific heat capacity of water
- K
 - 1 ----- K
 - K^2
 - No unit

652.

ELECTROSTATICS

653.

Coulomb's LAW

A particle carrying a charge $3e$, accelerates through a potential difference of 2V. the energy acquired by it is

- $1.6 \times 10^{-19} \text{ J}$
- $9.6 \times 10^{-19} \text{ J}$
- $9.6 \times 10^{-18} \text{ J}$
- $1.6 \times 10^{-18} \text{ J}$

654. A particle carrying a charge $3e$, accelerates through a potential difference of 2V. the energy acquired by it is
- 6eV
 - 1.5eV
 - 0.66eV
 - 12eV

655. A particle carrying a charge $3e$, accelerates through a potential difference of 2V. the energy acquired by it is
- $1.6 \times 10^{-19} \text{ J}$
 - $9.6 \times 10^{-19} \text{ J}$
 - $9.6 \times 10^{-18} \text{ J}$
 - $1.6 \times 10^{-18} \text{ J}$

656. A particle having the charge of 20 electrons on its falls through a potential

difference of 100 volts. calculate the energy acquired by it in electron volt (ev).

- $2.0 \times 10^{-2} \text{ eV}$
- $2.0 \times 10^{-3} \text{ eV}$
- $2.0 \times 10^2 \text{ eV}$
- $2.0 \times 10^3 \text{ EV}$

657. Aluminium is

- An excellent conductor
- A semiconductor
- An insulator
- A photoconductor

658. Coulomb force is a

- Short range of force
- Long range force
- Medium range force
- None of these

659. Coulomb per volt is called

- Ampere
- Electron volt
- Joule
- Farad

660. Coulomb's law is only applicable for

- Big charges
- Small charges
- Point charges
- Any charges

661. Coulomb's law is only applicable for

- Big charges
- Small charges
- Point charges
- Any charges

662. Coulomb's law is true for

- Atomic distance
- Nuclear distance
- Charge as well as uncharged particle
- All the distances

663. If the magnitude of charges on two



point objects and the distance between them is doubled, then force will be

- a. Two times
- b. Four times
- c. Unchanged
- d. Halved

664. If two point charges of charge q_1 and q_2 are placed at distance d . the force between them is proportional to:

- a. D
- b. D^2
- c. $1/d$
- d. $1/d^2$

665. One coulomb charge is carried by

- a. 6.25×10^{18}
- b. One electron
- c. One proton
- d. 1.6×10^{19}

666. One of the following is a photoconductor?

- a. Silver
- b. Gold
- c. Selenium
- d. Mercury

667. Photocopier and ink-jet printer are application of

- a. Electrostatics
- b. Magnetism
- c. Thermal physics
- d. Quantum physics

668. Photocopier and ink-jet printer re application of

- a. Electrostatics
- b. Magnetism
- c. Thermal physics
- d. Quantum physics

669. The coulomb constant is defined as

- a. $1/(4\pi\epsilon\epsilon_0)$
- b. $4/(\pi\epsilon\epsilon_0)$

c. $4\pi\epsilon\epsilon_0$

d. $\pi/(4\epsilon\epsilon_0)$

670. The distance between two point charges if halved, the force between them would be

- a. Half
- b. Double
- c. One fourth
- d. Four times

671. The force between two charges Q and q , separated by a distance d is F . what will be the force between them when distance between them is $d/2$?

- a. $4F$
- b. $2F$
- c. F
- d. $F/2$

672. The force between two charges Q and q , separated by a distance d is F . what will be the force between $4Q$ and $q/2$?

- a. $2F$
- b. $4F$
- c. F
- d. $F/2$

673. The force between two charges Q and q , separation by a distance d is F . what will be the force between them when distance between them is $d/2$?

- a. $4F$
- b. $2F$
- c. F
- d. $F/2$

674. The greek word "xeros" and "graphos" means

- a. Sharp graphics
- b. Dry writing
- c. Wet writing
- d. Wet graphics

675. The minimum charge on an object can

not be less than

- a. $1.6 \times 10^{-19} \text{ C}$
- b. $9 \times 10^9 \text{ C}$
- c. $9.1 \times 10^{-31} \text{ C}$
- d. $1.6 \times 10^{-27} \text{ C}$

676. The minimum indivisible unit of charge is

- a. One coulomb
- b. Charge on one alpha particle
- c. Charge on one proton
- d. One micro coulomb

677. The number of electrons taken out from a body to produce 1 coulomb of charge will be

- a. 6.25×10^{18}
- b. 625×10^{18}
- c. 6.023×10^{23}
- d. None of these

678. The value for ϵ_r for air is

- a. 1.6
- b. 1.06
- c. 1.006
- d. 1.0006

679. The value of coulomb constant is

- a. $9 \times 10^9 \text{ Nm}^2$
- b. $9 \times 10^9 \text{ Nm}^2 / \text{C}^2$
- c. $9 \times 10^{-9} \text{ Nm}^2 / \text{C}^2$
- d. $9 \times 10^{-9} \text{ Nm}^2$

680. The value of K depends upon

- a. Charges
- b. System of units and medium
- c. The distance between charges
- d. Nature of medium

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- a. Charges
- b. System of units and medium
- c. The distance between charges
- d. Nature of medium

682. The value of permittivity of free space is

- a. $8.85 \times 10^{-12} \text{ C}^2 / (\text{N.m}^2)$
- b. $8.85 \times 10^{-12} (\text{N.m}^2) / \text{C}^2$
- c. $9.9 \times 10^{-12} \text{ C}^2 / (\text{N.m}^2)$
- d. $9.9 \times 10^{22} \text{ C}^2 / (\text{N.m}^2)$

683. The value of permittivity of material, other than air or space is

- a. Greater than unity
- b. Less than unity
- c. Equal to unity
- d. Zero

684. Three charges $+3q$, $+q$ and Q are placed on a straight line with equal separation. In order to make the net force on q to be zero, the value of Q will be

- a. $3q$
- b. $2q$
- c. $4q$
- d. $5q$

685. Three charges $+3q$, $+q$ and Q are placed on a straight line with equal separation. In order to make the net force on q to be zero, the value of Q will be

- a. $3q$
- b. $2q$
- c. $4q$
- d. $5q$

686. Three objects are brought close to each other, two at a time. When objects A and B are brought together, they repel. When objects B and C are brought together, they also repel. Which of the following are true?

- a. Objects A and C possess charge of the same sign, but not B
- b. Objects A and C possess charges of opposite sign
- c. All objects possess charges of the same sign
- d. One object is neutral

687. Three objects are brought close to one another two at a time. When objects A and B are brought together, they attract. When objects B and C are brought together, they repel. Which of the following are necessarily true?
- Object A and C possess charges of the same sign
 - Objects A and C possess charges of opposite sign
 - All three objects possess charges of the same sign
 - Additional experiments must be performed to determine information about the charges on the objects
688. Two point charges are at the distance d , if force between these two charges is F , then what is the force between charges when the distance between them is $3d$?
- F ----- 3
 - F ----- 9
 - F ----- $3d$
 - F ----- $9d$
689. What is the change in kinetic energy of a proton when it is accelerated through a potential difference of 2MV?
- $0.32 \mu\text{J}$
 - 0.32 nJ
 - 0.32 pJ
 - 0.32 fJ
690. **Electric Field Electric field and its intensity + Electric potential**
A portion has mass m and charge q , it is suspended in Electric and gravitational field. What is the magnitude field?
- $E = m \cdot g / q$
 - $E = m \cdot g / q \cdot v$
 - $E = m \cdot g / q \cdot v \cdot B$
 - $E = q / m \cdot g$
691. A positive point charge q_1 creates an Electric field of magnitude E_1 at a spot located at a distance r_1 from the charge. The charge is replaced by another positive point charge q_2 , which creates a field of magnitude $E_2 = E_1$ at a distance of $r_2 = 2r_1$. How is q_1 related to q_2 ?
- $Q_2 = 4q_1$
 - $Q_2 = 2q_1$
 - $Q_2 = 0.2 q_1$
 - $Q_2 = 0.25 q_1$
692. A test charge of $23 \mu\text{C}$ is at a point P where an external Electric field is directed to the left and has a magnitude of $3.1 \times 10^6 \text{ N/C}$. if the test charge is replaced with another test charge of $13 \mu\text{C}$, what happens to the external Electric field at P?
- It remains same
 - It reverse direction
 - It changes in a way that cannot be determined
 - $3.1 \times 10^5 \text{ N/C}$
693. A charge is moving with velocity v , it enters a uniform Electric field E . the direction of v and E are not parallel. What is the path of the charge particle inside the Electric field?
- Parabolic
 - Circular
 - Parallel to v
 - Parallel to E
694. A negative point charge is moving along a circular orbit around a positive point charge. Which aspect(s) of the Electric force on the negative point charge will

remain constant as it moves?

- a. Direction
- b. magnitude
- c. both direction and magnitude
- d. neither direction and magnitude

695. A negative point charge is moving along a circular orbit around a positive point charge. Which aspect(s) of the Electric force on the negative point charge will remain constant as it moves?

- a. Direction
- b. Magnitude
- c. Both direction and magnitude
- d. Neither direction and magnitude

696. An Electron is held within Electric field. What happens when electron is released?

- a. It moves in the direction of Electric field
- b. It accelerates in the direction of Electric field
- c. It moves in the direction opposite to Electric field
- d. It accelerates in the direction opposite to Electric field

697. An object has mass and charge. It is moving in the direction of some field. Which type of field exerts a force on the object?

- a. Electric and magnetic fields only
- b. Magnetic and gravitational fields only
- c. Electric and gravitational fields only
- d. Electric, magnetic and gravitational fields

698. Consider a charge q is placed in a region where both Electric and magnetic fields are present. The charge will experience.

- a. Both Electric and magnetic forces
- b. Only Electric force
- c. Only magnetic force
- d. No force at all

699. Consider a negative point charge is moving along a straight-line path directly toward a stationary positive point charge. Which aspect(s) of the Electric force on the negative point charge will remain constant as it moves

- a. Direction
- b. Magnitude
- c. Both direction and magnitude
- d. Neither direction and magnitude

700. $E = F/q$ is the formula for?

- a. Electrical field strength
- b. Electric field intensity
- c. Both of them
- d. None of them

701. Electric field at a point varies as r^0 for

- a. A plane infinite sheet of charge
- b. A point charge
- c. Electric dipole
- d. Line charge of infinite length

702. Electric field at the centre of square when $1\mu\text{C}$ charge are placed at its each corner is

- a. Zero
- b. 2 volt/m
- c. 2 volt/m
- d. 4 volt/m

703. Electric field lines

- a. Never cross each other
- b. Can cross each other
- c. Depends on shape of charge
- d. Not enough information

704. Electric field lines

- a. Never cross each other
- b. Can cross each other

- c. Depends on shape of charge
d. Not enough information
- 705.** Electric field lines due to a negative charge are
a. Always horizontal
b. Always vertical
c. Radially towards the charge
d. Radially away from the charge
- 706.** Electric field lines due to a positive charge are
a. Always horizontal
b. Always vertical
c. Radially towards the charge
d. Radially away from the charge
- 707.** Electric field lines provide information about
a. Field strength
b. Direction
c. Nature of charge
d. All of these
- 708.** Electric intensity and Electric potential are related as
a. Electric field intensity is equal to the negative of the gradient of Electric potential
b. Electric field intensity is equal to the gradient of Electric potential
c. Electric field intensity is equal to the square of the gradient of Electric potential
d. Electric field intensity is equal to the twice of the gradient of Electric potential
- 709.** Electric intensity at the centre of uniformly distributed charge is
a. Zero
b. Kq/r^2
c. q/r^2
d. q/ϵ_0
- 710.** Electric intensity at the centre of uniformly distributed charge is
a. Zero
b. Kq/r^2
c. q/r^2
d. q/ϵ_0
- 711.** Electric potential difference between the two points can be defined as
a. Difference of the kinetic energy per unit charge
b. Difference of the kinetic energy
c. Difference of the potential energy per unit charge
d. Difference of the potential energy
- 712.** Electric potential energy per unit charge is
a. Electric flux
b. Electric field
c. Electric potential
d. Electric intensity
- 713.** Electrostatic force is
a. Non conservative
b. Conservative
c. Depends on shape of charge
d. None of these
- 714.** Farad is defined as
a. Newton / volt
b. Coulomb / volt
c. Coulomb / joule
d. Coulomb / newton
- 715.** Find the Electric field strength required to hold suspended a particle of mass 10^{-6} kg and charge $1.0\mu\text{C}$ between two plates 10.0 cm apart.
a. 0.98 V/m
b. 980 V/m
c. 9.8 V/m
d. 98 V/m
- 716.** For static Electric field

- a. $\nabla \times E = 0$
- b. $\nabla \cdot E = 0$
- c. $(\nabla \times E) \times E = 0$
- d. $\nabla \cdot |E|^2 = 0$

717. Force acting on a negative charge is always

- a.
- b. In the direction of Electric field
- c. In the direction perpendicular to Electric field
- d. In the direction perpendicular to the velocity of charge

718. Force acting on a negative charge is always

- a. In the direction opposite to Electric field
- b. In the direction of Electric field
- c. In the direction perpendicular to Electric field
- d. In the direction perpendicular to the velocity of charge

719. Force on a proton of charge $2e$ in a magnetic field of B at 45° while moving with 2 m/s is

- a. $2\sqrt{2} eB$
- b. $4eB$
- c. $2eV$
- d. eB

720. Force on a static charge q in uniform Electric field E is

- a. qE
- b. $-qE$
- c. qE^2
- d. $-qE^2$

721. Negative of potential gradient is equal to

- a. Electricity intensity
- b. Electric flux
- c. Magnetic intensity

d. Magnetic flux

722. Formula for Electric field intensity is

- a. $E = F/q$
- b. $E = 3F/2q$
- c. $E = F/3q$
- d. None of them

723. Object A has a charge of 15 mC , and object B has a charge of 10 mC . Which statement is true about the Electric force on the objects?

- a. $F_{AB} = -3F_{BA}$
- b. $F_{AB} = -F_{BA}$
- c. $3 F_{AB} = -F_{BA}$
- d. $-3 F_{AB} = 2 F_{BA}$

724. Oil droplets of mass m and charge q are dropped between two horizontal parallel plates, air resistance is negligible. The droplets are falling at constant velocity when Electric field strength between the plates is E . which of the following is true?

- a. $E = 0$
- b. $E < mg / q$
- c. $E = mg / q$
- d. $E > mg / q$

725. Static charge always creates

- a. Electric field and magnetic field
- b. Electromagnetic wave
- c. Electric field
- d. Both a) and b)

726. The Electric field inside a spherical shell of uniform surface charge density is

- a. Zero
- b. Infinite
- c. Constant less than zero
- d. Directly proportional to distance

727. The Electric field inside a spherical shell of uniform surface charge density is

- a. Zero

<p>b. Infinite</p> <p>c. Constant less than zero</p> <p>d. Directly proportional to distance</p>	<p>b. Electric potential</p> <p>c. Electric energy</p> <p>d. Electric flux</p>
<p>728. The Electric intensity between two oppositely charged Electric plates is</p> <p>a. $E = \epsilon\epsilon_0 / \sigma$</p> <p>b. $E = \sigma + \epsilon\epsilon_0$</p> <p>c. $E = \sigma / \epsilon\epsilon_0$</p> <p>d. $E = \sigma \epsilon\epsilon_0$</p>	<p>733. The SI unit of Electric intensity is</p> <p>a. Volt / meter</p> <p>b. Newton / meter</p> <p>c. Tesla coulomb / meter</p>
<p>729. The Electric potential at infinite distance is</p> <p>a. Infinity</p> <p>b. zero</p> <p>c. positive</p> <p>d. negative</p>	<p>734. The study of Electric charges at rest in Electric field is known as</p> <p>a. Electromagnetism</p> <p>b. Quantum physics</p> <p>c. Quantum physics</p> <p>d. Magnetism</p>
<p>730. The Electric potential difference between two points A and B in an Electric field can be defined as</p> <p>a. Work done in carrying a unit positive charge from infinity to B while keeping the charge in equilibrium.</p> <p>b. Work done in carrying a unit positive charge from A to infinity while keeping the charge in equilibrium.</p> <p>c. Work done in carrying a unit positive charge from A to B while keeping the charge in equilibrium.</p> <p>d. Work done in carrying a unit positive charge from A to B</p>	<p>735. The unit of Electric field strength is</p> <p>a. V / C</p> <p>b. N / C</p> <p>c. N / V</p> <p>d. N m</p>
<p>731. The electron volt is the unit of</p> <p>a. Electric current</p> <p>b. Electric potential</p> <p>c. Electric energy</p> <p>d. Electric flux</p>	<p>736. The unit of Electric flux density is</p> <p>a. N/C</p> <p>b. V/m</p> <p>c. Nm</p> <p>d. A and B</p>
<p>732. The electron volt is the unit of</p> <p>a. Electric current</p>	<p>737. The units of Electric intensity are</p> <p>a. Volt / meter or newton / coulomb</p> <p>b. Volt / meter or meter / coulomb</p> <p>c. Volt / coulomb or newton / coulomb</p> <p>d. Joule / meter or newton / coulomb</p> <p>738. The presence of diElectric between two charged particles:</p> <p>a. Reduces the electrostatic force</p> <p>b. Increases the electrostatic force</p> <p>c. Does not change electrostatic force</p> <p>d. Doubles the electrostatic force</p> <p>739. The ratio : gravitational force -----</p>

-- is always: Electric force

- a. Greater than unity
- b. Less than unity
- c. Equal to unity
- d. Zero

740. What is the acceleration of an object having charge $2\mu\text{C}$ and mass 2 g moving through Electric field strength 20 N/C?

- a. 4 cm/s^2
- b. 2 cm/s^2
- c. 40 cm/s^2
- d. 20 cm/s^2

741. Two equal and opposite charges separated by a small distance are said to constitute.

- a. A magnetic dipole
- b. An Electric dipole
- c. A couple
- d. An ion

742. Which of the following statements is correct? The Electric field at a point is

- a. Continuous if there is a charge at that point
- b. Always continuous
- c. Discontinuous only if there is a negative charge at that point
- d. Discontinuous if there is a charge at that point

743.

Capacitors, its capacitance and charging

A 18.0 V battery is connected to a Capacitor, resulting in $27.0\text{ }\mu\text{C}$ of charge stored on the Capacitor. How much energy is stored in the Capacitor?

- a. $2.43 \times 10^{-4}\text{ J}$
- b. $4.86 \times 10^{-4}\text{ J}$
- c. $2.43 \times 10^{-2}\text{ J}$
- d. $4.86 \times 10^{-2}\text{ J}$

744. A Capacitor can store its energy in its

- a. Magnetic field
- b. Parallel plate
- c. Electric field
- d. Coil

745. A Capacitor of capacitance C is connected with resistance R . the time constant of the circuit would be:

- a. RC
- b. R/C
- c. $E^{\wedge}RC$
- d. $R+C$

746. A Capacitor stores $5.3 \times 10^{-5}\text{ C}$ of charge when connected to a 6.0 -V battery. How much charge does the Capacitor store when connected to a 9.0-V battery?

- a. $79.5\text{ }\mu\text{C}$
- b. $35.3\text{ }\mu\text{C}$
- c. 79.5 pC
- d. 35.3 pC

747. A Capacitor stores charge Q at a potential difference ΔV . What happens if the voltage applied to the Capacitor by a battery is doubled to $2\Delta V$?

- a. The capacitance falls to half its initial value, and the charge remains the same
- b. The capacitance and the charge both fall to half their initial values
- c. The capacitance and the charge both double
- d. The capacitance remains the same, and the charge doubles

748. Consider a Capacitor has vacuum in the space between the conductors. If we double the amount of charge on each conductor, what happens to the capacitance?

- a. It increase

- b. It decreases
- c. It remains same
- d. It depends on the size or shape of the conductors

749. Consider two Capacitors with capacitance $2\mu F$ and $4\mu F$. With which type of connection will the $2\mu F$ Capacitor have a greater amount of stored energy than the $4\mu F$ Capacitor?

- a. Series
- b. Parallel
- c. Either series nor parallel
- d. Neither series nor parallel

750. Consider two Capacitors with capacitance $2\mu F$ and $4\mu F$. With which type of connection will be $4\mu F$ Capacitor have a greater amount of stored energy than the $2\mu F$ Capacitor?

- a. Series
- b. Parallel
- c. Either series nor parallel
- d. Neither series nor parallel

751. For a parallel plate Capacitor, the energy density is

- a. $\frac{1}{2} \epsilon \epsilon_r \epsilon_0 E$
- b. $\frac{1}{2} \epsilon \epsilon_r \epsilon_0 E^2$
- c. $\epsilon \epsilon_r \epsilon_0 E$
- d. $\epsilon \epsilon_r \epsilon_0 E^2$

752. The capacitance of a Capacitor is a measure of its ability to

- a. Store charge
- b. Store Electric field
- c. Gain potential difference
- d. Store magnetic field

753. The capacitance of parallel plate Capacitor can be written as

- a. $A \text{ ----- } d$
- b. $A \epsilon \epsilon_0 \text{ ----- } d$
- c. $A \epsilon \epsilon_0 \text{ ----- } 2d$

d. $A \epsilon \epsilon_0 \text{ ----- } d^2$

754. Which two or more of the following actions would increase the energy stored in a parallel plates Capacitor when a constant potential difference is applied across the plates?

- a. Decreasing the area of the plates decreasing the separation between the plates
- b. Decreasing the area of the plates increasing the separation between the plates inserting a diElectric between the plates
- c. Increasing the area of the plates decreasing the separation between the plates inserting a diElectric between the plates
- d. Increasing the area of the plates increasing the separation between the plates

755. Which two or more of the following actions would increase the energy stored in a parallel plate Capacitor when a constant potential difference is applied across the plates?

- a. Decreasing the area of the plates decreasing the separation between the plates
- b. Decreasing the area of the plates increasing the separation between the plates inserting a diElectric between the plates
- c. Increasing the area of the plates decreasing the separation between the plates inserting a diElectric between the plates
- d. Increasing the area of the plates increasing the separation between the plates

- 756.** You have three Capacitors, each of $2\ \mu\text{C}$. In which of the following combinations of the three Capacitors, the resultant capacitance is $5\ \mu\text{C}$?
- All three Capacitors in series
 - Two Capacitors are in series, one in parallel
 - Two Capacitors are in parallel, one in series
 - All three Capacitors in parallel
-
- 757.** You have three Capacitors, each of $2\ \mu\text{C}$. In which of the following combinations of the three Capacitors, the resultant capacitance is $3\ \mu\text{C}$?
- All three Capacitors in series
 - Two Capacitors are in series, one in parallel
 - Two Capacitors are in parallel, one in series
 - All three Capacitors in parallel
-
- 758.** You have three Capacitors, each of $2\ \mu\text{C}$. In which of the following combinations of the three Capacitors, the resultant capacitance is $5\ \mu\text{C}$?
- All three Capacitors in series
 - Two Capacitors are in series, one in parallel
 - Two Capacitors are in parallel, one in series
 - All three Capacitors in parallel
-
- 759.** You have three Capacitors, each of $3\ \mu\text{C}$. In which of the following combination of the three Capacitors, the resultant capacitance is $1\ \mu\text{C}$?
- All three Capacitors in series
 - Two Capacitors are in series, one in parallel
 - Two Capacitors are in parallel, one in series
 - All three Capacitors in parallel
-
- 760.** You have two identical Capacitors. They can be connected in series or in parallel. If you want to smallest equivalent capacitance for the combination, how should you connect them?
- In parallel
 - In series
 - Either way because both combinations have the same capacitance
 - We can not determine, because presence of resistance in the circuit determines capacitance
-
- 761.** What is the energy stored in a Capacitor of capacitance $2\ \mu\text{F}$ and potential difference between the plates is 12V ?
- $12\ \text{J}$
 - $24\ \text{J}$
 - $6\ \text{J}$
 - $1/6\ \text{J}$
-
- 762.** What voltage is required to store $7.2 \times 10^5\ \text{C}$ of charge on the plates of a $6.0\ \mu\text{F}$ Capacitor?
- $12\ \text{V}$
 - 43.2V
 - 1.2V
 - 432V
-
- 763.** The energy stored in a parallel plate Capacitor is $24\ \text{J}$. what is the potential difference between the plates if the capacitance of the Capacitor is $3\ \mu\text{F}$?
- 3kV
 - $16\ \text{kV}$
 - $54\ \text{kV}$
 - $8\ \text{kV}$
-
- 764.** The increase in the capacitance of a Capacitor due to the presence of Electric is due to

- a. Electric polarization of dielectric
- b. Density of dielectric
- c. Volume of dielectric
- d. Magnetic dipole moment

765. Time constant is defined as the time required by the Capacitor

- a. To deposit 63% of the equilibrium charge
- b. To deposit 36% of the equilibrium charge
- c. To deposit 63 times of the equilibrium charge
- d. To deposit 36 times of the equilibrium charge

766. If the potential difference across the two plates of a parallel plate Capacitor is doubled, then energy stored in the Capacitor would be

- a. Remains same
- b. Two times
- c. Four times
- d. Three times

767. Many computer keyboard buttons are constructed using Capacitors. When a key is pushed down, the soft insulator between the movable plate and the fixed plate is compressed. When the key is pressed, what happens to the capacitance?

- a. It increases
- b. It decreases
- c. It remains same
- d. It changes in a way you cannot determine because of the complex circuit

768.

CURRENT ELECTRICITY

769.

Current, Resistance, Resistivity and Ohm's Law

Which one of the following is a disadvantage of a potentiometer over a voltmeter?

- a. It can measure the internal resistance of a cell
- b. It can measure the e.m.f of a cell
- c. It is heavy and not portable
- d. It can measure accurately very small PD. Of the order of few microvolt

770. The resistance of a human body is about

- a. 12 ohm
- b. 120 ohm
- c. 120 K ohm
- d. 120 M ohm

771. The condition for the validity under Ohm's law is that

- a. Resistance must be uniform
- b. Current should be proportional to the size of the resistance
- c. Resistance must be wire wound type
- d. Temperature at positive end should be more than the temperature at negative end

772. If a cell of emf 2V and internal resistance 0.5 ohm is connected across a resistance R, the current that flows is same as that when a cell of emf 1.5 V and internal resistance 0.3 ohm is connected across the same resistor.

Then R = ____ ohm.

- a. 0.3
- b. 0.6
- c. 0.5
- d. 0.75

773. The resistance of a conductor at absolute zero (0 K) is
 a. Almost zero
 b. Almost infinite
 c. No prediction at all
 d. May increase or decrease
774. $1/R_{eq} = 1/R_1 + 1/R_2 + 1/R_3 + \dots + 1/R_n$ is the combination is
 a. Series
 b. Parallel
 c. Both of them
 d. None of them
775. Which of the following has a negative temperature coefficient of resistance?
 a. Tungsten
 b. Carbon
 c. Nichrome
 d. Platinum
776. Calculate the time taken for the charges to complete the circuit if the total charge were 5000 Coulomb and the current of the circuit was 20 Amp?
 a. 250 seconds
 b. 350 seconds
 c. 400 seconds
 d. 500 seconds
777. In order to achieve high accuracy, the slide wire of a potentiometer should be
 a. As long as possible
 b. As short as possible
 c. Neither too small nor too large
 d. Very thick
778. In a conductor, if 6-coulomb charge flows for 2 seconds. The value of electric current will be
 a. 3 ampere
 b. 3 volts
 c. 2 amperes
 d. 2 volts
779. What is the SI unit of potential difference?
 a. Volts
 b. Coulomb
 c. Meter
 d. Newton's
780. Current from ohm's law
 a. $I = VR$
 b. $V \propto I$
 c. $V = IR$
 d. Both b and c
781. Two copper conductor have equal length. The cross-sectional area of one conductor is four times that of the other. If the conductor having smaller cross-sectional area has a resistance of 40 ohms the resistance of other conductor will be
 a. 160 ohm
 b. 80 ohm
 c. 20 ohm
 d. 10 ohm
782. The temperature coefficient of resistance is expressed in
 a. $^{\circ}C$
 b. $^{\circ}C^{-1}$
 c. $M^{\circ}C^{-1}$
 d. None of these
783. Value of current in a short circuit is
 a. Infinite
 b. Zero
 c. Minimum
 d. Maximum
784. Four 100 W bulbs are connected in parallel across 200 V supply line. If one bulb get fused
 a. No bulb will light
 b. All the four bulbs will light
 c. Rest of three bulb will light

d. Above b and c

785. The current passing through a resistor in a circuit is 1 A when the voltage across the same resistor is 10 V. what is the value of current when the voltage across the resistor is 8 V?

- a. 0.8A
- b. 8A
- c. 80A
- d. 18A

786. As compared in thin wires, thick wires have

- a. More resistance
- b. No resistance
- c. Less resistance
- d. Same resistance

787. Two wires of copper are of the same length but have different diameters. When they are connected in series across a battery, the heat generated is H_1 when connected in parallel across the same battery, the heat generated during the same time is H_2 then:

- a. $H_1 = H_2$
- b. $H_1 < H_2$
- c. $H_1 > H_2$
- d. $H_1 > H_2$

788. A wire has a resistance of 5.5Ω at 190°C and 21.5Ω at 200°C . Find the temperature coefficient of resistivity (a) of the material

- a. 0.016 per degree Celsius
- b. 32 per degree Celsius
- c. 0.018 per degree Celsius
- d. 0.00106 per degree Celsius

789. Ohm's law is applicable only when temperature remains

- a. Changing
- b. Absolute zero

- c. Constant
- d. None of these

790. Ohm's law is valid when the temperature of conductor is

- a. Very low
- b. Very high
- c. Varying
- d. Constant

791. Terminal potential difference of a cell

- a. Increases with increases in its internal resistance
- b. Decrease with increase in internal resistance
- c. Is independent of its internal resistance
- d. None of these

792. Resistivity of a wire is ____ ohm-m if 0.75 A current flows through it by applying 1.5V potential difference, take length and cross section as 5m and $2.5 \times 10^{-7} \text{ m}^2$.

- a. 1×10^{-7}
- b. 2.63×10^{-8}
- c. 19×10^{-8}
- d. 7.85×10^{-8}

793. Two wires of copper are of the same length but have different diameters. When they are connected in series across a battery, the heat generated is H_1 when connected in parallel across the same battery, the heat generated during the same time is H_2 then:

- a. $H_1 = H_2$
- b. $H_1 < H_2$
- c. $H_1 > H_2$
- d. $H_1 > H_2$

794. Resistivity of a wire is ____ ohm-m if 0.75 A current flows through it by applying 1.5V potential difference, take

length and cross section as 5m and $2.5 \times 10^{-7} \text{ m}^2$.

- a. 1×10^{-7}
- b. 2.63×10^{-8}
- c. 19×10^{-8}
- d. 7.85×10^{-8}

795. In parallel voltage remains?

- a. Same
- b. Different
- c. Both of them
- d. None of them

796. The specific resistance of a conductor increases with

- a. Increase in temperature
- b. Increase in cross-sectional area
- c. Decrease in length
- d. Decrease in cross-sectional area

797. Reciprocal of resistivity is called

- a. Resistance
- b. Inductance
- c. Conductivity
- d. Flexibility

798. If a current of 5 amperes flow through the conductor. The number of electrons per second will is

- a. 1.6×10^{-19}
- b. 3.12×10^{19}
- c. 4×10^{19}
- d. 7.68×10^{20}

799. Resistance of a conductor depends upon

- a. Temperature
- b. Nature of conductor
- c. Length
- d. None of them

800. Find the resistance if voltage of the circuit is 45 volts and current 30 Amp?

- a. 1.6 ohm
- b. 1.5 ohm
- c. 1.7 ohm

d. 1.8 ohm

801. If the length of a potentiometer wire is doubled, the accuracy in determining the null point _____

- a. Is increased
- b. Is decreased
- c. Remains constant
- d. May increase or decrease

802. The sensitivity of a potentiometer can be increased by

- a. Increasing the e.m.f. of the primary cell
- b. Increasing the potential gradient
- c. Increasing the length of the potentiometer wire
- d. Decreasing the length of the potentiometer wire

803. Reciprocal of resistivity is called

- a. Resistance
- b. Inductance
- c. Conductivity
- d. Flexibility

804. An apparatus which is used to measure current voltage and resistance

- a. multimeter
- b. ammeter
- c. galvanometer
- d. voltmeter

805. Copper wire is used as connected wire because

- a. Copper has high electrical resistivity
- b. Copper has low electrical resistivity
- c. Copper has low electrical conductivity
- d. Copper has high value of elasticity

806. $R_{eq} = R_1 + R_2 + R_3 + \dots + R_n$ is the

combination in

- a. Series
- b. Parallel
- c. Both of them
- d. None of them

807. Wire of uniform area of cross-section A and length L is cut into two equal parts, the resistivity of each part is

- a. Double
- b. Half
- c. Remains the same
- d. Increase three times

808. Microvolt is

- a. $1 \times 10^{-3} \text{ V}$
- b. $1 \times 10^{-4} \text{ V}$
- c. $1 \times 10^{-5} \text{ V}$
- d. $1 \times 10^{-6} \text{ V}$

809. Resistivity of a wire is ____ ohm-m if 0.75 A current flows through it by applying 1.5 V potential difference, take length and cross section as 5m and $2.5 \times 10^{-7} \text{ m}^2$.

- a. 1×10^{-7}
- b. 2.63×10^{-8}
- c. 19×10^{-8}
- d. 7.85×10^{-8}

810. The current passing through a conductor is directly proportional to the potential difference applied across its terminals, provided the temperature and other physical conditions of the conductor does not change

- a. Gauss's law
- b. Lenz law
- c. Pascal's law
- d. Ohm's law

811. A current of 5 A flow in a resistor of 2 ohms. Calculate the energy dissipated in 300 seconds in the resistor.

- a. 5KJ
- b. 10KJ
- c. 15KJ
- d. 20KJ

812. The length of a conductor s halved. Its resistance will be

- a. Halved
- b. Doubled
- c. Unchanged
- d. Quadrupled

813. An electric filament bulb can be worked from

- a. D.C. supply only
- b. A.C. supply only
- c. Battery supply only
- d. All above

814. Maximum power is delivered when internal resistance of the source equals

- a. Zero resistance
- b. Load resistance
- c. Max resistance
- d. None of these

815. The length and radius of an electric resistance of a certain wire are doubled simultaneously, then the

- a. Resistance will be doubled and specific resistance will be halved
- b. Resistance will be halved and specific resistance will remain unchanged
- c. Resistance will be halved and the specific resistance will be doubled
- d. Resistance and specific resistance will both remain uncharged

816. Calculate the charge passing through the circuit if it's current it 10 Amp and the recorded time is 15 seconds

- a. 1500 Coulomb

- b. 150 Coulomb
- c. 13400 Coulomb
- d. 140 Coulomb

817. Ohm's law is valid at _____ temperatures

- a. Constant
- b. Varying
- c. All of them
- d. None of them

818. If the conductor resistance is 50 ohm and the current passing through it is 5A. what is the value of potential difference?

- a. 150V
- b. 250V
- c. 50V
- d. 15V

819. As compared to thin wires, thick wires have

- a. More resistance
- b. No resistance
- c. Less resistance
- d. Same resistance

820. Circuit in series deliberately?

- a. To increase current
- b. To decrease current
- c. To control current
- d. Just to give a good look at the circuit

821. To measure an A.C. voltage by using an A.C. potentiometer, it is desirable that the supply for the potentiometer is taken

- a. From a source which is not the same as the unknown voltage
- b. From a battery
- c. From the same source as the unknown voltages
- d. Any of the above

822. Mathematical form of ohm's law is

- a. $I = VR$
- b. $R = VI$
- c. $I = R/V$
- d. $I = V/R$

823. A 200 watt bulb operates in a 220 V circuit. Find the current.

- a. 0.9 Amp
- b. 0.6 Amp
- c. 2 Amp
- d. 3 Amp

824. Ohm's law is applicable only when temperature remains

- a. Changing
- b. Absolute zero
- c. Constant
- d. Noen of these

825. In a lamp load when more than one lamp are switched on the total resistance of the load

- a. Increases
- b. Decreases
- c. Remains same
- d. None of the above

826. Internal resitance of a battery is _____ ohm, if, $E = 10\text{ V}$, $V_t = 9\text{ V}$, $I = 1\text{ A}$

- a. 1
- b. 0.1
- c. 0.01
- d. None of these

827. To measure an A.C. voltage by using an A.C. potentiometer, it is desirable that the supply for the potentiometer is taken

- a. From a source which is not the same as the unknown voltage
- b. From a battery
- c. From the same source as the unknown voltages

- d. Any of the above
- 828.** SI unit of resistivity is
- Ohm
 - Ohm meter
 - Ohm/meter
 - Meter/ohm
- 829.** Four wires of same material, the same cross-sectional area and the same length when connected in parallel give a resistance of 0.25 ohm.s if the same four wires are connected in series the effective resistance will be
- 1 ohm
 - 2 ohm
 - 3 ohm
 - 4 ohm
- 830.** SI unit of voltage is?
- Coulomb
 - Volts
 - Ampere
 - Newton's meter
- 831.** An apparatus which is used to measure current voltage and resistance
- Multimeter
 - Ammeter
 - Galvanometer
 - Voltmeter
- 832.** Resistivity of a conductor depends upon
- Temperature
 - Length
 - Cross sectional area
 - None of these
- 833.** How much potential difference is required for establishing steady current?
- Minimum
 - Constant
 - Maximum
 - Varying
- 834.** If I , R and t are the current, resistance and time respectively, then according to Joule's law heat produced will be proportional to
- $12Rt$
 - $12Rf$
 - $12R2t$
 - $12R2t2$
- 835.** If a cell of emf 2V and internal resistance 0.5 ohm is connected across a resistance R , the current that flows is same as that when a cell of emf 1.5 V and internal resistance 0.3 ohm is connected across the same resistor. Then $R = \underline{\hspace{1cm}}$ ohm.
- 0.3
 - 0.6
 - 0.5
 - 0.75
- 836.** Volts / ampere = $\underline{\hspace{1cm}}$
- Ohm
 - Ohm meter
 - Pascal
 - None of them
- 837.** An electrical instrument which is used to measure current passing through a circuit is called?
- Ammeter
 - Voltmeter
 - Galvanometer
 - Avometer
- 838.** Copper wire is used as connecting wire because:
- Copper has high electrical resistivity
 - Copper has low electrical resistivity
 - Copper has low electrical conductivity

d. Copper has high value of elasticity	affected by a. Temperature b. Pressure c. Magnetic field d. Volume
839. A wire has resistance of 5.5Ω at 19°C and 21.5Ω at 200°C . Find the temperature coefficient of resistivity (a) of the material. a. 0.016 per degree Celsius b. 32 per degree Celsius c. 0.18 per degree Celsius d. 0.00106 per degree Celsius	845. Internal resistance is the resistance offered by a. Source of emf b. Conductor c. Resistor d. Capacitor
840. A resistance of 40 Ohms is attached to a circuit having current of 300 Amp, find its voltage. a. 12000 volts b. 15000 volts c. 20000 volts d. 300 volts	846. The resistance and length of wire are a. Inversely related b. Directly related c. Not related d. Inversely proportional
841. Coulomb per second is equivalent to a. Ampere b. Farad c. Henry d. Watt	847. Calculate the charge passing through the circuit if its current is 10 Amp and the recorded time is 15 seconds a. 1500 Coulomb b. 150 Coulomb c. 13400 Coulomb d. 140 Coulomb
842. The current passing through a conductor is directly proportional to the potential difference applied across its terminals, provided the temperature and other physical conditions of the conductor does not change a. Gauss's law b. Lenz law c. Pascal's law d. Ohm's law	848. Value of current in a short circuit is a. Infinite b. Zero c. Minimum d. Maximum
843. $1/C_{\text{equ}} = 1/C_1 + 1/C_2 + 1/C_3 + \dots + 1/C_n$ is the combination in a. Series b. Parallel c. Both of them d. None of them	849. Choose the wrong statement from the following: for accurate measurements, a potentiometer wire ____ a. Must have a uniform cross section b. Must have a high temperature coefficient of resistance c. High specific resistance d. Homogeneity
844. Specific resistance of all metals is mostly	850. The resistance of a superconductor is a. Finite

- b. Infinite
- c. Zero
- d. Changes with every conductor

copper as compared to that of thin wire of copper is

- a. Less
- b. More
- c. Same
- d. Depends upon the length and area of cross-section of the wire

851. The length of a conductor is halved. Its resistance will be

- a. Halved
- b. Doubled
- c. Unchanged
- d. Quadrapled

857. Find the resistance if voltage of the circuit is 45 volts and current 30 Amp?

- a. 1.6 ohm
- b. 1.5 ohm
- c. 1.7 ohm
- d. 1.8 ohm

852. Resistivity of a substance is defined as the resistance of a _____ of that substance

- a. Meter
- b. Meter square
- c. Meter cube
- d. Centimeter

858. The specific resistance of a rod of copper as compared to that of thin wire of copper is

- a. Less
- b. More
- c. Same
- d. Depends upon the length and area of cross-section of the wire

853. In parallel voltage remains?

- a. Same
- b. Different
- c. Both of them
- d. None of them

854. The four bulb of 40W each are connected in series with a battery across them. Which of the following statement is true?

- a. The current through each bulb in same
- b. The voltage across each bulb is not same
- c. The power dissipation in each bulb is not same
- d. None of the above

859. An EMF source of 8.0 V is connected to a purely resistive electrical appliance. An electric current of 2.0 A flow through it. What is the resistance offered by the electrical appliances?

- a. 4 ohm
- b. 6 ohm
- c. 2 ohm
- d. 3 ohm

855. The graphical representation of Ohm's law is

- a. Hyperbola
- b. Ellipse
- c. Parabola
- d. Straight line

860. Which of the following can have negative temperature coefficient?

- a. Compounds of silver
- b. Liquid metals
- c. Metallic alloys
- d. Electrolytes

856. The specific resistance of a rod of

861. Steady current does not change with respect to _____.

- a. Conductor

- b. Source
- c. Time
- d. Potential difference

862. Two wires of copper are of the same length but have different diameters. When they are connected in series across a battery, the heat generated is H_1 when connected in parallel across the same battery, the heat generated during the same time is H_2 then:

- a. $H_1 = H_2$
- b. $H_1 < H_2$
- c. $H_1 > H_2$
- d. $H_1 > H_2$

863. Steady current does not change with respect to _____.

- a. Conductor
- b. Source
- c. Time
- d. Potential difference

864. _____ is a source of electrical energy having fixed polarity and terminals

- a. Motor
- b. Metals
- c. Battery
- d. Generator

865. Why should a resistance be introduced in a circuit in series deliberately?

- a. To increase current
- b. To decrease current
- c. To control current
- d. Just to give a good look at the circuit

866. There are three bulbs of 60 W 100 W and 200 W. which bulb has the thickest filament?

- a. 100 W
- b. 200 W
- c. 60 W

- d. All

867. Galvanometer is an

- a. Electromechanical device
- b. Electrosolar device
- c. Electrothermal device
- d. None of them

868. 4000 coulomb charges were passing from the wire for about 12 seconds. Estimate the current during this process?

- a. 333.3 ampere
- b. 333.33 volts
- c. 66.67 ampere
- d. None of them

869. Why should a resistance be introduced in a circuit in series deliberately?

- a. To increase current
- b. To decrease current
- c. To control current
- d. Just to give a good look to the circuit

870. $C_{eq} = C + C_2 + C_3 + \dots + C_n$ is the combination in

- a. Parallel
- b. Series
- c. Both of them
- d. None of them

871. If a certain piece of copper is to be shaped into a conductor of minimum resistance, its length (L) and cross-sectional area (a) shall respectively be

- a. $L, 2A$
- b. $L/2, 2A$
- c. $2L, 2A$
- d. $2L, A/2$

872. If the length of a potentiometer wire is doubled, the accuracy in determining the null point _____

- a. Is increased

- b. Is decreased
c. Remains constant
d. May increase or decrease
- 873.** Resistivity of a wire is ____ ohm-m if 0.75 A current flows through it by applying 1.5 V potential difference, take length and cross section as 5m and $2.5 \times 10^{-7} \text{ m}^2$.
a. 1×10^{-7}
b. 2.63×10^{-8}
c. 19×10^{-8}
d. 7.85×10^{-8}
- 874.** Calculate the work done in a resistor of 20 ohm carrying 5A of current in 3 hours.
a. 1KWh
b. 1.5KWh
c. 2KWh
d. 3KWh
- 875.** A potentiometer is used to measure the emf of a cell. At null point, no current flows through ____
a. The main circuit
b. The cell circuit
c. Both the main and cell circuits
d. The potentiometer wire
- 876.** A 200 watt bulb operates in a 220 V circuit. Find the current.
a. 0.9 Amp
b. 0.6 Amp
c. 2 amp
d. 3 amp
- 877.** Calculate the time taken for the charges to complete the circuit if the total charges were 5000 coulomb and the current of the circuit was 20 Amp?
a. 250 seconds
b. 350 seconds
c. 400 seconds
d. 500 seconds
- 878.** The SI unit of current is?
a. Ampere
b. Volt
c. Joules
d. Watt
- 879.** Our system stability is least affected by
a. Reactance of generator
b. Input torque
c. Losses
d. Reactants of transmission line
- 880.** The SI unit of electric charges is?
a. Coulomb
b. Ampere
c. Hertz
d. Volt
- 881.** An example of non-ohmic resistor is
a. Diode
b. Tungsten wire
c. Carbon resistance
d. Copper wire
- 882.** A current of 16 amperes divides between two branches in parallel of resistance 8 ohms and 12 ohms respectively. the current in each branch is
a. 6.4 A, 6.9A
b. 6.4A, 9.6A
c. 4.6 A, 6.9 A
d. 4.6 A, 9.6 A
- 883.** Mathematical form of ohm's law is
a. $I = VR$
b. $R = VI$
c. $I = R/V$
d. $I = V/R$
- 884.** The heat sensitive device whose resistivity change very rapidly with change of temperature is called a
a. Resistor

- b. Super-conductor
- c. Thermocouple
- d. Thermistor

885. A resistance of 40 ohms is attached to a circuit having current of 30 Amp, find its voltage.

- a. 12000 volts
- b. 15000 volts
- c. 20000 volts
- d. 300 volts

886. A wire of uniform area of cross-section A and length AL is cut into two equal parts, the resistivity of each part is

- a. Double
- b. Half
- c. Remains the same
- d. Increase three times

887. If 1 ampere current flows through 2m long conductor the charge flow through it in 1 hour will be

- a. 3600 c
- b. 7200c
- c. 1c
- d. 2c

888. A current of 5A flows in a resistor of 2 ohms. Calculate the energy dissipated in 300 seconds in the resistor

- a. 5 KJ
- b. 10 KJ
- c. 15 KJ
- d. 20KJ

889. In series circuit, current remains?

- a. Same
- b. Different
- c. Sometimes same sometimes different
- d. None of them

890. Materials that have both metallic and non-metallic characteristics are called

- a. Semiconductor
- b. Metal
- c. Non metal
- d. Organic compound

891. Resistance of a material always decrease if

- a. Temperature of material is decreased
- b. Temperature of material is increased
- c. Number of free electrons available becomes more
- d. None of the above is correct

892. Steady does not change with respect to

- a. Conductor
- b. Source
- c. Time
- d. Potential difference

893. Two incandescent light bulbs of 40 W and 60W rating are connected in series across the mains. Then

- a. The bulbs together consume 100 W
- b. The bulbs together consume 50 W
- c. The 60 W bulb glows brighter
- d. The 40 W bulb glows brighter

894. A light bulb draws 300 mA when the voltage across it is 240 V. the resistance of the light bulb is

- a. 400 ohm
- b. 600 ohm
- c. 800 ohm
- d. 1000 ohm

895. Emf becomes equal to terminal potential difference when

- a. Circuit is closed
- b. Current is max

<p>c. Circuit is open d. All of these</p>	<p>d. 1100</p>
<p>896. Sensitivity of a galvanometer is defined as</p> <p>a. The deflection produced per unit micro ampere current b. The deflection per force c. Force per unit area d. None of them</p>	<p>901. A potential difference of 10 V is applied across a conductor whose resistance is 2.5 ohm. What is the value of current flowing through it?</p> <p>a. 4A b. 2A c. 6A d. 10A</p>
<p>897. The length and radius of and electric resistance of a certain wire are doubled simultaneously, then the</p> <p>a. Resistance will be doubled and specific resistance will be halved b. Resistance will be halved and specific resistance will remain unchanged c. Resistance will be halved and the specific resistance will be doubled d. Resistance and specific resistance will both remain unchanged</p>	<p>902. The circuit which gives continuously varying potential is called</p> <p>a. Complex network b. Wheatstone bridge c. Potential divider d. All of above</p>
<p>898. In order to achieve high accuracy, the slide wire of a potentiometer should be</p> <p>a. As long as possible b. As short as possible c. Neither too small nor too large d. Very thick</p>	<p>903. The resistance of a wire on increasing its temperature will</p> <p>a. Increase with a rise in temperature b. Decrease with a rise in temperature c. Will remain the same d. Depends upon the altitude of experimentation.</p>
<p>899. Basically a potentiometer is a device for</p> <p>a. Comparing two voltages b. Measuring a current c. Comparing two currents d. Measuring a voltage</p>	<p>904. Internal resistance of a battery is ____ ohm, if, $E = 10\text{ V}$, $V_t = 9\text{ V}$, $I = 1\text{ A}$</p> <p>a. 1 b. 0.1 c. 0.01 d. None of these</p>
<p>900. An electric iron is marked 20 volts 500W. the unit consumed by it is using it for 24 hours will be</p> <p>a. 12 b. 24 c. 5</p>	<p>905. ____ relationship exists between current and voltage in terms of ohm's law</p> <p>a. Non linear b. Varying c. Linear d. None of them</p> <p>906. A neon flashlight cell with an emf of 1.5V gives a current of 15mA when</p>

connected directly to an ammeter of resistance of 0.04Ω . the internal resistance of the cell is

- a. 0.0004Ω
- b. 0.06Ω
- c. 0.10Ω
- d.

907. When bulb is turned on, ohm's law is applicable

- a. Yes
- b. No
- c. Partly
- d. None of these

908. In an A.C. coordinate potentiometer, the currents in the phase and quadrature potentiometer are adjusted to be

- a. Out of phase by 90°
- b. Out of phase by 60°
- c. Out of phase by 30°
- d. Out of phase by 0°

909. Steady current does not change with respect to _____.

- a. Conductor
- b. Source
- c. Time
- d. Potential difference

910. EMF stands for

- a. Electromotive force
- b. Electrical momentum force
- c. Electric magnetic force
- d. None of them

911. Calculate the charge passing through the circuit if it's current is 10 Amp and the recorded time is 15 seconds.

- a. 1500 coulomb
- b. 150 coulomb
- c. 13400 coulomb
- d. 140 coulomb

912. Two wires of copper are of the same

length but have different diameters. When they are connected in series across a battery, the heat generated is H_1 when connected in parallel across the same battery, the heat generated during the same time is H_2 then:

- a. $H_1 = H_2$
- b. $H_1 < H_2$
- c. $H_1 > H_2$
- d. $H_1 > H_2$

913. An electrical instrument which is used to measure potential difference between two points is called

- a. Barometer
- b. Manometer
- c. Galvanometer
- d. Voltmeter

914. When the length of the conductor is doubled and the area of cross-section remains the same then its resistance

- a. Remains the same
- b. Will be doubled
- c. Will become half
- d. Will increase by four times

915. 1 kilo ohm = _____ ohm

- a. 10^3 ohm
- b. 10^2 ohm
- c. 10^4 ohm
- d. None of them

916. An electric filament bulb can be worked from

- a. D.C supply only
- b. A.C. supply only
- c. Battery supply only
- d. All above

917. 1 microvolt is

- a. 1×10^{-3} v
- b. 1×10^{-4} v
- c. 1×10^{-5} v

d. $1 \times 10^{-6} \text{V}$

918. A wire has a resistance of 5.5Ω at 19°C and 21.5Ω at 200°C . Find the temperature coefficient of resistivity (a) of the material

- a. 0.016 per degree Celsius
- b. 32 per degree Celsius
- c. 0.018 per degree Celsius
- d. 0.00106 per degree Celsius

919. Ohm's law is valid at ____ temperature

- a. Constant
- b. Varying
- c. All of them
- d. None of them

920. When 2Ω , 34Ω and 6Ω resistors are connected in parallel their resultant equivalent resistance will be

- a. 12Ω
- b. $11/12 \Omega$
- c. $12/11 \Omega$
- d. Data is insufficient

921. If 1 ampere current will flow in 5m conductor for 1 hour the charge flow will be

- a. 5C
- b. 1800C
- c. 1C
- d. 3600C

922. 4000 Coulomb charges were passing from the wire for about 12 seconds. Estimate the current during this process?

- a. 333.3 ampere
- b. 333.33 volts
- c. 666.67 ampere
- d. None of them

923. Ohm's law is true for

- a. Metallic conductors at low temperature

b. Metallic conductors at high temperature

c. For electrolytes, when current passes through them

d. For diode when current flows

924. The hot resistance of the bulb's filament is higher than its cold resistance because the temperature coefficient of the filament is

- a. Zero
- b. Negative
- c. Positive
- d. About 2 ohms per degree

925. Resistivity of a wire is ____ ohm-m if 0.75 a current flows through it by applying 1.5 v potential difference, take length and cross section as 5m and $2.5 \times 10^{-7} \text{m}^2$.

- a. 1×10^{-7}
- b. 2.63×10^{-8}
- c. 19×10^{-8}
- d. 7.85×10^{-8}

926. The SI unit for resistance is?

- a. Ohm
- b. Ampere
- c. Watt
- d. Volts

927. Resistance of carbon filament lamp ____ as the applied voltage increases.

- a. Increases
- b. Decreases
- c. Remains same
- d. None of the above

928. Which one of the following does not have negative temperature coefficient?

- a. Aluminum
- b. Paper
- c. Rubber
- d. Mica

- 929.** If a cell of emf 2V and internal resistance 0.5 ohm is connected across a resistance R, the current that flows is same as that when a cell of emf 1.5 V and internal resistance 0.3 ohm is connected across the same resistor. Then $R = \underline{\hspace{1cm}}$ ohm.
- 0.3
 - 0.6
 - 0.5
 - 0.75
- 930.** Resistivity of a wire is $\underline{\hspace{1cm}}$ ohm-m if 0.75 A current flows through it by applying 1.5 V potential difference, take length and cross section as 5m and $2.5 \times 10^{-7} \text{ m}^2$.
- 1×10^{-7}
 - 2.63×10^{-8}
 - 19×10^{-8}
 - 7.85×10^{-8}
- 931.** If the conductor resistance is 50 ohm and the current passing through it is 5 A. what is the value of potential difference?
- 150 V
 - 250 V
 - 50 V
 - 15 V
- 932.** Ohm's law is applicable to
- Semiconductors
 - Vacuum tubes
 - Carbon resistors
 - None of these
- 933.** $R_{eq} = R_1 + R_2 + R_3 + \dots + R_n$ is the combination in
- Series
 - Parallel
 - Both of them
 - None of them
- 934.** International ohm is defined in terms of the resistance of
- A column of mercury
 - A cube of carbon
 - A cube of copper
 - The unit length of wire
- 935.** The length and radius of an electric resistance of a certain wire are doubled simultaneously, then the
- Resistance will be doubled and specific resistance will be halved
 - Resistance will be halved and specific resistance will remain unchanged
 - Resistance will be halved and the specific resistance will be doubled
 - Resistance and specific resistance will both remain unchanged
- 936.** Calculate the time taken for the charges to complete the circuit if the total charges were 5000 coulomb and the current of the circuit was 20 Amp?
- 250 seconds
 - 350 seconds
 - 400 seconds
 - 500 seconds
- 937.** Which one of the following is a disadvantage of a potentiometer over a voltmeter?
- It can measure the internal resistance of a cell
 - It can measure the .m.f. a cell
 - It is heavy and not portable
 - It can measure accurately very small PD. Of the order of few microvolt
- 938.** The resistance of a human body is about
- 12 ohm

- b. 120 ohm
- c. 120 K ohm
- d. 120M ohm

- b. Carbon
- c. Nichrome
- d. Platinum

939. The condition for the validity under ohm's law is that
- a. Resistance must be uniform
 - b. Current should be proportional to the size of the resistance
 - c. Resistance must be wire wound type
 - d. Temperature at positive end should be more than the temperature at negative end

940. If a cell of emf 2V and internal resistance 0.5 ohm is connected across a resistance R, the current that flows is same as that when a cell of emf 1.5 V and internal resistance 0.3 ohm is connected across the same resistor. Then R = ____ ohm.

- a. 0.3
- b. 0.6
- c. 0.5
- d. 0.75

941. The resistance of a conductor at absolute zero (0K) is
- a. Almost zero
 - b. Almost infinite
 - c. No prediction at all
 - d. May increase or decrease

942. $1/R_{eq} = 1/R_1 + 1/R_2 + 1/R_3 + \dots + 1/R_n$ is the combination in
- a. Series
 - b. Parallel
 - c. Both of them
 - d. None of them

943. Which of the following has a negative temperature coefficient of resistance?
- a. Tungsten

944. What is the SI unit of potential difference?
- a. Volts
 - b. Coulomb
 - c. Meter
 - d. Newton's

945. Correct form of ohm's law
- a. $I = VR$
 - b. $V \propto I$
 - c. $V = IR$
 - d. Both B and C

946. Value of current in a short circuit is ____
- a. Infinite
 - b. Zero
 - c. Minimum
 - d. Maximum

947. Power

Which of the following statement is true?

- a. Power is proportional to voltage only
- b. Power is proportional to current only
- c. Power is neither proportional to voltage nor to the current
- d. Power is proportional to both the voltage and current

948. Electric current may be defined as
- a. Rate of flow of charge
 - b. Rate of flow of momentum
 - c. Rate of flow of power
 - d. None of them

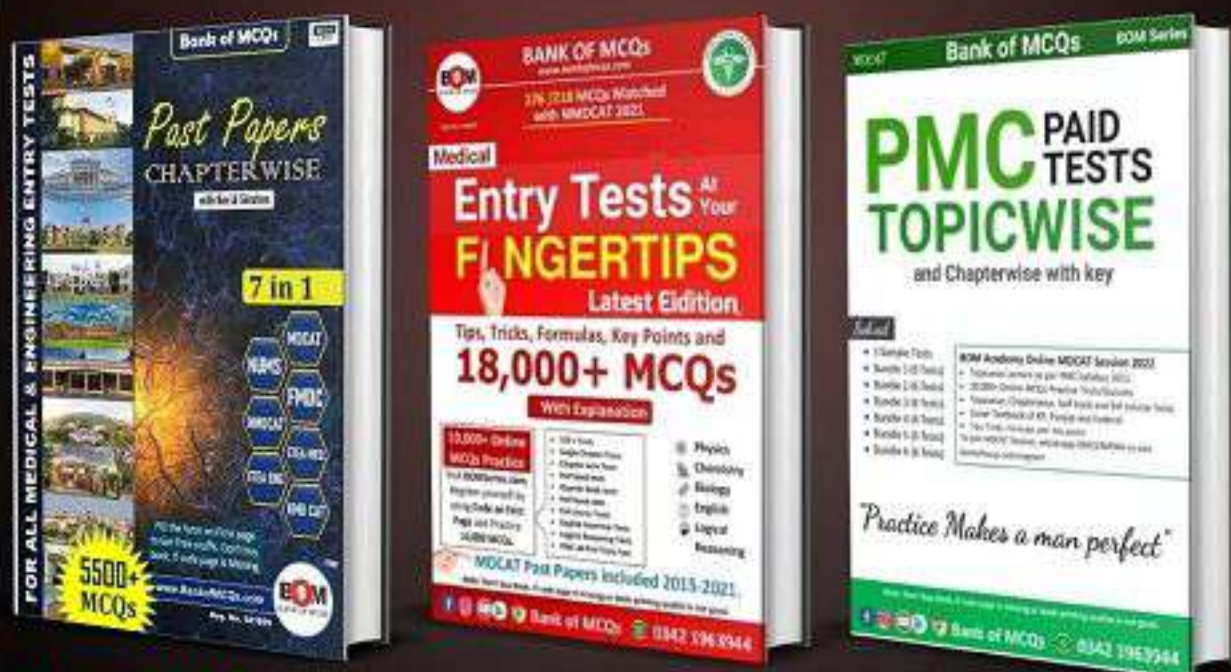
949. Electric power is
- a. Rate of electric work done per unit time

b. Voltage per unit time c. Electric charge per unit time d. Current per unit time	a. Potential difference b. Potential deviation c. Power difference d. Power dissipated
950. Formula for power is a. $P = IV$ $P = V/I$ b. $P = V+I$ c. $P = VQ$	957. Formula for power is a. $P = IV$ b. $P = V/I$ c. $P = V+I$ d. $P = VQ$
951. What is the relationship between power, current and voltage a. $P = V/I$ b. $P = VI$ c. $2P = I+V$ d. All of them	958. Which of the following is not unit per a. Horse power b. Kilowatt c. kWh d. Nm/s
952. A 250V bulb passes a current of 0.3 A. calculate the power in the lamp. a. 50W b. 75W c. 100W d. 90W	959. Maximum power delivered by battery is a. $P_{\max} = E^2/4r$ b. $P_{\max} = 4rE^2$ c. $P_{\max} = VI$ d. Unlimited
953. Electric current may be defined as a. Rate of flow of charge b. Rate of flow of momentum c. Rate of flow of power d. None of them	960. A fuse is placed in series with the circuit to protect against a. High power b. High voltage c. High current d. Over heating
954. What is the power of a bulb if it is operated at 220 V and the current in the circuit is 1.5 Amp a. 330Watt b. 430Watt c. 530Watt d. 500Watt	961. Electric current may be defined as a. Rate of low of charge b. Rate of flow of momentum c. Rate of flow of power d. None of them
955. Which of the following is not unit of power a. Horse power b. Kilowatt c. kWh d. Nm/s	962. Find the current if power given is 5 watts and voltage is 0.5 volts a. 10 amp b. 20 amp c. 30 amp d. 50 amp
956. PD stands for	963. What is the relationship between Power, current and resistance a. $P = I^2R$

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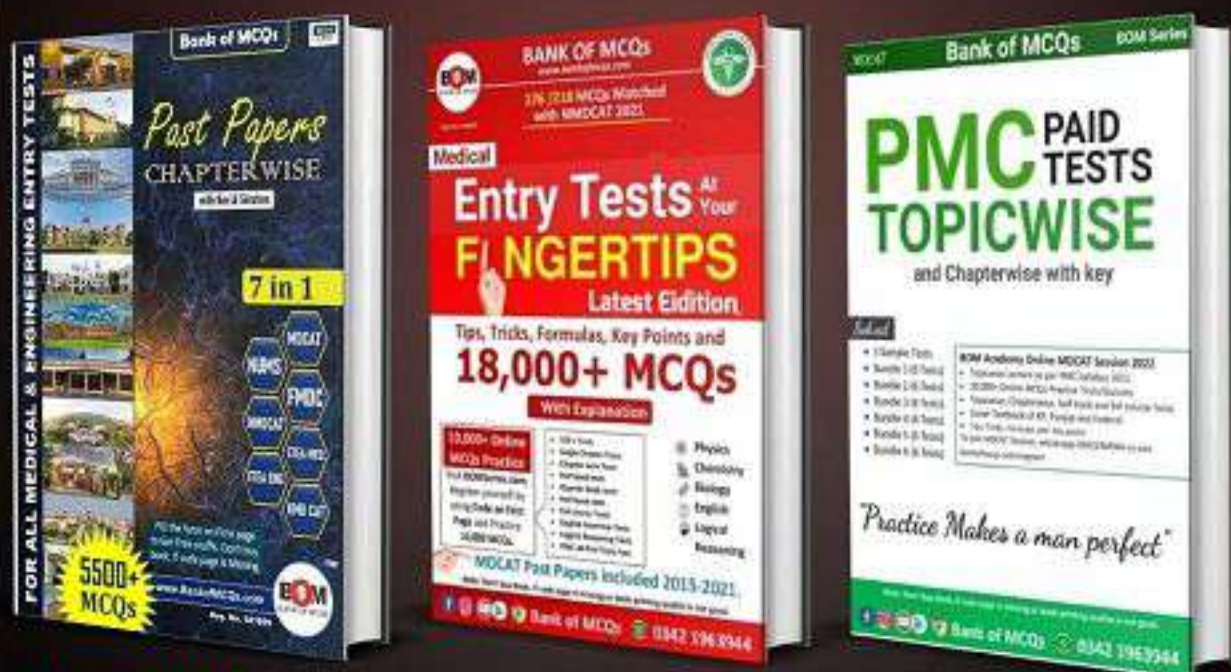
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<p>b. $P=I^2 R/2$ c. $P=IR$ d. All of them</p>	<p>b. Rate of flow of momentum c. Rate of flow of power d. None of them</p>
<p>964. The overvoltage surges in power system must be caused by</p> <p>a. Lightning b. Resonance c. Switching d. All of the above</p>	<p>970. Which of the following statement is true?</p> <p>a. Power is proportional to voltage only b. Power is proportional to current only c. Power is neither proportional to voltage nor to the current d. Power is proportional to both the voltage and current</p>
<p>965. What is the power of a bulb if it is operated at 220 V and the current in the circuit is 1.5 Amp</p> <p>a. 330 watt b. 430 watt c. 530 watt d. 500 watt</p>	<p>971. Electric current may be defined as</p> <p>a. Rate of flow of charge b. Rate of flow of momentum c. Rate of flow of power d. None of them</p>
<p>966. An immersion heater of 400 watts kept on for 5 hours will consume electrical power of</p> <p>a. 2kwh b. 20 KWh c. 6 KWh d. 12 KWh</p>	<p>972. Electrical power of a battery is defined as the rate of</p> <p>a. Electrical energy consumed by the battery b. Electrical energy transferred by the battery c. Both d. None of these</p>
<p>967. The battery of a pocket calculator supplies 0.35A at a potential difference of 5 volts. what is the power of the calculator?</p> <p>a. 9 Watt b. 2.1 Watt c. 4 Watt d.</p>	<p>973. Electric current may be defined as</p> <p>a. Rate of flow of charge b. Rate of flow of momentum c. Rate of flow of power d. None of them</p>
<p>968. Maximum power is delivered when internal resistance of the source equals</p> <p>a. Zero resistance b. Load resistance c. Max resistance d. None of these</p>	<p>974. What is the power of a bulb if it is operated at 220V and the current in the circuit is 1.5 Amp</p> <p>a. 330 watt b. 430 watt c. 530 watt d. 500 watt</p>
<p>969. Electric current may be defined as</p> <p>a. Rate of flow of charge</p>	<p>975. Maximum power delivered by battery is</p>

- a. $P_{\max} = E^2/4r$
- b. $P_{\max} = 4rE^2$
- c. $P_{\max} = VIT$
- d. Unlimited

976. Watt-hour measures

- a. Current
- b. Electric energy
- c. Power
- d. Voltage

977. What is the relationship between power, current and voltage

- a. $P = V/I$
- b. $P = VI$
- c. $2P = I + V$
- d. All of them

978. Kilowatt-hour (kWh) is a unit of?

- a. Power
- b. Energy
- c. Current
- d. Resistance

979. Which of the following statement is true?

- a. Power is proportional to voltage only
- b. Power is proportional to current only
- c. Power is neither proportional to voltage nor to the current
- d. Power is proportional to both the voltage and current

980. Electric current may be defined as

- a. Rate of flow of charge
- b. Rate of flow of momentum
- c. Rate of flow of power
- d. None of them

981. PD stands for

- a. Potential difference
- b. Potential deviation
- c. Power difference

d. Power dissipated

982. Electric power is

- a. Rate of electric work done per unit time
- b. Voltage per unit time
- c. Electric charge per unit time
- d. Current per unit time

983. A 250 V bulb passes a current of 0.3 A. calculate the power in the lamp.

- a. 50W
- b. 75W
- c. 100W
- d. 90W

984. 1 watt =

- a. 1 Va
- b. 1 V/A
- c. 1 A/V
- d. 1 /AV

985. Electric power is

- a. Rate of electric work done per unit time
- b. Voltage per unit time
- c. Electric charge per unit time
- d. Current per unit time

986. Electrical power is given by $P =$

- a. VI
- b. $I^2 R$
- c. V^2 / R
- d. All

987. Which equation represents the maximum output power

- a. $P = Vi$
- b. $P = I^2 R$
- c. $P = V^2 / R$
- d. All of these

988. All of the following are equivalent to watt except

- a. (Amperes)² ohm
- b. Joule/sec

- c. Amperes x volts
d. Amperes/volt

- c. Branched
d. Open and closed

989.

Electromagnetism

990.

Magnetic Field

If the direction of current is upward pointed by thumb, magnetic FIELD is north side, than force will be

- a. Left
b. Right
c. Top
d. Bottom

991. Is it possible to separate north pole only from bar magnet

- a. Yes
b. No
c. In some cases it is possible
d. None of these

992. Who stated the right hand thumb rule?

- a. Oersted
b. Maxwell
c. Einstein
d. Flaming

993. If a charged particle moves through a magnetic FIELD perpendicular to it

- a. Both momentum and energy of particle change
b. Momentum as well as energy are constant
c. Energy is constant but momentum changes
d. Momentum is constant but energy changes

994. Magnetic FIELD lines from _____ loops from pole to pole.

- a. Open
b. Closed

995. A circular loop of area 0.05 m^2 rotates in a uniform magnetic FIELD of 0.2 T . if the loop rotates about its diameter which is perpendicular to the magnetic FIELD, find flux linked with loop when its plane is inclined 60° to the FIELD.

- a. 0.01 wb
b. 0 wb
c. $8.66 \times 10^{-3} \text{ wb}$
d. 0.83 wb

996. In cyclotron, a charged particle

- a. Undergoes acceleration all the time
b. Speeds p between the dees because of the magnetic FIELD.
c. Speeds up in a dee
d. Slows down within a dee and speeds up between dees

997. e/m ratio for a electron in electric and magnetic FIELD is

- a. $e/m = B^2 r/E$
b. $E/(B^2 r)$
c. E^2/rB^2
d. B^2/Er

998. During the circular path in magnetic FIELD, what is the magnetic force

- a. $F = qB$
b. $F = qB^2$
c. $F = qB/v$
d. $F = qvB$

999. Magnetic FIELD will not produce in cse of

- a. Charged positive particle
b. Charged negative particles
c. Neutral particles
d. All of these

1000. Electron and proton both with same momentum enter perpendicular in uniform FIELD

- Path of proton will be more curved
- Path of electron will be more curved
- Both have same curved path
- Path of both will straight line

1001. How can a magnetic FIELD be produced?

- Using a permanent magnet
- Electric current
- Using a temporary magnet
- Using a permanent magnet or electric current

1002. Lorentz force can be represented as

- $Q[E + (v \times B)]$
- $Q[E + vB \cos \phi]$
- Both
- None of these

1003. A charged particle is moving on circular path with velocity v in uniform magnetic FIELD B , if the velocity of the charged particle is doubled and strength of magnetic FIELD is halved, then radius becomes

- 8 times
- 2 times
- 4 times
- 16 times

1004. A rectangular loop of dimension 3 cm by 5 cm is placed perpendicular in uniform magnetic FIELD of 0.1 T, find the magnetic flux through the loop

- 1.5 Wb
- 0.15 Wb
- 0.015 wb
- 15 wb

1005. One charge enter in magnetic FIELD of 2×10^{-2} T normally with specific charge 10^8 C/kg and velocity of 10^7 m/s. what will be the radius of circle?

- 1 m
- 0.5 m
- 5m
- 10m

1006. The magnetic FIELD lines generated in current carrying conductor are

- Circular
- Triangular
- Linear
- None of these

1007. Magnetic FIELD lines created by current carrying wire is

- Helical
- Elliptical
- Hyperbolic
- Circular

1008. A strong magnetic FIELD is applied on a stationary electron. Then the electron

- Moves in the direction of the FIELD
- Moves perpendicular to the direction of the FIELD
- Moves opposite to the direction of the FIELD.
- Remains stationary

1009. What is the magnitude of the magnetic FIELD $B = (0.3i + 0.4j)$ T?

- 5t
- 2.5t
- 0.5t
- 2t

1010. Magnetic FIELD lines move from ____

- North to south
- South to north
- East to west

d. West to east	d. None of these
1011. Magnetic FIELD density outside the solenoid is a. Strong b. Infinite c. Negligible d. None of these	1017. What is the strength of magnetic FIELD known as ____ a. Flux b. Density c. Magnetic strength d. Magnetic flux density
1012. The flux is the region where magnetic FIELD a. Changes direction b. Changes strength c. Changes polarity d. No change occur	1018. Find the electric FIELD when the velocity of the FIELD is 12 m/s and the flux density is 8.75 units. a. 510 b. 105 c. 150 d. 165
1013. What happens to the flux if applied magnetic FIELD is doubled on the same surface. a. Becomes half b. Becomes twice c. Becomes infinite d. Becomes 4 times	1019. A charged particle enters in a strong magnetic FIELD, its K.E a. Decreases b. Increases then decreases c. Becomes zero d. Remains constant
1014. Electric charge in uniform motion produces a. Electric FIELD b. Magnetic FIELD c. Both of these d. None of these	1020. Strength of magnetic FIELD is called a. Strength b. Flux c. Magnetic flux density d. Density
1015. A steady current passing through a conductor produces a. Electric FIELD b. Magnetic FIELD c. Both of these d. None of these	1021. Magnetic FIELD is very strong where FIELD lines are a. Zero b. Far apart c. Very close d. None of these
1016. Open proton beam enters in magnetic FIELD of 10^{-4} T normally with specific charge 10^{11} C/kg and velocity of 10^7 m/s. what will be the radius of circle? a. 0.1 M b. 1 M c. 10 M	1022. Magnetic flux is given by a. Dot product of magnetic FIELD and area vector b. Cross product of magnetic FIELD and area vector c. Both of these d. None of these
	1023. If the direction of the FIELD and area

vector is opposite then FIELD is

- a. Positive
- b. Zero
- c. Negative
- d. None of these

1024. The magnetic FIELD is parallel to a surface, then the magnetic flux through the surface is

- a. zero
- b. small but not zero
- c. infinite
- d. large but not infinite

1025. If magnetic FIELD vector is $B = (i+5j+2k)$ and area vector is $(6i-2j+2k)$ then flux related to this is

- a. 10wb
- b. 15wb
- c. 20wb
- d. 0 wb

1026. If a charged particle is at rest but we are seeing it from a train then we observe

- a. Electric FIELD
- b. Magnetic FIELD
- c. Both FIELDS
- d. None of these

1027. Magnetic FIELD along the axis of solenoid with n turns per unit length carrying current I is given by

- a. $B = \mu_0 n I$
- b. $B = \mu_0 n / L$
- c. $B = \mu_0 I N$
- d. $B = \mu_0 I N L$

1028. Force experienced by charge particles in magnetic FIELD is

- a. Perpendicular to velocity
- b. Perpendicular to FIELD
- c. Parallel to FIELD
- d. Perpendicular to velocity and FIELD

1029.

Magnetic Flux, e/m ratio and force on charge particle on magnetic field

A 3 cm wire carrying a current of 10A is placed inside a solenoid of magnetic FIELD 0.35 T. the net Force felt by wire is

- a. 11.5 N
- b. 10.5 N
- c. 9.5 N
- d. 8.5 N

1030. $e/m =$

- a. Mv/Br
- b. v/Br
- c. r/Br
- d. B/vr

1031. Find the maximum Force of the conductor having length 60cm, current 2.75A and flux density of 9 units.

- a. 14.85
- b. 18.45
- c. 84.25
- d. 7.325

1032. When a charge experience of Force, there will be _____ FIELD developed

- a. Magnetic
- b. Electric
- c. Static
- d. All of these

1033. Ampere's law is $\oint B \cdot dl =$

- a. μI^2
- b. μ / I
- c. μI
- d. $I \mu^2$

1034. Magnetic FIELD lines move from _____

- a. North to south
- b. South to north
- c. East to west
- d. West to east

1035. Is it possible to visualize magnetic flux lines

- a. Yest directly we can see with eyes
- b. We need microscope
- c. We need telescope
- d. All cases are not possible

1036. Is it possible to visualize magnetic flux lines

- a. Yest directly we can see with eyes
- b. We need microscope
- c. We need telescope
- d. All cases are not possible

1037. What is the angular frequency during the circular motion?

- a. Qm/B
- b. m/qB
- c. qB/m
- d. qmB

1038. Using of magnetic flux density is

- a. Tesla
- b. Wb/m^2
- c. N/Am
- d. All

1039. When north pole of bar magnet move towards a conducting loop, induced current flows in

- a. Clockwise sense
- b. Anticlockwise sense
- c. Not generate
- d. Not enough information

1040. Magnetic flux density is a

- a. Scalar quantity
- b. Vector quantity
- c. Sometimes scalar sometimes vector
- d. None of these

1041. Whenever the magnetic flux linked with

an electric circuit changes, an emf is induced in the circuit. This is called

- a. Electromagnetic induction
- b. Kirchoff's law
- c. Hysteresis loss
- d. Lenz's alw

1042. A monoenergetic electron beam with an electrons peed of 5.20×10^6 m/s is subject to a magnetic FIELD of 1.30×10^{-4} T normal to a beam velocity. What is the radius of the circle traced by the beam, given e/m for electron equals 1.76×10^{11} C/kg

- a. 22.7 cm
- b. 21.3 cm
- c. 20 cm
- d. 21.9 cm

1043. Magnetic induction is also called

- a. Flux
- b. Magnetization
- c. Magnetic intensity
- d. Flux intensity

1044. An uncharged conductor has

- a. Electrons
- b. Protons
- c. Holes
- d. All of these

1045. When a charge passes through a region undeflected then with $F_e = F_m$, _____

- a. $B = 0$
- b. $B \perp E$
- c. Both
- d. None

1046. The magnetic Force is simply a

- a. Reflecting Force
- b. Deflecting Force
- c. Restoring Force
- d. Gravitational Force

1047. Find the Force due to a current element



of length 2 cm and flux density of 12 tesla. The current through the element will be 5A.

- a. 1N
- b. 1.2 N
- c. 1.4 N
- d. 1.6 N

1048. 1 tesla is equal to

- a. 100 N/Am
- b. 1 N/Am
- c. 0.1 Nm/A
- d. 1 Nm/A

1049. Magnetic Force between two wires which are having current in opposite direction will

- a. Attract each other
- b. Repel each other
- c. Experience no Force between them
- d. None of these

1050. Which, among the following qualities, is not affected by the magnetic flux?

- a. Moving charge
- b. Charge in magnetic flux
- c. Current flowing in conductor
- d. Stationary charge

1051. A charged particle is moving in a cyclotron, what effect on the radius of path of this charged particle will occur when the frequency of the ratio frequency FIELD is doubled?

- a. It will also doubled
- b. It will be halved
- c. It will increase four times
- d. Remain unchanged

1052. A circular loop of radius 2 m placed having area in the direction of magnetic FIELD of 100 T, flux will be

- a. 1296 wb

- b. 12.96 wb
- c. 1190 wb
- d. 1426 wb

1053. $\cos \phi = \phi /$

- a. BA
- b. A
- c. B
- d. B^2

1054. Magnetic flux is the dot product of magnetic induction and

- a. Area
- b. Vector area
- c. Unit area
- d. None of these

1055. SI unit of magnetic induction is

- a. Weber
- b. Gauss
- c. Tesla
- d. Maxwell

1056. When a charge particle enters in the magnetic FIELD perpendicular to the velocity of charge, followed path is

- a. Circular
- b. Parabolic
- c. Elliptical
- d. Hyperbolic

1057. An electron is moving along the line of Force in magnetic FIELD B with velocity u, then maximum Force acting on the charge is given by

- a. Bue
- b. Bq/u
- c. Bu/q
- d. 0

1058. Magnetic Force between two wires is inversely proportional to

- a. Distance
- b. Current on them
- c. Charge on them

d. None of these

1059. A circular loop of area 0.05 m^2 rotates in a uniform magnetic FIELD of 0.2 T . if the loop rotates about its diameter which is perpendicular to the magnetic FIELD, find flux linked with loop when its plane is normal to the FIELD

- a. 0.01 wb
- b. 0 wb
- c. $8.66 \times 10^{-3} \text{ wv}$
- d. 0.86 wb

1060. $F = e(v \times B)$ is valid for

- a. Electron
- b. Proton
- c. Neutron
- d. All

1061. If a current wire of 2 A and length 5 m enters perpendicular to magnetic FIELD of 10 T . calculate the Force experienced by it

- a. 50 n
- b. 100 n
- c. 200 n
- d. 25 n

1062. If a charge of 2 C is travelling parallel to a magnetic FIELD of 4 T with 20 m/s calculate the net Force on it

- a. 160 n
- b. 120 n
- c. 0 n
- d. 100

1063. A beam of ion with velocity $2 \times 10^5 \text{ m/s}$ enters normally into a magnetic FIELD of 0.04 T . the specific charge of ion is $5 \times 10^7 \text{ C/kg}$. radius of circle is

- a. 0.1 m
- b. 0.16 m
- c. 0.2 m
- d. 0.25 m

1064. Force on a moving charge in a uniform magnetic FIELD will be maximum, when angle between v and B is

- a. 0
- b. 30
- c. 60
- d. 90

1065. Work done by the magnetic Force on charged particle is presence of perpendicular magnetic FIELD is

- a. Positive
- b. Zero
- c. Negative
- d. None of these

1066. Can we see magnetic flux lines

- a. Yes
- b. No
- c. Depends on strength of FIELD
- d. Only when the FIELD is large

1067. The attraction capacity of electromagnetic will increase if the

- a. Core length increase
- b. Core area increases
- c. Flux density decreases
- d. Flux density increases

1068. Unit of relative permeability is

- a. Henry
- b. Henry/m
- c. Dimensionless
- d. Henry/sq.m

1069. A square loop of side 4 m is placed in magnetic FIELD of 10 T , surface of the loop is making angle with the FIELD 60 degree. What will be the flux?

- a. 160 weber
- b. 80 weber
- c. 40 weber
- d. 80 weber

1070. If a charge particle enters in a region

where electric and magnetic FIELD are parallel to its motion, then it will

- a. Deflect upwards
- b. Deflect downward
- c. Speed up
- d. Speed down

1071 If a proton, alpha particle and photon moving with same velocity enter in uniform magnetic FIELD then which particle will deflect more

- a. Proton
- b. Alpha particle
- c. Photon
- d. All of these

1072 Two α -particles have the ratio of their velocities as 3 : 2 on entering the FIELD. If they move in different circular paths, then the ratio of the radii of their paths is

- a. 2 : 3
- b. 3 : 2
- c. 4 : 9
- d. 9 : 4

1073 What is the radius of circular path, if particle has mass m and charge q

- a. $R = qb/m$
- b. $R = mv/B$
- c. $R = mv/qB$
- d. $R = mvr/Qb$

1074 Current carrying loop behaves like a

- a. Monopole
- b. Dipole
- c. Quadrupole
- d. Octupole

1075 A solenoid 15.0 cm long has 300 turns of wire, a current 5 A flows through it. The magnitude of magnetic FIELD inside the solenoid is

- a. $1.37 \times 10^{-7} \text{ W/m}^2$

b. $1.37 \times 10^{-5} \text{ W/m}^2$

c. $1.37 \times 10^{-1} \text{ W/m}^2$

d. $1.37 \times 10^{-2} \text{ W/m}^2$

1076 The magnetic flux (ϕ) linked with a coil is related to the number of turns (N) of the coil as

- a. $F \propto N$
- b. $F \propto N^{-1}$
- c. $F \propto N^2$
- d. $F \propto N^{-2}$

1077 If velocity of charged particle and magnetic FIELD are at a fixed angle not 90 then path will be

- a. Circular
- b. Straight line
- c. Spherical
- d. Helical

1078 A circular loop of area 0.05 m^2 rotates in a uniform magnetic FIELD of 0.2 T. If the loop rotates about its diameter which is perpendicular to the magnetic FIELD, find flux linked with loop when its plane is parallel to the FIELD.

- a. 0.01 wb
- b. 0 wb
- c. $8.66 \times 10^{-3} \text{ wb}$
- d. 0.86 wb

1079 A charge of $1 \mu\text{C}$ is moving antiparallel to the magnetic lines of Force, then the magnetic Force acting on charge is

- a. 0
- b. vB
- c. $vB \sin \phi$
- d. qbB

1080 If a charged particle moves through a magnetic FIELD perpendicular to it

- a. Both momentum and energy of particle change
- b. Momentum as well as energy are

- constant
- c. Energy is constant but momentum changes
- d. Momentum is constant but energy changes

1081. If velocity of charged particle and magnetic FIELD are at a fix angle not 90 then path will be

- a. Circular
- b. Straight line
- c. Spherical
- d. Helical

1082. A loop of radius 1 m is placed on a inclined of 60 degree with the magnetic FIELD of 100 T, corresponding flux will be

- a. 314 wb
- b. 107 wb
- c. 157 wb
- d. 435 wb

1083. A strong magnetic FIELD is applied on a stationary electron. Then the electron

- a. Moves in the direction of the FIELD.
- b. Moves perpendicular to the direction of the FIELD
- c. Moves opposite to the direction of the FIELD
- d. Remains stationary

1084. Magnetic FIELD lines have a property that lines are ____

- a. Non intersecting
- b. Intersect near south pole
- c. Intersect near north pole
- d. Intersect every where

1085. Electron charge in accelerating motion will produce

- a. Electric FIELD
- b. Magnetic FIELD

- c. EM waves
- d. None of these

1086. $\cos \phi = \phi /$

- a. BA
- b. A
- c. B
- d. B^2

1087. A charged particle is moving on circular path with velocity v in a uniform magnetic FIELD B, if the velocity of the charged particle is doubled and strength of magnetic FIELD is halved, then radius becomes

- a. 8 times
- b. 2 times
- c. 4 times
- d. 16 times

1088. Find the Force due to a current element of length 2 cm and flux density of 12 tesla. The current through the element will be 5 A.

- a. 1n
- b. 1.2 n
- c. 1.4 n
- d. 1.6 n

1089. The attraction capacity of electromagnet will increase if the

- a. Core length increases
- b. Core area increases
- c. Flux density decreases
- d. Flux density increase

1090. Magnetic Force between two wires is inversely proportional to

- a. Distance
- b. Current on them
- c. Charge on them
- d. None of these

1091. A solenoid bent into a circle is called

- a. Resistor
- b. Capacitor

c. Inductor d. Toroid	what will be the radius of circle? a. 1 m b. 0.5 m c. 5m d. 10m
1092. Magnetic flux is maximum when angle is a. 0 degree b. 90 degree c. 120 degree d. All of these	1098. Do magnetic flux lines intersect? a. Yes b. No c. Depends on strength of FIELD d. Cannot be determined
1093. Find the magnetic Force when a charge 3.5C with flux density of 4 units is having a velocity of 2 m/s a. 14 b. 28 c. 7 d. 32	1099. A strong magnetic FIELD is applied on a stationary electron. Then the electron a. Moves in the direction of the FIELD b. Moves perpendicular to the direction of the FIELD. c. Moves opposite to the direction of the FIELD d. Remains stationary
1094. Who stated the right hand thumb rule? a. Oersted b. Maxwell c. Einstein d. Flaming	1100. What is the magnitude of the magnetic FIELD $B = (0.3i + 0.4j)$ T? a. 5t b. 2.5t c. 0.5t d. 2t
1095. If a charged particle moves through a magnetic FIELD perpendicular to it a. Both momentum and energy of particle change b. Momentum as well as energy are constant c. Energy is constant but momentum changes d. Momentum is constant but energy changes	1101. Ampere's law is $\oint B \cdot dl =$ a. μI^2 b. μ/I c. μI d. $I\mu^2$
1096. During the circular path in magnetic FIELD, what is the magnetic Force a. $F = qB$ b. $F = qB^2$ c. $F = qB/v$ d. $F = qvB$	1102. Is it possible to visualize magnetic flux lines a. Yes directly we can see with eyes b. We need microscope c. We need telescope d. All cases are not possible
1097. One charge enters in magnetic FIELD of 2×10^{-2} T normally with specific charge 18×10^8 C/kg and velocity of 10^7 m/s.	1103. When north pole of bar magnet moves towards a conducting loop, induced current flows in

- a. Clockwise sense
- b. Anticlockwise sense
- c. Not generates
- d. Not enough information

- a. 100 N/Am
- b. 1 N/Am
- c. 0.1 Nm/A
- d. 1 Nm/A

1104. What happens to the flux if applied magnetic field is doubled on the same surface

- a. Becomes half
- b. Becomes twice
- c. Becomes infinite
- d. Becomes 4 times

1110. Find the electric FIELD when the velocity of the FIELD is 12m/s and the flux density is 8.75 units.

- a. 510
- b. 105
- c. 150
- d. 165

1105. If magnetic FIELD vector is $B = (i+2j+k)$ and area vector is $(2i+j+k)$ then flux related to this is

- a. 4wb
- b. 5wb
- c. 6wb
- d. 7wb

1111. SI unit of magnetic induction is

- a. Weber
- b. Gauss
- c. Tesla
- d. Maxwell

1106. When a charge experience a Force, there will be _____ FIELD developed

- a. Magnetic
- b. Electric
- c. Static
- d. All of these

1112. When a charge particle enters in the magnetic FIELD perpendicular to the velocity of charge, followed path is

- a. Circular
- b. Parabolic
- c. Elliptical
- d. Hyperbolic

1107. When a charge passes through a region undeflected then with $F_e = F_m$, _____

- a. $B = 0$
- b. $B \perp E$
- c. Both
- d. None

1113. An electron is moving along the line of Force in magnetic FIELD B with velocity u , then maximum Force acting on the charge is given by

- a. Bue
- b. Bq/u
- c. Bu/q
- d. 0

1108. One proton beam enters in magnetic FIELD of 10^{-4} T normally with specific charge 10^{11} C/kg and velocity of 10^7 m/s. what will be the radius of circle?

- a. 0.1 m
- b. 1m
- c. 10m
- d. None of these

1114. Magnetic Force between two wires is inversely proportional to

- a. Distance
- b. Current on them
- c. Charge on them
- d. None of these

1109. 1 tesla is equal to

1115. $F = e(v \times B)$ is valid for

- a. Electron

- b. Proton
- c. Neutron
- d. All

1116. If a current wire of 2 A and length 5m enters perpendicular to magnetic FIELD of 10T. calculate the Force experienced by it.

- a. 50n
- b. 100n
- c. 200n
- d. 25n

1117. **Lorents force**

In lorents force, magnetic force is

- a. Work force
- b. Deflecting force
- c. Resistive force
- d. None of these

1118. Find the lorentz force of a charge 2.5 c having an electric field of 5 units and magnetic field of 7.25 units with a velocity 1.5 m/s.

- a. 39.68
- b. 68.93
- c. 89.39
- d. 63.98

1119.

Electromagnetic Induction

1120. **Lenz's law**

Lenz's law provides information about direction of

- a. Inductance
- b. Induced current
- c. Induced flux
- d. Induced magnetic field

1121. Lenz law is in accordance with conservation of

- a. Momentum
- b. Charge
- c. Current
- d. Energy

1122. The len's law refers to

- a. Induced current
- b. Induced potential
- c. Motional emf
- d. All of these

1123. Lenz's law provides information about direction of

- a. Inductance
- b. Induced current
- c. Induced flux
- d. Induced magnetic field

1124. **Faraday's Law**

Faraday's law explains how electric field will interact with

- a. Electric field
- b. Magnetic field
- c. Battery
- d. None of these

1125. If number of loops are increased than according to Faraday law ____ will increase

- a. Voltage
- b. Electric field
- c. Magnetic field
- d. All of these

1126. According to Faraday law EMF stands for

- a. Electromagnetic friction
- b. Electro magnetic force
- c. Electro magnetic function
- d. None of these

1127. Faraday law states that the rate of change of magnetic flux is equal to

- a. Electro motive force

- b. Induced current
- c. Induced flux
- d. Induced magnetic field

1128. Principle of electric generator is based on

- a. Biot savart's law
- b. Ampere's law
- c. Newton's law
- d. Faraday law

1129. According to Faraday's law, emf induced in circuit depends on

- a. Max. magnetic flux
- b. Rate of change of magnetic flux
- c. Change in magnetic flux
- d. Initial flux

1130. The direction of induced current is always so as to oppose the change will causes the current is

- a. Faraday's law
- b. Lenz's law
- c. Ohm's law
- d. Kirchoff's law

1131. The principal of a direct current generator is based on

- a. Coulomb's law
- b. Ampere's law
- c. Faraday's law
- d. Lenz's law

1132. $\text{Emf} = -N(\Delta \Phi / \Delta t)$ is according to

- a. Ampere's law
- b. Faraday's law
- c. Lenz's law
- d. None of these

1133. The direction of induced current is always so as to oppose the change which cuases the current is

- a. Faraday's law
- b. Lenz's law
- c. Ohm's law

d. Kirchoff's law

1134. If number of loops are increased than according to Faraday law ____ will increase

- a. Voltage
- b. Electric field
- c. Magnetic field
- d. All of these

1135.

Electromagnetic induction and Generating electricity-Alternating Current Generator

The displacement between A and B is defined as

- a. Change in position of an object from A to B
- b. Any distance between two points
- c. Longest distance from A to B
- d. Longest distance between two points

1136. If the peak to peak voltage is 10 V, calculate the peak voltage.

- a. 2V
- b. 10 V
- c. 4 V
- d. AAV

1137. Alternating current generators usr

- a. Coiled rings
- b. Split rings
- c. Slip rings
- d. Solenoid rings

1138. An a.c. generator consists of a coil of 50 turns and an area 2.5 m^2 rotating at an angular speed of 60 rd s^{-1} in a uniform magnetic field of 0.3 T between two fixed pole pieces. What ist he flux through the coil, when the current is zero .

- a. Maximum

<p>b. Minimum c. Zero d. Independent</p>	<p>d. Six times</p>
<p>1139. If we make the magnetic field stronger, the value of induced current is</p> <p>a. Decreased b. Increased c. Vanished d. Kept constant</p>	<p>1145. What is the duration of one cycle known as</p> <p>a. Period b. Cycle c. Instantaneous value d. Sin wave</p>
<p>1140. Emf produced in generator is</p> <p>a. $NwAB\cos(wt)$ b. $NwAB\tan(wt)$ c. $NwAB\cot(wt)$ d. $NwAB\sin(wt)$</p>	<p>1146. If an A.C voltages rms value of 10 volt is applied as input of half wave rectifier, then the rms voltage value of D.C. output will be</p> <p>a. 10V b. 10.3V c. 10.7V d. 9.3V</p>
<p>1141. Magnetic flux is scalar product of</p> <p>a. B and V b. B and A c. B and I d. None of these</p>	<p>1147. In an A.C generator, increase in number of turns in the coil</p> <p>a. Increases emf b. Decreases emf c. Make the emf zero d. Maintain the emf at a constant value</p>
<p>1142. An electric power is transmitted over long distance through conducting wire at high voltage and low current because</p> <p>a. It causes less amount of power loss b. It reduces the possibility of theft c. High voltage waves travel faster d. Generators produce electrical energy at high voltage</p>	<p>1148. A metal rod of length 4m, velocity 5 m/s and magnetic field 0.5 T induced emf is</p> <p>a. 10V b. 20V c. 30V d. 4V</p>
<p>1143. The coupling coefficient of perfectly coupled coil is</p> <p>a. Zero b. 1 c. More than 1 d. Infinite</p>	<p>1149. Time varying magnetic field creates electric field, this is called</p> <p>a. Electric induction b. Magnetic induction c. Electro magnetic induction d. Dipole induction</p>
<p>1144. If magnetic field is doubled than magnetic energy density becomes</p> <p>a. Four times b. Two times c. Three times</p>	<p>1150. If the number of flux passing through a coil per unit time is doubled then motion emf also</p> <p>a. Halves b. Triples</p>

<p>c. Doubles d. Remain unchanged</p>	<p>b. Cycle c. Instantaneous value d. Sin wave</p>
<p>1151. A 220 V mains supply is connected to a resistance of 100 k ohms. The effective current is</p> <p>a. 2.2 mA b. $2.2\sqrt{2}$ mA c. $2.2 \times \sqrt{2}$ mA d. None of the above</p>	<p>1157. Time varying magnetic field creates electric field, this is called</p> <p>a. Electric induction b. Magnetic induction c. Electro magnetic induction d. Dipole induction</p>
<p>1152. For current changing with time will produce ____ field</p> <p>a. Electrostatic b. Magnetostatic c. Electro magnetic d. None of these</p>	<p>1158. Non-inductive resistance are used in</p> <p>a. Ammeter b. Voltmeter c. Resistance boxes d. All of these</p>
<p>1153. Electric motor converts _____ to _____ energy</p> <p>a. Electric , mechanical b. Mechanical , electric c. Mechanical, potential d. Not enough information</p>	<p>1159. When currents are moving in the same direction in two conductors, then the force will be</p> <p>a. Attractive b. Repulsive c. Retracting d. Opposing</p>
<p>1154. Which one of the following is not present in AC generator</p> <p>a. Armature b. Magnet c. Slip rings d. Commutator</p>	<p>1160. Motional emf can be produced with</p> <p>a. Changing magnetic field in space b. Changing magnetic field in time c. Changing flux with space d. Constant magnetic field</p>
<p>1155. Power transfer from primary to secondary is through flux linkage, so the primary and secondary coils should be wound in such a way that flux coupling between them is</p> <p>a. Min b. Constant c. Zero d. Max</p>	<p>1161. Magnetic flux is scalar product of</p> <p>a. B and V b. B and A c. B and I d. None of these</p> <p>1162. Henry is unit of</p> <p>a. Self inductance only b. Mutual inductance c. Both a) and b) d. Emf</p>
<p>1156. What is the duration of one cycle known as</p> <p>a. Period</p>	<p>1163. Motional emf induced in a coil is dependent on</p> <p>a. Magnetic field</p>

- b. Orientation
- c. Length
- d. All of these

1164. X' is a rectangular coil consisting of a large number of turns of copper wire wound over a soft iron core in an a.c generator. Identify X

- a. Slip rings
- b. Armature
- c. Copper brushes
- d. Field magnet

1165. The role of inductance is equivalent to

- a. Inertia
- b. Force
- c. Energy
- d. Momentum

1166. A sinusoidal current has rms value of 10 A. what is the peak value of current?

- a. 14.4a
- b. 1.4a
- c. 0.1414a
- d. 14.4a

1167. A device that consumes electrical energy in the external circuit of generator is known as

- a. Appliances
- b. Machines
- c. Motors
- d. Load

1168. Weber is the unit of _____

- a. Magnetic flux
- b. Electric flux
- c. Both a or b
- d. None of these

1169. Face of coil having clockwise current

- a. Behaves like north pole
- b. Behaves like south pole
- c. Becomes magnet of varying pole
- d. Does not behaves like magnet

1170. The root mean square value of the alternating current is equal to

- a. Twice the peak value
- b. Half the peak value
- c. Equal to the peak value
- d. $(1/\sqrt{2})$ times the peak value

1171. Which one of the following is not present in AC generator

- a. Armature
- b. Magnet
- c. Slip rings
- d. Commutator

1172. Self-inductance varies with the applied current is coil as

- a. I^2
- b. $1/I$
- c. I
- d. Remains unchanged

1173. Which one of the following is not found in a DC generator?

- a. Armature
- b. Slip rings
- c. Commutators
- d. Magnet

1174. 220 V, 50 Hz AC supply is connected across a resistor of 50 k ohms. The current at time t seconds, assuming that is zero at $t = 0$, is

- a. $4.4 \sin(314t)$ mA
- b. $4.4 \sin(157t)$ mA
- c. $6.2 \sin(314t)$ mA
- d. $6.2 \sin(157t)$ mA

1175. Self inductance varies number of turns in coil as

- a. N
- b. N^3
- c. N^2
- d. $1/N$

1176. Motional emf induced in a coil is

independent of

- a. Number of turns
- b. Change in flux
- c. Change in time
- d. Resistance

1177. Calculate the frequency if the number of revolutions is 300 and the paired poles are 50

- a. 15 kHz
- b. 150 kHz
- c. 1500 kHz
- d. 150 Hz

1178. Maximum emf generated in a generator is

- a. $\varepsilon_0 = N\omega AB \sin\phi$
- b. $\varepsilon_0 = \varepsilon \sin\phi$
- c. $\varepsilon = \varepsilon_0 \sin\phi$
- d. $\varepsilon_0 = N\omega AB$

1179. Non-inductive resistance are used in

- a. Ammeter
- b. Voltmeter
- c. Resistance boxes
- d. All of these

1180. Identify the factor on which mutual inductance does not depend.

- a. Relative orientation
- b. Relative separation of two coils
- c. Reciprocity
- d. Permeability of the core material

1181. Current that fluctuates periodically with time is

- a. DC current
- b. BC current
- c. AC current
- d. Magnetic current

1182. Electric field generated due to induction is

- a. Conservative
- b. Non-conservative

- c. Depends on internal property
- d. Not enough information

1183. The coupling coefficient of perfectly coupled coil is

- a. Zero
- b. 1
- c. More than 1
- d. Infinite

1184. The maximum instantaneous value measure from zero value is known as?

- a. Peak value
- b. Peak to peak value
- c. Cycle
- d. Period

1185. The frequency of applied A.C is 2 K.Hz. Its time period will be

- a. 0.5×10^{-3} sc
- b. 0.5 sec
- c. 5 sec
- d. 2 sec

1186. Calculate the maximum emf when the velocity is 10 m/s, the length is 3m and the magnetic field density is 5T

- a. 150v
- b. 300v
- c. 100v
- d. 0v

1187. Electric motor converts ____ to ____ energy

- a. Electric , mechanical
- b. Mechanical, electric
- c. Mechanical, potential
- d. Not enough information

1188. If the number of flux passing through a coil per unit time is doubled then motion emf also

- a. Halved
- b. Triples
- c. Doubles

d. Remains unchanged

1189 Voltage in secondary winding is ____ to current in secondary coil

- a. Directly proportional
- b. Inversely proportional
- c. Directly squared proportional
- d. Not enough information

1190 The magnetic flux (ϕ) linked with a coil is related to the number of turns (N) of the coil as:

- a. $f \propto N$
- b. $f \propto 1/N$
- c. $f \propto 1 / (N)^2$
- d. $f \propto N^2$

1191 A 100 turn coil area 0.1 m^2 rotates at half a revolution per second. It is placed in a uniform magnetic field of 0.01 T perpendicular to the axis of rotation of the coil. Calculate the maximum voltage generated in the coil?

- a. 256.33v
- b. 89.12v
- c. 0.314v
- d. 3.1455v

1192 When currents are moving in the same direction in two conductors, then the force will be

- a. Attractive
- b. Repulsive
- c. Retracing
- d. Opposing

1193 For a coil self-inductance L and current I then flux passing through it is

- a. LI
- b. LI^2
- c. L^2I
- d. $(LI)^2$

1194 A cable 4 km long and of total resistance 1 ohm carries electric current from a

generator producing 100kW at 10,000 volts. the current in amperes in the cable is

- a. 10
- b. 10000
- c. 1000
- d. 100000

1195 An electric power is transmitted over long distance through conduction wire at high voltage and low current because

- a. It causes less amount of power loss
- b. It reduces the possibility of theft
- c. High voltage waves travel faster
- d. Generators produce electric energy at high voltage

1196 For a metal rod of length L and moving with speed v in perpendicular to magnetic field then motional emf at its end is

- a. $1vB$
- b. $1vB^2$
- c. $1v^2B$
- d. None of these

1197.

Transformer

In step down transformer ____ is decreased in secondary coils.

- a. Electric field
- b. Magnetic field
- c. Number of turns
- d. None of these

1198. Principle of transformer is

- a. Mutual inductance
- b. Self induction
- c. Motional emf
- d. None of these

1199. In step up transformer

- a. $V_s/V_p = 1$
- b. $V_s < V_p$
- c. $V_s = V_p$
- d. $V_s > V_p$

- b. 1 : 3
- c. 2 : 1
- d. 2 : 5

1200. Primary and secondary powers of a transformer are 200 W and 100 W respectively, the efficiency of a transformer is

- a. 50%
- b. 1
- c. 20%
- d. 10%

1201. The transformer laminations are insulated from each other by

- a. Mica strip
- b. Paper
- c. Thin coating of Varnish
- d. Any of the above

1202. For ideal step up transformer P_s _____ P_p .

- a. Equal to
- b. Greater than
- c. Less than
- d. None of these

1203. Lamination of the transformer core is made of

- a. Cast iron
- b. Silicon steel
- c. Aluminum
- d. Cast steel

1204. A transformer has negative voltage regulation when its load power factor is

- a. Lagging
- b. Leading
- c. Unity
- d. Any of above

1205. The voltage turn ratio of step down transformer is

- a. 1 : 2

1206. The secondary turns of which of the following transformer is always kept closed for _____ transformer

- a. Power
- b. Voltage
- c. Current
- d. Step down

1207. For step down transformer N_s _____ N_p

- a. Equal to (=)
- b. Less than (<)
- c. Greater than (>)
- d. Not equal

1208. For step down transformer N_s _____ N_p

- a. Equal to (=)
- b. Less than (<)
- c. Greater than (>)
- d. Not equal

1209. In step up transformer

- a. $V_s/V_p = 1$
- b. $V_s < V_p$
- c. $V_s = V_p$
- d. $V_s > V_p$

1210. The turns ratio of transformer is 10. It moves that:

- a. $I_s = 10 I_p$
- b. $N_s = N_p / 10$
- c. $N_s = 10 N_p$
- d. $V_s = V_p / 10$

1211. Harmonics in transformer result in

- a. Increase core loss
- b. Increase $I^2 R$ loss
- c. Interference will communication circuits
- d. All of the above

1212. Step up transformer have _____ turns in secondary coil

- a. More
- b. Less
- c. Equal
- d. Zero

- a. Self inductance only
- b. Mutual inductance
- c. Capacitive effect
- d. All of these

1213. Transformer is based on the theory of

- a. Self inductance only
- b. Mutual inductance
- c. Capacitive effect
- d. All of these

1220. Breather is provided in a transformer to

- a. Absorb moisture of air during breathing
- b. Provide cold air in the transformer
- c. The filter of transformer oil
- d. None of above

1214. A real transformer does not change

- a. Voltage level
- b. Current level
- c. Power level
- d. Frequency level

1221. Transformer operates on

- a. AC
- b. DC
- c. Both
- d. None of these

1215. The core of transformer is made up of

- a. Hard iron
- b. Soft iron
- c. Aluminum
- d. Copper

1222. Power transformer are designed to have maximum efficiency at

- a. Full load
- b. 50%
- c. 80%
- d. No load

1216. One of the major reasons for heat loss in transformer is

- a. Radiation loss
- b. Convection loss
- c. Eddy current loss
- d. None of these

1223. The voltage turn ratio of step down transformer is

- a. 1 : 2
- b. 1 : 3
- c. 2 : 1
- d. 2 : 5

1217. For step down transformer N_s _____ N_p

- a. Equal to (=)
- b. Less than (<)
- c. Greater than (>)
- d. Not equal

1224. Harmonics in transformer result in

- a. Increases core loss
- b. Increases I^2R loss
- c. Interference with communication circuits
- d. All of the above

1218. A transformer step down from 22V to 50V. it has secondary winding = 40 turns, then winding in primary coil are

- a. 150
- b. 160
- c. 170
- d. 200

1225. Power transformer have maximum efficiency at

- a. Not load
- b. Full load
- c. Half load

1219. Transformer is based on the theory of



d. Double load

1226 When $n_s > n_p$ then transformer is

- a. Step up
- b. Step down
- c. Primary
- d. Secondary

1227 The turns ratio of transformer is 10, It means that:

- a. $I_s = 10I_p$
- b. $N_s = N_p/10$
- c. $N_s = 10N_p$
- d. $V_s = V_p/10$

1228 Which of the following remains unchanged in transformer

- a. Voltage
- b. Current
- c. Power
- d. Capacitance

1229 An ideal step down transformer is connected to main supply of 240V. It is desired to operate 12V, 30W lamp. What is the current in primary coil?

- a. 0.125A
- b. 0.5A
- c. 125A
- d. 12.5A

1230 In order to enhance magnetic flux, the primary and secondary coils of the transformer are wound on

- a. Soft iron core
- b. Iron core
- c. Hard iron core
- d. Steel core

1231 The mutual induction happens in

- a. AC generator
- b. DC generator
- c. Battery
- d. Transformer

1232 The open-circuit test in a transformer is

used to measure

- a. Copper loss
- b. Winding loss
- c. Total loss
- d. Core loss

1233 Core of transformer is made up of

- a. Copper
- b. Aluminum
- c. Iron
- d. Steel

1234 In step up transformer _____ is increase in secondary coils

- a. Electric field
- b. Magnetic field
- c. Number of turns
- d. None of these

1235 Mutual inductance has a practical role in performance of

- a. AC generator
- b. Radio choke
- c. DC generator
- d. Transformer

1236 Transformer ratio of transformer is given by

- a. V_s/V_p
- b. I_p/I_s
- c. N_s/N_p
- d. All of these

1237.

ELECTRONICS

1238 Ripple factor of half wave rectifier is

- A. 1.21
- B. 0.8
- C. 0.6
- D. 0.4

1239 To get a peak load voltage of 40V out of a bridge rectifier, what should be the approximate rms value of secondary voltage?



- A. 0V
- B. 14.4V
- C. 28.3V
- D. 56.6 V

- A. half wave
- B. full wave
- C. bridge
- D. All of the above

1240. Transformer is used in rectification to _____ the supply voltage

- A. step up
- B. step down
- C. equalize
- D. none of them

1241. To get a peak load voltage of 40V out of a bridge rectifier, what should be the approximate rms value of secondary voltage?

- A. 0V
- B. 14.4V
- C. 28.3V
- D. 56.6 V

1242. A full wave rectifier passes _____ into positive cycles

- A. lower half cycle
- B. upper half cycle
- C. both cycles
- D. none of them

1243. In half wave rectification, the output DC voltage is obtained across the load for

- A. the positive half cycle of input AC
- B. the negative half cycle of input AC
- C. the positive and negative half cycles of input AC
- D. Either positive or negative half cycle of input

1244. Half wave rectifier has _____ diodes

- A. 1
- B. 2
- C. 3
- D. 4

1245. Which of the following rectifier uses wheatstone bridge to rectify signal

1246. Consider a peak rectifier fed by a 60-Hz sinusoid having a peak value $V_p = 100$ V. Let the load resistance $R = 10$ k Ω . Calculate the fraction of the cycle during which the diode is conducting

- A. 1.06 %
- B. 2.06%
- C. 3.18 %
- D. 4.82%

1247. In a centre tap full wave rectifier if V_m is the peak voltage across the secondary of transformer, the maximum voltage across reverse bias is

- A. V_m
- B. $V_m/\sqrt{2}$
- C. $2V_m$
- D. $V_m/3$

1248. Rectifier is a device which converts

- A. AC to DC
- B. DC to AC
- C. AC to triangular current
- D. DC to triangular current

1249. Half wave rectifier passes only

- A. lower half cycle
- B. upper half cycle
- C. both cycles
- D. none of them

1250. Ripple factor of full wave rectifier is

- A. 1.21
- B. 0.6
- C. 0.482
- D. 0.9

1251. Half wave voltage multiplier can provide any degree of voltage multiplication by cascading diodes and

capacitors.

- A. any doubler
- B. any tripler
- C. any multiplication
- D. none of them

perpendicular magnetic field is

- A. positive
- B. zero
- C. negative
- D. none of these

1252. A full wave rectifier passes _____ into positive cycles

- A. lower half cycle
- B. upper half cycle
- C. both cycles
- D. none of them

1258. Peak voltage in the output of half wave rectifier is 10V so dc component of output voltage is

- A. $10\sqrt{2}$
- B. $10/\sqrt{2}$
- C. $10/\pi$
- D. 10π

1253. A circuit that adds positive or negative dc voltage to an input sine wave is called

- A. Clamper
- B. clipper
- C. diode clamp
- D. limiter

1259. A full wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be

- A. 100 Hz
- B. 25Hz
- C. 50Hz
- D. 200Hz

1254. The maximum efficiency of full wave rectifier is

- A. 80.60%
- B. 40.60%
- C. 70%
- D. 50%

1260. The maximum efficiency of full wave rectifier is

- A. 80.60%
- B. 40.60%
- C. 70%
- D. 50%

1255. A half wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be

- A. 100 Hz
- B. 25 Hz
- C. 200Hz
- D. 50Hz

1261. Average dc Voltage across the load in terms of V_{max} is

- A. $0.532 V_{max}$
- B. $0.637 V_{max}$
- C. $0.759 V_{max}$
- D. $0.437 V_{max}$

1256. The principle behind the working of cathode ray oscilloscope is

- A. oscillation
- B. half wave rectification
- C. full wave rectification
- D. none of these

1262. In a half wave rectification, during negative cycle of the wave the diode is

- A. reversed biased
- B. forward biased
- C. potential barrier
- D. none of these

1257. Work done by the magnetic force on charged particle in presence of

1263. A half wave rectifier is equivalent to

- A. Clamper

<p>B. Clipper C. Clamper circuit with negative bias D. Clamper circuit with positive bias</p>	<p>wheatstone bridge to rectify signal A. half wave B. full wave C. bridge D. All of the above</p>
<p>1264. The output voltage of a rectifier is A. smooth B. pulsating C. perfectly direct D. alternating</p>	<p>1271. In which rectifier ripple factor is less A. full wave B. half wave C. both a) and b) D. none of them</p>
<p>1265. A full wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be A. 100 Hz B. 25Hz C. 50Hz D. 200Hzysics >> Current Electricity</p>	<p>1272. For a half-wave rectifier having diode voltage V_D and supply input of V, the diode conducts for $\pi - 2\theta$, where θ is given by A. $\tan^{-1}(V_D/V)$ B. $\sin^{-1}(V_D/V)$ C. $\cos^{-1}(V_D/V)$ D. $\cot^{-1}(V_D/V)$</p>
<p>1266. 29 Centre tape rectifier circuit consists of ____ diode A. 1 B. 200% C. 300% D. 400%</p>	<p>1273. The principle behind the working of cathode ray oscilloscope is A. oscillation B. half wave rectification C. full wave rectification D. none of these</p>
<p>1267. In which rectifier ripple factor is less A. full wave B. half wave C. both a) and b) D. none of them</p>	<p>1274. Average dc Voltage across the load in terms of V_{max} is A. $0.532 V_{max}$ B. $0.637 V_{max}$ C. $0.759 V_{max}$ D. $0.437 V_{max}$</p>
<p>1268. A half wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be A. 100 Hz B. 25 Hz C. 200Hz D. 50Hz</p>	<p>1275. Consider a peak rectifier fed by a 60-Hz sinusoid having a peak value $V_p = 100$ V. Let the load resistance $R = 10 \text{ k}\Omega$. Calculate the fraction of the cycle during which the diode is conducting A. 1.06 % B. 2.06% C. 3.18 % D.. 4.82%</p>
<p>1269. Rectifier is a device which converts A.AC to DC B.DC to AC C.AC to triangular current D.DC to triangular current</p>	
<p>1270. Which of the following rectifier uses</p>	

- 1276** 39 The bridge rectifier is preferred to an ordinary two diode full wave rectifier because
- it needs much smaller transformer for the same output
 - no center tap required
 - less PIV rating per diode
 - All of the above
- 1277** In a centre tap full wave rectifier if V_m is the peak voltage across the secondary of transformer, the maximum voltage across reverse bias is
- V_m
 - $V_m/\sqrt{2}$
 - $2V_m$
 - $V_m/3$
- 1278** Half wave rectifier uses
- one diode
 - two diode
 - three diodes
 - Four diodes
- 1279** Half wave rectifier passes only
- lower half cycle
 - upper half cycle
 - both cycles
 - none of them
- 1280** The bridge rectifier is preferred to an ordinary two diode full wave rectifier because
- it needs much smaller transformer for the same output
 - no center tap required
 - less PIV rating per diode
 - All of the above
- 1281** In a rectifier, larger the value of shunt capacitor filter
- larger the peak-to-peak value of ripple voltage
 - larger the peak current in the rectifying diode
 - longer the time that current pulse flows through the diode
 - smaller the dc voltage across the load
- 1282** If the line frequency is 50 Hz, the output frequency of bridge rectifier is
- 50Hz
 - 100Hz
 - 200Hz
 - 150Hz
- 1283** The use of a capacitor filter in a rectifier circuit gives satisfactory performance only when the load
- Current is high
 - Current is low
 - Voltage is high
 - Voltage is low
- 1284** Which of the following is a type of rectifier
- half wave
 - full wave
 - bridge
 - All of the above
- 1285** Ripple factor of half wave rectifier is
- 1.21
 - 0.8
 - 0.6
 - 0.4
- 1286** Half wave rectifier passes only
- lower half cycle
 - upper half cycle
 - both cycles
 - none of them
- 1287** A full wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be
- 100 Hz

- B. 25Hz
- C. 50Hz
- D. 200Hz

1288. Which of the following is not a type of rectifier?

- A. Phase wave rectifier
- B. Full wave
- C. half wave
- D. none of them

1289. Rectifier is a device which converts

- A. AC to DC
- B. DC to AC
- C. AC to triangular current
- D. DC to triangular current

1290. In full wave rectifier with input frequency 50 Hz the ripple in the output is mainly of frequency

- A. 25 Hz
- B. 50Hz
- C. 100Hz
- D. Zero

1291. Ripple factor of full wave rectifier is

- A. 1.21
- B. 0.6
- C. 0.482
- D. 0.9

1292. In a centre tap full wave rectifier if V_m is the peak voltage across the secondary of transformer, the maximum voltage across reverse bias is

- A. V_m
- B. $V_m/\sqrt{2}$
- C. $2V_m$
- D. $V_m/3$

1293. The output voltage of a rectifier is

- A. smooth
- B. pulsating
- C. perfectly direct
- D. alternating

1294. In a half wave rectification, during negative cycle of the wave the diode is

- A. reversed biased
- B. forward biased
- C. potential barrier
- D. none of these

1295. The number of diodes in bridge rectifier is

- A. 4
- B. 3
- C. 2
- D. 5

1296. If a half wave rectifier is used to convert 50Hz AC into DC, then the number of pulses present in rectifier voltage is

- A. 25
- B. 50
- C. 100
- D. 75

1297. Centre tap rectifier circuit consists of ____ diode

- A. 1
- B. 200%
- C. 300%
- D. 400%

1298. Which of the following are component of half wave rectifier

- A. transformer
- B. load resistance
- C. power supply
- D. All of the above

1299. In which rectifier ripple factor is less

- A. full wave
- B. half wave
- C. both a) and b)
- D. none of them

1300. The basic purpose of filter is to

- A. minimize variation in ac signal

<p>B. suppress harmonics in rectified output</p> <p>C. remove ripples from the rectified output</p> <p>D. stabilize dc output voltage</p>	D. limiter
<p>1301. A full wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be</p> <p>A. 100 Hz</p> <p>B. 25Hz</p> <p>C. 50Hz</p> <p>D. 200Hz</p>	<p>1307. The basic reason why a full wave rectifier has twice efficiency than half wave rectifier because</p> <p>A. it uses transformer</p> <p>B. its ripple factor is much less</p> <p>C. it uses both cycle as input</p> <p>D. Output frequency is double the line frequency</p>
<p>1302. The principle behind the working of cathode ray oscilloscope is</p> <p>A. oscillation</p> <p>B. half wave rectification</p> <p>C. full wave rectification</p> <p>D. none of these</p>	<p>1308. Most widely used rectifier is</p> <p>A. half wave rectifier</p> <p>B. full wave rectifier</p> <p>C. bridge rectifier</p> <p>D. none of them</p>
<p>1303. 66 Ripple factor is defined as</p> <p>A. I_{rms}/V_{rms}</p> <p>B. I_{dc}/I_{rms}</p> <p>C. I_{rms}/I_{dc}</p> <p>D. $I_{rms} + I_{dc}$</p>	<p>1309. In a rectifier, larger the value of shunt capacitor filter</p> <p>A. larger the peak-to-peak value of ripple voltage</p> <p>B. larger the peak current in the rectifying diode</p> <p>C. longer the time that current pulse flows through the diode</p> <p>D. smaller the dc voltage across the load</p>
<p>1304. Half wave rectifier passes only</p> <p>A. lower half cycle</p> <p>B. upper half cycle</p> <p>C. both cycles</p> <p>D. none of them</p>	<p>1310. Rectifier is a device which converts</p> <p>A. AC to DC</p> <p>B. DC to AC</p> <p>C. AC to triangular current</p> <p>D. DC to triangular current</p>
<p>1305. Non-inverting amplifier circuits have</p> <p>A. A very high input impedance</p> <p>B. A very low input impedance</p> <p>C. A low output impedance</p> <p>D. None of the above</p>	<p>1311. The number of diodes in bridge rectifier is</p> <p>A. 4</p> <p>B. 3</p> <p>C. 2</p> <p>D. 5</p>
<p>1306. A circuit that adds positive or negative dc voltage to an input sine wave is called</p> <p>A. Clamper</p> <p>B. clipper</p> <p>C. diode clamp</p>	<p>1312. In a centre tap full wave rectifier if V_m is the peak voltage across the secondary of transformer, the maximum voltage across reverse bias is</p> <p>A. V_m</p>

- B. $V_m/\sqrt{2}$
 C. $2V_m$
 D. $V_m/3$

- A. 25 Hz
 B. 50Hz
 C. 100H
 D.40H

1313. To get a peak load voltage of 40V out of a bridge rectifier, what should be the approximate rms value of secondary voltage?

- A. 0V
 B. 14.4V
 C. 28.3V
 D. 56.6 V

1319. Transistors can be used as

- A. half wave rectifier
 B. full wave rectifier
 C. both
 D. none of these0

1314. 77 If the line frequency is 50 Hz, the output frequency of bridge rectifier is

- A. 50Hz
 B. 100Hz
 C. 200Hz
 D. 150Hz

1320. In half wave rectification, the output DC voltage is obtained across the load for

- A. the positive half cycle of input AC
 B. the negative half cycle of input AC
 C. the positive and negative half cycles of input AC
 D. Either positive or negative half cycle of input AC

1315. Ripple factor of full wave rectifier is

- A. 1.21
 B. 0.6
 C. 0.482
 D. 0.9

1321. diode works in _____ bias for rectification

- A.forward
 B.reverse
 C.mid
 D.positive

1316. Half wave voltage multiplier can provide any degree of voltage multiplication by cascading diodes and capacitors.

- A. any doubler
 B. any tripler
 C. any multiplication
 D. none of them

1322. Half wave rectifier uses

- A. one diode
 B. two diode
 C. three diodes
 D. Four diodes

1317. If peak Voltage across a full wave rectifier is 20V then V_{rms} is

- A. 7.07
 B. 14.14 v
 C. 16.8V
 D.. 12V

1323. Which of the following rectifier uses wheatstone bridge to rectify signal

- A. half wave
 B. full wave
 C. bridge
 D. All of the above

1318. In full wave rectifier with input frequency 50 Hz the ripple in the output is mainly of frequency

1324. Consider a peak rectifier fed by a 60-Hz sinusoid having a peak value $V_p = 100$ V. Let the load resistance $R = 10\text{ k}\Omega$. Calculate the fraction of the cycle during which the diode is conducting

- A. 1.06 %
B. 2.06%
C. 3.18 %
D. 4.82%
- 1325.** The process of converting alternating current to direct current is called
A. modulation
B. amplification
C. oscillation
D. rectification
- 1326.** Ripple factor of half wave rectifier is
A. 1.21
B. 0.8
C. 0.6
D. 0.4
- 1327.** A full wave rectifier uses load resistor of 1500Ω . Assume the diodes have $R_f=10\Omega$, $R_r=\infty$. The voltage applied to diode is 30V with a frequency of 50Hz. Calculate the AC power input
A. 358.98mW
B. 275.2 mW
C. 145.76 mW
D. 456.78 mW
- 1328.** Which of the following is a type of rectifier
A. half wave
B. full wave
C. bridge
D. All of the above
- 1329.** Transformer is used in rectification to _____ the supply voltage
A. step up
B. step down
C. equalize
D. none of them
- 1330.** Most widely used rectifier is
A. half wave rectifier
B. full wave rectifier
C. bridge rectifier
D. none of them
- 1331.** Transistors can be used as
A. half wave rectifier
B. full wave rectifier
C. both
D. none of these
- 1332.** In a half wave rectification, during negative cycle of the wave the diode is
A. reversed biased
B. forward biased
C. potential barrier
D. none of these
- 1333.** In a bridge type full wave rectifier, if V_m is the peak voltage across the secondary of the transformer, the maximum voltage coming across each reverse biased diode is
A. V_m
B. $V_m/\sqrt{2}$
C. $2V_m$
D. $V_m/3$
- 1334.** Rectifier is a device which converts
A. AC to DC
B. DC to AC
C. AC to triangular current
D. DC to triangular current
- 1335.** Ripple factor is defined as
A. I_{rms}/V_{rms}
B. I_{dc}/I_{rms}
C. I_{rms}/I_{dc}
D. $I_{rms} + I_{dc}$
- 1336.** The process of converting alternating current to direct current is called
A. modulation
B. amplification
C. oscillation
D. rectification
- 1337.** 100 In half wave rectification, the

output DC voltage is obtained across the load for

- A. the positive half cycle of input AC
- B. the negative half cycle of input AC
- C. the positive and negative half cycles of input AC
- D. Either positive or negative half cycle of input

1338. AC

101 A full wave rectifier passes _____ into positive cycles

- A. lower half cycle
- B. upper half cycle
- C. both cycles
- D. none of them

1339. 102 Rectifier is a device which converts

- A. AC to DC
- B. DC to AC
- C. AC to triangular current
- D. DC to triangular current

1340. 103 Half wave rectifier passes only

- A. lower half cycle
- B. upper half cycle
- C. both cycles
- D. none of them

1341. 104 Half wave voltage multiplier can provide any degree of voltage multiplication by cascading diodes and capacitors.

- A. any doubler
- B. any tripler
- C. any multiplication
- D. none of them

1342. 105 In a half wave rectification, during negative cycle of the wave the diode is

- A. reversed biased
- B. forward biased
- C. potential barrier
- D. none of these

1343. 106 The output voltage of a rectifier is

- A. smooth
- B. pulsating
- C. perfectly direct
- D. alternating

1344. 107 In which rectifier ripple factor is less

- A. full wave
- B. half wave
- C. both a) and b)
- D. none of them

1345. 108 A half wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be

- A. 100 Hz
- B. 25 Hz
- C. 200Hz
- D. 50Hz

1346. 109 Consider a peak rectifier fed by a 60-Hz sinusoid having a peak value $V_p = 100$ V. Let the load resistance $R = 10$ k Ω . Calculate the fraction of the cycle during which the diode is conducting

- A. 1.06 %
- B. 2.06%
- C. 3.18 %
- D. 4.82%

1347. 110 Which of the following is not a type of rectifier?

- A. Phase wave rectifier
- B. Full wave
- C. half wave
- D. none of them

1348. 111 In full wave rectifier with input frequency 50 Hz the ripple in the output is mainly of frequency

- A. 25 Hz
- B. 50Hz
- C. 100Hz

D. Zero

1349. 112 If a half wave rectifier is used to convert 50Hz AC into DC, then the number of pulses present in rectifier voltage is

- A. 25
- B. 50
- C. 100
- D. 75

1350. 113 Centre tape rectifier circuit consists of ____ diode

- A. 1
- B. 200%
- C. 300%
- D. 400%

1351. 114 The basic purpose of filter is to

- A. minimize variation in ac signal
- B. suppress harmonics in rectified output
- C. remove ripples from the rectified output
- D. stabilize dc output voltage

1352. 115 Ripple factor is defined as

- A. I_{rms}/V_{rms}
- B. I_{dc}/I_{rms}
- C. I_{rms}/I_{dc}
- D. $I_{rms} + I_{dc}$

1353. 116 The output voltage of a rectifier is

- A. smooth
- B. pulsating
- C. perfectly direct
- D. alternating

1354. 117 Which of the following is not a type of rectifier?

- A. Phase wave rectifier
- B. Full wave
- C. half wave
- D. none of them

1355. 118 Half wave rectifier passes only

- A. lower half cycle
- B. upper half cycle
- C. both cycles
- D. none of them

1356. 119 The bridge rectifier is preferred to an ordinary two diode full wave rectifier because

- A. it needs much smaller transformer for the same output
- B. no center tap required
- C. less PIV rating per diode
- D. All of the above

1357. 120 A half wave rectifier is operating from 50 Hz mains. Fundamental frequency of ripple will be

- A. 100 Hz
- B. 25 Hz
- C. 200Hz
- D. 50Hz

1358. 121 Centre tape rectifier circuit consists of ____ diode

- A. 1
- B. 200%
- C. 300%
- D. 400%

1359. 122 The maximum efficiency of full wave rectifier is

- A. 80.60%
- B. 40.60%
- C. 70%
- D. 50%

1360. 123 Half wave voltage multiplier can provide any degree of voltage multiplication by cascading diodes and capacitors.

- A. any doubler
- B. any tripler
- C. any multiplication
- D. none of them



- 1361.** 124 Transformer is used in rectification to ____ the supply voltage
 A. step up
 B. step down
 C. equalize
 D. none of them
- 1362.** 125 Most widely used rectifier is
 A. half wave rectifier
 B. full wave rectifier
 C. bridge rectifier
 D. none of them
- 1363.** 126 Half wave rectifier has ____ diodes
 A. 1
 B. 2
 C. 3
 D. 4
- 1364.** 127 In half wave rectification, the output DC voltage is obtained across the load for
 A. the positive half cycle of input AC
 B. the negative half cycle of input AC
 C. the positive and negative half cycles of input AC
 D. Either positive or negative half cycle of input AC
- 1365.** 128 The process of converting alternating current to direct current is called
 A. modulation
 B. amplification
 C. oscillation
 D. rectification
- 1366.** 129 Half wave rectifier uses
 A. one diode
 B. two diode
 C. three diodes
 D. Four diodes
- 1367.** 130 Which of the following is not a type of rectifier?
 A. Phase wave rectifier
 B. Full wave
 C. half wave
 D. none of them
- 1368.** 131 A diode works in ____ bias for rectification
 A. forward
 B. reverse
 C. mid
 D. positive
- 1369.** **DAWN OF MODERN PHYSICS**
- 1370.** 1 The ratio of period of excitation in ordinary and metastable state is
 A. 4:10⁻⁸
 B. 1:10⁻⁸
 C. 1:10⁵
 D. All of these
- 1371.** 2 What will be the photon energy for a wavelength of 5000 angstroms, if the energy of a photon corresponding to a wavelength of 7000 angstroms is 4.23×10^{-19} J?
 A. 0.456 eV
 B. 5.879 eV
 C. 3.701 eV
 D. 1.6×10^{-19} Ev
- 1372.** Gamma rays travel ____ distance
 A. long
 B. short
 C. absorbed immediately
 D. never ending distance
- 1373.** Galilean transformations are applicable in :
 A. All frames
 B. frame of reference
 C. Non-Inertial frame

D. Inertial frame	B. 0.01eV s m^{-1}
1374. In annihilation process..... are produced :	C. 0.03eV s m^{-1}
A. Positron	D. 0.04eV s m^{-1}
B. Photons	1381. 12 Polarization explains light is
C. Electrons	A. electric in nature
D. B & C are correct	B. magnetic in nature
1375. 6 In case of spectrometer circular scale, graduated in half degree, is attached with	C. both a & B
A. Telescope	D. none of these
B. Turntable	1382. 13 Momentum of a photon is
C. Cross wire of telescope	A. 0
D. None of these	B. α
1376. 7 Wave theory of light is unable to prove	C. hf/c
A. Black body radiation	D. mv
B. Photoelectric effect	1383. 14 When electron strikes with Al plate which photon is emitted
C. Compton effect	A. blue
D. All of them	B. white
1377. 8 In annihilation process..... are produced :	C. purple
A. Positron	D. none of these
B. Photons	1384. 15 Beta rays cannot be stopped by
C. Electrons	A. paper
D. B & C are correct	B. water
1378. 9 Beta particle is actually a	C. air
A. fast moving electron	D. all of these
B. slow moving electron	1385. 16 gamma rays are attracted towards
C. electron at rest	A. negative plate
D. none of these	B. positive plate
1379. 10 X-ray is the reverse process of :	C. no deflection
A. Pair production	D. pass through the medium
B. Compton effect	1386. 17 Identify the de Broglie expression from the following.
C. Photoelectric effect	A. $\lambda=h\nu$
D. A & B are correct	B. $\lambda=h/p$
1380. 11 The linear momentum of a 3 MeV photon is :	C. $\lambda=h+p$
A. 0.01eV s m^{-1}	D. $\lambda=h-p$
	1387. 18 Michelson determined velocity of light by
	A. studying rotation of moon and sun
	B. using interferometer

C. using a rotating plane mirror D. using an octagonal rotating mirror D	C. 0.136 eV D. None of these
1388. 19 If two photons interact in same direction what will change A. mass B. energy C. intensity D. none of these	1395. 26 The reverse process of pair production is known as : A. Annihilation of energy B. Anti Pair production C. materialization of matter D. Annihilation of practical into its antiparticle
1389. 20 Where does the energy lost by fast moving electron goes : A. Appears as photon B. Appears as electron - positron pair C. Appears as its K.E. D. It vanishes	1396. 27 Among the following four spectral regions, in which of them, the photon has the highest energy in? A. infrared B. violet C. blue D. ultraviolet
1390. 21 Charge of photon is A. 0 B. positive C. negative D. positive/negative	1397. 28 In wave motion the least distance between two points which are out of phase is A. λ B. 3λ C. 4λ D. $\lambda/2$
1391. 22 x-rays can be deflect by A. electric field B. magnetic field C. both a & B D. none of these	1398. 29 The sun gives light at the rate of 1500 W/m^2 of area perpendicular to the direction of light. Assume the wavelength of light as 5000 \AA . Calculate the number of photons/s arriving at 1 m^2 area at that part of the earth. A. 4.770×10^{21} B. 3.770×10^{11} C. 3.770×10^{21} D. 3.770×10^{22}
1392. 23 Pair production is possible in ____ Photon A. x rays B. beta rays C. gamma rays D. all of these	1399. 30 The maximum velocity of SHM is $a\omega$ the period of oscillation is A. $2\pi\omega/a\omega$ B. $2\pi a\omega/x\omega$ C. $2\pi a\omega \times \omega$ D. $2\pi/a\omega \times \omega$
1393. 24 Black body radiations are : A. Infrared and visible light rays B. All radiations C. Visible light and ultraviolet rays D. Ultraviolet and X-rays	
1394. 25 The energy of electron in nth orbit of Hydrogen atom is A. -0.0136 eV B. -1.136 eV	

- 1400.** 31 Numbers of photon electrons emitted from metal depends upon :
 A. Intensity of incident light
 B. Energy of incident light
 C. Wavelength of incident light
 D. Frequency of incident light
- 1401.** 32 What is the frequency of a photon whose energy is 66.3 eV
 A. 12.6×10^6 Hz
 B. 19.6×10^6 Hz
 C. 1.6×10^{16} Hz
 D. 81.6×10^6 Hz
- 1402.** 33 What will be the de - Broglie wavelength when the kinetic energy of the electron increases by 5 times?
 A. $\sqrt{5}$
 B. 5
 C. $1/\sqrt{5}$
 D. $1/5$
- 1403.** 34 What is the de Broglie wavelength of a ball of mass 150g moving at a speed of 50 m/s?
 A. 8.8×10^{-34} m
 B. 8.8×10^{-35} m
 C. 8.8×10^{-20} m
 D. 8.8×10^{-25} m
- 1404.** 35 In compton 'scattering process , wavelength of scattered X-rays :
 A. Remains same
 B. Increases
 C. Decreases
 D. None of these
- 1405.** 36 Range of wavelength of visible light is :
 A. $700^\circ\text{A} - 1000^\circ\text{A}$
 B. 1nm - 100nm
 C. 0.1nm - 1nm
 D. $4000^\circ\text{A} - 7000^\circ\text{A}$
- 1406.** 37 The x-ray photon is uncertain when it is
 A. emitted
 B. absorbed
 C. traveling
 D. all of these
- 1407.** 38 The momentum of white light is ____ than x rays
 A. less
 B. high
 C. equal
 D. none of these
- 1408.** 39 Wave nature and particle nature of photon is linked by :
 A. Rest mass of photon
 B. Wavelength of photon
 C. Light speed
 D. Momentum of photon
- 1409.** 40 In medical scanning ____ rays are used
 A. photon
 B. x
 C. beta
 D. white
- 1410.** 41 The black body which is close to perfect body is :
 A. Translucent glass box
 B. Cavity Radiator
 C. Black holes
 D. All of these
- 1411.** 42 Calculate the energy of a photon of wavelength 6600 angstroms.
 A. 0.3×10^{-19} J
 B. 3×10^{-19} J
 C. 30×10^{-19} J
 D. 300×10^{-19} J
- 1412.** 43 x-rays images are detected on ____ screen
 A. Phosphorous
 B. carbon

C. sodium D. helium	release alpha particle its new mass become A. 194 B. 202 C. 200 D. None of these
1413 44 If a nucleus release gamma rays its mass become A. double B. half C. unchanged D. quarter	1420 51 Wave particle duality does not explain A. momentum B. frequency C. mass D. all of these
1414 45 In subatomic world things can be predicted with ____ precision A. 1 B. less than 1 C. absolutely no D. none of these	1421 52 The frequency of the incident photon after compton effect will : A. remain constant B. Increases C. Decreases D. None of these
1415 46 The concept of work function was given by A. Bohr B. Einstein C. Rutherford D. none of these	1422 53 A beam of electrons can A. reflect B. refract C. both D. none of these
1416 47 white light gives spectrum after occurring A. diffraction B. interference C. reflection D. all of these	1423 54 Existence of photon was confirmed by: A. Compton B. De ' broglie C. Einstein D. Max planck
1417 48 x-rays are used to investigate A. crystals B. molecules C. ions D. electrons	1424 55 Which principle is used in solar cells? A. momentum B. charge C. mass D. all of these
1418 49 In stretched string the frequency of vibration is given by $f = \frac{1}{2L} \sqrt{F/m}$. In this equation m has dimension A. ML ⁻² B. ML ⁻¹ C. M D. ML	1425 56 When white light is used in Double Slit experiment then A. non interference fringes observed B. only central bright fringe is observed
1419 50 If a nucleus with 198 atomic mass	

<p>C. only red and white fringes are observed</p> <p>D. central bright and few coloured fringes are</p>	<p>D. intensity of incident light</p>
<p>1426. 57 Platinum wire becomes yellow at a temperature of _____ degree C.</p> <p>A. 900</p> <p>B. 500</p> <p>C. 1300</p> <p>D. 1600</p>	<p>1432. 63 What will be the photon energy for a wavelength of 5000 angstroms, if the energy of a photon corresponding to a wavelength of 7000 angstroms is 4.23×10^{-19} J?</p> <p>A. 0.456 eV</p> <p>B. 5.879 eV</p> <p>C. 3.701 eV</p> <p>D. 1.6×10^{-19} eV</p>
<p>1427. 58 Radiation can cause</p> <p>A. burning</p> <p>B. cancer</p> <p>C. flu</p> <p>D. all of these</p>	<p>1433. 64 Which light photon has the least momentum</p> <p>A. red</p> <p>B. green</p> <p>C. yellow</p> <p>D. blue</p>
<p>1428. 59 The wavelength of matter wave is independent of :</p> <p>A. Mass</p> <p>B. Velocity</p> <p>C. kinetic energy</p> <p>D. Charge</p>	<p>1434. 65 The photon when scattered from mirror its momentum becomes</p> <p>A. double</p> <p>B. half</p> <p>C. remain same</p> <p>D. zero</p>
<p>1429. 60 Numbers of electrons emitted in photoelectric effect depends upon</p> <p>A. wavelength of incident light</p> <p>B. frequency of incident light</p> <p>C. energy of incident light</p> <p>D. intensity of incident light</p>	<p>1435. 66 From the following properties of a wave, the one that is independent of the other is its</p> <p>A. Amplitude</p> <p>B. Frequency</p> <p>C. Wavelength</p> <p>D. Time period</p>
<p>1430. 61 For atomic spectra, atomic gas or vapor at pressure which is much _____ than atmospheric pressure is excited</p> <p>A. greater</p> <p>B. greater than equal to</p> <p>C. less</p> <p>D. none of these</p>	<p>1436. 67 x-rays can be deflect by</p> <p>A. electric field</p> <p>B. magnetic field</p> <p>C. both a & B</p> <p>D. none of these</p>
<p>1431. 62 Numbers of electrons emitted in photoelectric effect depends upon</p> <p>A. wavelength of incident light</p> <p>B. frequency of incident light</p> <p>C. energy of incident light</p>	<p>1437. 68 Which principle is used in solar cells?</p> <p>A. momentum</p> <p>B. charge</p> <p>C. mass</p>

D. all of these	free
1438 69 The linear momentum of a 3 MeV photon is : A. 0.01eV s m^{-1} B. 0.01eV s m^{-1} C. 0.03eV s m^{-1} D. 0.04eV s m^{-1}	A. particle nature B. wave nature C. dual nature D. it transform to photon
1439 70 In pair production..... are produced : A. positron & electron B. Photons C. Electron & neutron D. B & C are correct	1445 76 In medical scanning ____ rays are used A. photon B. x C. beta D. white
1440 71 Which among the following phenomenon shows particle nature of light? A. Photoelectric effect B. Interference C. Polarization D. Matter waves	1446 77 x-rays are used to investigate A. crystals B. molecules C. ions D. electrons
1441 72 Which light photon has the least momentum A. red B. green C. yellow D. blue	1447 78 Galilean transformations are applicable in : A. All frames B. frame of reference C. Non-Inertial frame D. Inertial frame
1442 73 Wave particle duality does not explain A. momentum B. frequency C. mass D. all of these	1448 79 Which among the following shows the particle nature of light? A. Interference B. Reflection C. polarization D. Photoelectric effect
1443 74 Which principle is used in solar cells? A. momentum B. charge C. mass D. all of these	1449 80 In compton 'scattering process , wavelength of scattered X-rays : A. Remains same B. Increases C. Decreases D. None of these
1444 75 The electron is purely a ____ when	1450 81 In subatomic world things can be predicted with ____ precision A. 1 B. less than 1

- C. absolutely no
D. none of these
- 1451.** 82 Inertial frame has :
A. Constant velocity
B. Zero velocity
C. Zero acceleration
D. All of these
- 1452.** 83 The linear momentum of a 3 MeV photon is :
A. 0.01 eV s m^{-1}
B. 0.01 eV s m^{-1}
C. 0.03 eV s m^{-1}
D. 0.04 eV s m^{-1}
- 1453.** 84 The photon is the particle, which has :
A. Infinite rest mass
B. Rest mass but no charge
C. No rest mass & no charge
D. A & C are correct
- 1454.** 85 x-rays can be deflected by
A. electric field
B. magnetic field
C. both A & B
D. none of these
- 1455.** 86 ____ is conserved in pair production
A. charge
B. momentum
C. both A & B
D. none of these
- 1456.** 87 What is the de Broglie wavelength associated with an electron, accelerated through a potential difference of 200 volts?
A. 1 nm
B. 0.5 nm
C. 0.0056 nm
D. 0.086 nm
- 1457.** 88 In stationary waves
A. Strain is maximum at antinodes
B. Strain is minimum at nodes
C. Strain is maximum at node
D. Amplitude is same at all points
- 1458.** 89 Which light photon has the least momentum
A. red
B. green
C. yellow
D. blue
- 1459.** 90 The maximum velocity of SHM is a_0 the period of oscillation is
A. $2\pi x_0/a_0$
B. $2\pi a_0/x_0$
C. $2\pi a_0 x_0$
D. $2\pi/a_0 x_0$
- 1460.** 91 Gamma rays travel ____ distance
A. long
B. short
C. absorbed immediately
D. never ending distance
- 1461.** 92 The electron is purely a ____ when free
A. particle nature
B. wave nature
C. dual nature
D. it transforms to photon
- 1462.** 93 The electron is purely a ____ when free
A. particle nature
B. wave nature
C. dual nature
D. it transforms to photon
- 1463.** 94 Planck's constant is analogous to :
A. Inertia
B. Wave nature
C. Angular momentum
D. Linear momentum
- 1464.** 95 The concept of work function was

given by

- A. Bohr
- B. Einstein
- C. Rutherford
- D. none of these

D. it never moves when in bound state

1465. 96 The bound state electron have

- A. wave nature
- B. particle nature
- C. dual nature
- D. it never moves when in bound state

1471. 102 Which among the following shows the particle nature of light?

- A. Interference
- B. Reflection
- C. polarization
- D. Photoelectric effect

1466. 97 Beta particle is actually a

- A. fast moving electron
- B. slow moving electron
- C. electron at rest
- D. none of these

1472. 103 Polarization explains light is

- A. electric in nature
- B. magnetic in nature
- C. both a & B
- D. none of these

1467. 98 In case of spectrometer circular scale, graduated in half degree, is attached with

- A. Telescope
- B. Turntable
- C. Cross wire of telescope
- D. None of these

1473. 104 Pair production is possible in ____
Photon

- A. x rays
- B. beta rays
- C. gamma rays
- D. all of these

1468. 99 The wavelength of matter wave is independent of :

- A. Mass
- B. Velocity
- C. kinetic energy
- D. Charge

1474. 105 Work function depends on:

- A. Metals only
- B. Nature of surface only
- C. Both metals and nature of surface
- D. Threshold frequency

Physics >> Thermodynamics

1469. 100 Range of wavelength of visible light is :

- A. $700^{\circ}\text{A} - 1000^{\circ}\text{A}$
- B. $1\text{nm} - 100\text{nm}$
- C. $0.1\text{nm} - 1\text{nm}$
- D. $4000^{\circ}\text{A} - 7000^{\circ}\text{A}$

1475. 106 Wave nature of light is proved by :

- A. Polarisation
- B. Black body radiation
- C. Compton 's effect
- D. Photoelectric effect

1470. 101 The bound state electron have

- A. wave nature
- B. particle nature
- C. dual nature

1476. 107 Minimum energy required for pair production is :

- A. 939 MeV
- B. 942 MeV
- C. 1.02MeV
- D. 0.511MeV

1477. 108 The fast moving electrons stopped by a heavy metallic target in an evacuated glass tube, give rise to the production of:

- A. α - particles

B. X-rays C. Laser D. β - particles	electron microscope can be seen A. on electron micrograph B. scanning micrometer C. on fluorescent screen D. none of these
1478. 109 Nucleus absorbs A. x rays B. beta rays C. gamma rays D. all of these	1485. 116 In annihilation process particles move in A. same direction B. opposite direction C. perpendicular direction D. none of these
1479. 110 As a result of interference, energy A. is transmitted and reflected B. is lost C. remains unchanged as a whole but is redistributed D. is gained	1486. 117 Phase difference between two particles of a medium lying between two consecutive nodes is: A. Zero B. $\pi/2$ C. $\pi/4$ D. π
1480. 111 Energy of photon is directly proportional to its : A. Temperature B. Frequency C. Wave length D. None of the above	1487. 118 A three dimensional image is achieved by scanning the surface with a focused beam of electrons A. SEM B. TEM C. XRD D. none of these
1481. 112 Which of the following statements is incorrect about the photons A. Momentum of photon h/λ B. Rest mass of photon is zero C. photon exert no pressure D. Energy of photon is $h\nu$	1488. 119 Photons of energy 10.25 eV fall on the surface of the metal emitting photoelectrons of maximum kinetic energy 5.0 eV. What is the stopping voltage required for these electrons? A. 10V B. 8V C. 5V D. 4V
1482. 113 Two waves interfere constructively, if the path difference between them is A. $(2n + 1) \lambda$ B. $(2n + 1) \lambda/2$ C. $(2n + 1) \lambda/3$ D. None of these	1489. 120 The white laser cannot be produced because A. its is not coherent B. it has low energy C. it diffracts easily
1483. 114 Photocell is similar to A. photoelectric effect B. compton effect C. photoluminescence D. none of these	
1484. 115 The final image produced by	

D. all of these	D. all are correct
1490. 121 Planck's constant is analogous to : A. Inertia B. Wave nature C. Angular momentum D. Linear momentum	1497. 128 ____ is conserved in pair production A. charge B. momentum C. both a & B D. none of these
1491. 122 Joule - second is the unit of: A. Energy B. Heat C. Work D. Planck's constant	1498. 129 Which source is associated with a line emission spectrum A. electric signal B. neon street signal C. red traffic light D. signal
1492. 123 Spectrum from H atom is A. line B. continuous C. band D. none of these	1499. 130 The bound state electron have A. wave nature B. particle nature C. dual nature D. it never moves when in bound state
1493. 124 What is the energy of a photon in a beam of infrared radiation of wavelength 1240 nm? Give your answer in eV. A. 1 B. 6.25×10^{18} C. 1.6×10^{-19} D. 3.6×10^6	1500. 131 The ratio of period of excitation in ordinary and metastable state is A. 4:10-8 B. 1:10-8 C. 1:10 5 D. All of these
1494. 125 White rays can produce x-rays? A. TRUE B. FALSE C. May depend on some conditions D. none of these	1501. 132 What will be the photon energy for a wavelength of 5000 angstroms, if the energy of a photon corresponding to a wavelength of 7000 angstroms is 4.23×10^{-19} J? A. 0.456 eV B. 5.879 eV C. 3.701 eV D. 1.6×10^{-19} eV
1495. 126 Planck constant is named after A. Einstein B. newton's C. Maxwell D. none of these	1502. 133 What will be the photon energy for a wavelength of 5000 angstroms, if the energy of a photon corresponding to a wavelength of 7000 angstroms is 4.23×10^{-19} J? A. 0.456 eV
1496. 127 Einstein was awarded Nobel Prize for his work on A. photoelectric effect B. nuclear fission C. theory of relativity	

- B. 5.879 eV
C. 3.701 eV
D. 1.6×10^{-19} eV

- C. 5V
D. 4V

- 1503.** 134 Which is not the result of special theory of relativity
A. Length contraction
B. Space - time transformation
C. Time dilation
D. Mass variation

- 1509.** 140 A three dimensional image is achieved by scanning the surface with a focused beam of electrons
A. SEM
B. TEM
C. XRD
D. none of these

- 1504.** 135 The photon is the particle , which has :
A. Infinite rest mass
B. Rest mass but no charge
C. No rest mass & no charge
D. A & C are correct

- 1510.** 141 Phase difference between two particles of a medium lying between two consecutive nodes is:
A. Zero
B. $\pi/2$
C. $\pi/4$
D. π

- 1505.** 136 Which source is associated with a line emission spectrum
A. electric signal
B. neon street signal
C. red traffic light
D. signal

1511. NUCLEAR PHYSICS

- 1506.** 137 Einstein was awarded Nobel Prize for his work on
A. photoelectric effect
B. nuclear fission
C. theory of relativity
D. all are correct

- 1512.** 1 Which element has three isotopes?
A. H
B. O
C. Cl
D. none of these

- 1507.** 138 Planck's constant is analogous to :
A. Inertia
B. Wave nature
C. Angular momentum
D. Linear momentum

- 1513.** 2 The radius R of a nucleus is given by :
A. $R=r_0A^{-1/3}$
B. $R= r_0A^{1/3}$
C. $R= r_0A^3$
D. none of these

- 1508.** 139 Photons of energy 10.25 eV fall on the surface of the metal emitting photoelectrons of maximum kinetic energy 5.0 eV. What is the stopping voltage required for these electrons?
A. 10V
B. 8V

- 1514.** 3 If a photon is absorbed by a nucleus the energy of nucleus
A. remain same
B. increase slightly
C. decrease slightly
D. it will pass the nucleus
- 1515.** 4 Find the probability that the nucleus of $^{87}\text{Ra}^{221}$ undergoes decay after three half-lives, if its a radioactive substance which has a half-life of 6 days.

- A. 1/6
B. 3/2
C. 5/6
D. $\frac{1}{2}$

1516. 5 Which element has three isotopes?

- A. H
B. O
C. Cl
D. none of these

1517. 6 The radius R of a nucleus is given by :

- A. $R = r_0 A^{-1/3}$
B. $R = r_0 A^{1/3}$
C. $R = r_0 A^3$
D. none of these

1518. 7 The Na atom cannot produce x-rays because

- A. inner shell transition is possible
B. inner shell transition is not possible
C. it is non radioactive
D. none of these

1519. 8 A radioactive decay rate of 3.7×10^{10} disintegrations per second defines the unit of measurement known as the

- A. Curie
B. rutherford
C. rontgen
D. Rad

1520. 9 What is the S.I. unit of radioactivity?

- A. Curie
B. Rutherford
C. Becquerel
D. all of these

1521. 10 In microwave ovens ____ is used to heat the food

- A. x-rays
B. beta rays
C. gamma rays

D. electromagnetic rays

1522. 11 When the nucleus of an unstable atom emits only gamma radiation, the nucleus must

- A. gain energy
B. lose energy
C. lose protons
D. gain protons

1523. 12 Ozone reflects ____ radiation from sun back into space

- A. IR
B. UV
C. alpha
D. all of these

1524. 13 Radon-222 has 136 neutrons, how many neutrons are there in Radon-220

- A. 131
B. 134
C. 136
D. none of these

1525. 14 The reason that white light is not harmful radiation is that

- A. its speed is less than other radiations
B. it is composed of different lights
C. it is originated from non radioactive element
D. none of these

1526. 15 1 rutherford is equal to

- A. 10^4 Bq
B. 10^6 Bq
C. 10^7 Bq
D. 10^5 Bq

1527. 16 An element X with Z 14 and A 6 has how many neutrons

- A. 6
B. 8
C. 14
D. 20

1528. 17 The down quark has charge ____

- A. 1/2-
B. 1/2+
C. 1/3-
D. 2/3+
- 1529.** 18 The phenomenon of radioactivity is
A. Nuclear process does not depend on external factors
B. increased on applied pressure
C. exothermic change which increase and decrease with temperature
D. none of these
- 1530.** 19 How many down quarks in Neutron
A. 1
B. 2
C. 3
D. 4
- 1531.** 20 Uranium-238 forms thorium-234 after radioactive decay and has a half-life of 4.5×10^9 years. How many years will it take to decay 75% of the initial amount?
A. 9×10^9 years
B. 4×10^9 years
C. 9×10^{10} years
D. 4×10^{10} years
- 1532.** 21 The control rods in nuclear reactor controls the reaction by
A. reducing the neutron speed
B. increasing the neutrons speed
C. increasing the electron speed
D. decreasing the electron speed
- 1533.** 22 β^- decay means emission of electron from
A. radioactive nucleus
B. innermost electron orbit
C. a stable nucleus
D. outer most electron orbit
- 1534.** 23 The Ozone is a isotope of
A. O
B. H
C. Cl
D. none of these
- 1535.** 24 The half life of U-238 against alpha decay is 4.5×10^9 years. Find the activity of 1 kg of U-238?
A. 2.4×10^{-4} Ci
B. 3.34×10^{-4} Ci
C. 4.34×10^{-4} Ci
D. 2.4×10^{-5} Ci
- 1536.** 25 Sample of radioactive element with initial mass of 24 gm decayed to 3 gm in 36 minutes. How much of original sample remained after the first 12 minutes?
A. 12 g
B. 6 g
C. 2 g
D. 8 g
- 1537.** 26 Isotopes of an element have a different number of
A. proton
B. neutron
C. electron
D. atom
- 1538.** 27 What will happen in a time of 7 hours, if a radioactive substance has an average life of 7 hours?
A. Half of the active nuclei decay
B. less half of the active nuclei decay
C. more than half of the active nuclei decay
D. total nuclei decay
- 1539.** 28 The atomic mass unit is unit of
A. distance
B. mass
C. time
D. none of these
- 1540.** 29 _____ time is required for all the

atoms to decay

- A. finite
- B. infinite
- C. very short
- D. zero

detectors

- A. alpha
- B. beta
- C. gamma
- D. all of these

1541. 31 Which of the following substances cannot be emitted by radioactive substances during their decay?

- A. protons
- B. neutrinos
- C. helium nuclei
- D. electrons

1547. 37 Which metal is used to detect radioactivity

- A. heavy metal
- B. mercury metal
- C. hydrogen gas
- D. none of these

1542. 32 When one electron strike with one proton both will

- A. attract
- B. repel
- C. no effect
- D. annihilate

1548. 38 The total mass of protium deuterium and tritium is ___ than three H atoms

- A. 3 neutrons
- B. 3 protons
- C. 3 electrons
- D. none of these

1543. 33 The ionization power of ___ ray is highest

- A. beta
- B. gama
- C. He-Ne laser
- D. none of these

1549. 39 Radioactive radiations are used to destroy

- A. healthy cells
- B. cancerous cells
- C. bacteria
- D. damaged organs

1544. 34 Three types of radioactive elements are emitted when unstable nuclei undergo radioactive decay. Which of the following is not one of them

- A. alpha
- B. beta
- C. gamma
- D. delta

1550. 40 A particle radioisotope has a half life of 5 days. In 15 days the probability of decay in percentage will be

- A. 67 %
- B. 87.5 %
- C. 82.5 %
- D. 77 %

1545. 35 Radiations are classified by its _____ nature

- A. ionizing
- B. non ionizing
- C. both a and b
- D. radiations cannot be classified

1551. 41 C^{14} decays with a half life of about 5800 years. In a sample of bone the ratio of C^{14} to C^{12} is found to be $1/4$ th of what it is in free air. This bone may belong to a period about X centuries ago, where X is nearest to:

- A. 2×58
- B. 58
- C. $58/2$

1546. 36 Which radiation is used in smoke



D. 3×58

1552. 42 ____ are such nuclei of an element that have the same atomic number Z, but have different mass number A

- A. isotopes
- B. isobars
- C. isomers
- D. isotherms

1553. 43 The electron emitted in β - radiation originates from where?

- A. inner orbits of atom
- B. free electrons existing in nuclei
- C. the decay of a neutron in a nuclei
- D. photon escaping from a nuclei

1554. 44 What will be the decay constant of 1 Curie sample of radioactive substance of mass 214, its half life is 26.8 min?

- A. 4.31×10^{-4}
- B. 4.31×10^{-5}
- C. 4.31×10^5
- D. 0.431

1555. 45 Crop mutation is performed by

- A. high intense radiation
- B. low intense radiation
- C. mutation is done without radiation
- D. none of these

1556. 46 The number of neutrons emerged out in a single nucleus during fission reaction are

- A. infinite
- B. zero
- C. 3
- D. none of these

1557. 47 Iodine-131 is used to trace which cancer

- A. lungs
- B. thyroid gland
- C. breast
- D. liver

1558. 48 Bones image is shown on x-ray photograph because x-rays can be

- A. transmitted through bones
- B. reflected by bones
- C. absorbed by bones
- D. scattered by bones

1559. 49 Which rays are used to scan bones

- A. white rays
- B. beta rays
- C. gamma rays
- D. none of these

1560. 50 ____ is often used to cure skin cancer

- A. cobalt-60
- B. radon gas
- C. iodine-131
- D. strontium-90

1561. 51 If $^{238}\text{Pu}_{94}$ decay an alpha particle the new atomic number and mass number are

- A. 234,90
- B. 234,92
- C. 231,97
- D. none of these

1562. 52 After certain lapse of time, the fraction of radioactive polonium is found to be 12.5% of initial quantity. If the half life of polonium is 138 days, then duration of time lapse is.....days

- A. 34.5
- B. 276
- C. 414
- D. 125

1563. 53 The fission reaction is slow reaction

- A. TRUE
- B. FALSE
- C. true when neutrons slows down
- D. any of these

1564. 54 The activity of a radioactive isotope

decreases from 8000 to 10000 in 60 days. The half life of isotope will be

- A. 10 year
- B. 20 years
- C. 30 years
- D. 40 years

1565. 55 Two spherical nuclei have mass number 216 and 64 with radius R_1 and R_2 respectively. The ratio of R_2/R_1 is

- A. 1.5
- B. 2
- C. 2.5
- D. 3

1566. 56 A sample of radioactive element has a mass of 10 gm at an instant $t = 0$. The approximate mass of this element in the sample after two mean lives is

- A. 3.70 gm
- B. 6.30 gm
- C. 2.50 gm
- D. 1.35 gm

1567. 57 The H atom has ____ quarks

- A. 1
- B. 2
- C. 3
- D. 4

1568. 58 The half-life of radium is about 1600 years. Of 100 g of radium existing now, 25 g will remain unchanged after

- A. 2400 years
- B. 3200 years
- C. 6400 years
- D. 4800 years

1569. 59 The number of protons in the nucleus is called ____ number

- A. atomic
- B. charge
- C. atomic or charge
- D. neither atomic nor charge

1570. 60 The nuclear forces are considered as

- A. strong force
- B. weak force
- C. electromagnetic force
- D. all of these

1571. 61 For skin cancer ____ is used

- A. phosphorus-32
- B. strontium-90
- C. both
- D. none of these

1572. 62 In nuclear fission, 0.1% of mass is converted into energy. The energy released by the fission of 1 kg mass will be.....]

- A. 9×10^{19}
- B. 9×10^{17}
- C. 9×10^{16}
- D. 9×10^{13}

1573. 63 The activity of a certain nuclei decreases to 15 % of its original value in 10 days. Find its half life?

- A. 2 days
- B. 2. days
- C. 3.65 days
- D. 4 days

1574. 64 The radius of atom is of the order of

- A. 10^{10} m
- B. 10^{-10} m
- C. 10^{-14} m
- D. 10^{14} m

1575. 65 Half-life is measured by

- A. spectroscopic method
- B. Geiger muller counter
- C. carbon dating
- D. all of these

1576. 66 If a photon is absorbed by a electron the energy of electron

- A. increase
- B. decrease

C. remain same D. another photon will be released by electron	D. none of these
1577. 67 Protons and neutrons are composed of smaller particles called A. Quarks B. baryons C. bosons D. photons	1583. 73 Radon-222 has 136 neutrons, how many neutrons are there in Radon-220 A. 131 B. 134 C. 136 D. none of these
1578. 68 A radioactive decay rate of 3.7×10^{10} disintegrations per second defines the unit of measurement known as the A. Curie B. rutherford C. rontgen D. Rad	1584. 74 SI unit of equivalent dose is A. gray B. radiation C. sievert D. rem
1579. 69 Which set of elements have three isotopes A. O,H B. O,Cl C. Cl,Hg D. All of them	1585. 75 The radiation hazards are due to A. radioactive elements B. non radioactive elements C. any of a or b D. there are no radiation hazards
1580. 70 The ____ reaction is an example of renewable source of energy A. fission B. fusion C. both a and b D. none of these	1586. 76 Average life in terms of decay constant is A. $1/\lambda$ B. λ^2 C. 2λ D. $\ln 2/\lambda$
1581. 71 The cosmic radiations are ____ energetic than gamma rays A. highly B. equally C. less D. none of these	1587. 77 The anti particle of quark is ____ A. electrons B. protons C. neutrons D. none of these
1582. 72 The H atom cannot produce A. alpha rays B. beta rays C. x-rays	1588. 78 The isotope of $^{235}\text{U}_{92}$ has ____ number of neutrons A. 141 B. 142 C. 143 D. 144
	1589. 79 The half life of U-238 against alpha decay is 4.5×10^9 years. Find the activity of 1 kg of U-238? A. 2.4×10^{-4} Ci B. 3.34×10^{-4} Ci

- C. 4.34×10^{-4} Ci
D. 2.4×10^{-5} Ci
- 1590.** 80 The radiation hazards are due to
A. radioactive elements
B. non radioactive elements
C. any of a or b
D. there are no radiation hazards
- 1591.** 81 Which element has three isotopes?
A. H
B. O
C. Cl
D. none of these
- 1592.** 82 The atomic ratio between U-238 and U-234 in a sample is 1.8×10^4 . The half life of U-238 is 2.5×10^5 years. Find the half life of U-234.
A. 2.5×10^9 years
B. 2.5×10^8 years
C. 4.5×10^9 years
D. none of these
- 1593.** 83 According to Bohr's principle, what is the relation between the principal quantum number and the radius of the orbit?
A. $r \propto n$
B. $r \propto 1/n$
C. $r \propto n^2$
D. $r \propto 1/n^2$
- 1594.** 84 If crops are grown under greenhouse radiation the crops will
A. grow faster
B. grow slowly
C. burn immediately
D. none of these will happen
- 1595.** 85 The source of gamma radiation is
A. outside nucleus
B. inside nucleus
C. electron transition
D. none of these
- 1596.** 86 1 barn is a unit of area having the magnitude of:
A. 10^{24} cm^2
B. 10^{-28} m^2
C. 10^{-24} cm^2
D. none of these
- 1597.** 87 A radioactive source has a half-life of 80 s. How long it will take to decay $7/8$ of the source?
A. 10 sec
B. 70 sec
C. 240 sec
D. 640 sec
- 1598.** 88 Which water is used to reduce the speed of fast moving neutrons
A. Salty water
B. Pure water
C. heavy water
D. muddy water
- 1599.** 89 The ionization power of ___ ray is highest
A. beta
B. gama
C. He-Ne laser
D. none of these
- 1600.** 90 In fusion reaction of sun which element isotopes are used
A. O
B. C
C. U
D. H
- 1601.** 91 In gold foil experiment incident radiation on gold nuclei were scattered by
A. neutrons
B. electrons
C. nucleus
D. neutrons
- 1602.** 92 If the radiation wavelength is

recorded 2.3×10^{-4} m as half life of ^{14}C , the half life of element is ___ year

- A. 6000
- B. 5000
- C. 4000
- D. 3000

D. electrons

1603. 93 What will happen in a time of 7 hours, if a radioactive substance has an average life of 7 hours?

- A. Half of the active nuclei decay
- B. Less half of the active nuclei decay
- C. More than half of the active nuclei decay
- D. All active nuclei decay

1608. 98 What is the maximum electron energy in neutron beta decay?

- A. 783 eV
- B. 783 KeV
- C. 783 GeV
- D. 783 TeV

1604. 94 The reason that white light is not harmful radiation is that

- A. its speed is less than other radiations
- B. it is composed of different lights
- C. it is originated from non radioactive element
- D. none of these

1609. 99 As mass number increases, which of the following does not change

- A. mass
- B. density
- C. volume
- D. binding energy

1605. 95 The charge on electron is equal to

- A. proton
- B. two protons
- C. two neutrons
- D. none of these

1610. 100 The nucleus is made up of more neutrons than protons

- A. H
- B. O
- C. U
- D. none of these

1606. 96 A nucleus emits an α - particle, followed by two β - particles. The final nucleus will be:

- A. an isotone of the original one
- B. an isotope of the original one.
- C. an isobar of the original one.
- D. none of these

1611. 101 The half life of radioactive element is

- A. 0.693λ
- B. $0.693/\lambda$
- C. $\lambda/0.693$
- D. $1/\lambda$

1607. 97 Which of the following substances cannot be emitted by radioactive substances during their decay?

- A. proton
- B. neutrinos
- C. helium nuclei

1612. 102 Absorbed dose D is defined as energy absorbed from ionization radiation per unit __

- A. mass
- B. charge
- C. time
- D. area

1613. 103 Half life of radioactive element means

- A. full life decay
- B. quarter life decay
- C. half of decay
- D. all of these

1614. 104 If a person is irradiated accidentally

by high radiation what immediate effects would be seen?

- A. skin burning
- B. high blood pressure
- C. fever
- D. any of these

D. 8 g

1615. 105 Half life of Au-198 is 2.7 days. What will be the activity of 1 mg of Au-198?

- A. 120 Ci
- B. 200 Ci
- C. 240 Ci
- D. 280 Ci

1620. 110 ____ are such nuclei of an element that have the same mass number A, but have different charge number Z

- A. isotopes
- B. isobars
- C. isomers
- D. isotherms

1616. 106 The half life of a radioactive substance is 5 min. The amount of substance decayed in 20 min will be

- A. 93.75 %
- B. 6.25 %
- C. 25 %
- D. 75 %

1621. 111 Isotopes of an element have a different number of

- A. proton
- B. neutron
- C. electron
- D. atom

1617. 107 Radiotherapy used in treatment of cancer usually use gamma-rays from

- A. copper-60
- B. cobalt-60
- C. gold
- D. silver

1622. 112 What is the unit of decay constant?

- A. second
- B. minute
- C. hour
- D. (sec)⁻¹

1618. 108 Numbers of neutrons present in a nucleus is given by

- A. $N = A + Z$
- B. $N = AZ$
- C. $N = A - Z$
- D. $N = Z - A$

1623. 113 Which radiation is used in greenhouse effect

- A. UV
- B. IR
- C. x-rays
- D. gamma-rays

1619. 109 Sample of radioactive element with initial mass of 24 gm decayed to 3 gm in 36 minutes. How much of original sample remained after the first 12 minutes?

- A. 12 g
- B. 6 g
- C. 2 g

1624. 114 The artifacts and fossils are used to estimate ages by measured ____ content

- A. mineral
- B. chemical
- C. radioactive
- D. all of these

1625. 115 The existence of positron was discovered in the

- A. thermal radiation
- B. cosmic radiation
- C. electromagnetic radiation
- D. non-electromagnetic radiation

1626. 116 A sample of F-18 is used internally as a medical diagnostic tool to look for

the effect of the positron decay ($T_{1/2} = 110$ min). How long does it take for 99 % of the F-18 to decay?

- A. 10.2 h
- B. 11.2 h
- C. 14.2 h
- D. 12.2 h

- B. 01:01.3
- C. 8:01
- D. none of these

1627. 117 Which is not radioactive?

- A. ozone
- B. hydrogen
- C. sodium
- D. all of these

1633. 123 Atom is neutral because it has equal number of

- A. charge particles
- B. uncharged particles
- C. neutrons
- D. all of these

1628. 118 β^- decay means emission of electron from

- A. radioactive nucleus
- B. innermost electron orbit
- C. a stable nucleus
- D. outer most electron orbit

1634. 124 If the nuclear radius of Al-27 is 3.6 fm, the approximate nuclear radius of Cu-64 in fermi is

- A. 1.2 fm
- B. 2.4 fm
- C. 3.6 fm
- D. 4.8 fm

1629. 119 The effect of nuclear bomb radiation lasts for

- A. few minutes
- B. few weeks
- C. few days
- D. more than 90 Years

1635. 125 x-rays were discovered in

- A. nuclear bomb experiment
- B. chemical reaction experiment
- C. scattering experiment
- D. none of these

1630. 120 SI unit of absorbed dose is

- A. Gray
- B. Roentgen
- C. Curie
- D. Rem

1636. 126 Which one of the following statements is correct

- A. the mass of the nucleus must be less than the sum of the masses of the constituent neutrons and protons.
- B. the mass of the nucleus must be equal to the sum of the masses of the constituent neutrons and protons.
- C. the mass of the nucleus must be greater than the sum of the masses of the constituent neutrons and protons.
- D. the mass of the nucleus must be equal to only the masses of the constituent neutrons.

1631. 121 The charge on gamma rays is

- A. 1+
- B. 1-
- C. 0
- D. none of these

1632. 122 A nucleus with $A=235$ splits into two nuclei of mass numbers in the ratio 1:2. The ratio of the radii of the new nuclei are :

- A. 1:02

1637. 127 The forces of friction causes

- A. excitations
- B. de-excitations
- C. magnetization

D. none of these	anti particle the resultant will give
1638 128 If ^{238}U decay two gamma particles the new atomic number will be	A. one particle, one anti particle
A. 238U	B. total annihilation
B. 234U	C. one antiparticle only
C. 237U	D. none of these
D. none of these	1645 135 Radioactive material decays by simultaneous emission of two particles with respective half-lives 1620 and 810 years. The time, in years, after which one-fourth of the material remains?
1639 129 The deuterium atom has ____ quarks	A. 1080
A. 3	B. 2430
B. 6	C. 3240
C. 9	D. 4860
D. 12	1646 136 The radius R of a nucleus is given by:
1640 130 The process by which a heavy nucleus splits up into lighter nuclei is known as	A. $R=r_0A^{-1/3}$
A. fission	B. $R=r_0A^{1/3}$
B. fusion	C. $R=r_0A^3$
C. alpha-decay	D. none of these
D. a chain reaction	1647 137 The control rods in nuclear reactor controls the reaction by
1641 131 1 rutherford is equal to	A. reducing the neutron speed
A. 10^4 Bq	B. increasing the neutrons speed
B. 10^6 Bq	C. increasing the electron speed
C. 10^7 Bq	D. decreasing the electron speed
D. 10^5 Bq	1648 138 The charge and mass of photon is
1642 132 The radioactive isotope of Carbon is	A. 0,0
A. ^{12}C	B. $1+,0$
B. ^{14}C	C. $1-,0$
C. ^{10}C	D. 1,1
D. none of these	1649 139 Centrifuge is used to purify
1643 133 For an unknown element X the wavelength recorded is 2.9×10^{-2} m, the half life of element is ____ years	A. U
A. 50	B. H
B. 100	C. O
C. 1000	D. N
D. none of these	1650 140 Total charge on any nucleus is
1644 134 If two particles collide with one	A. Ne
	B. Wq

C. Ze	D. all of them
D. Ne	
1651. 141 What will be the decay constant of substance whose half life is 1 hour. Give your answer in (sec^{-1}).	1657. 147 What is the S.I. unit of radioactivity?
A. 0.693	A. Curie
B. 2494.8	B. Rutherford
C. 2294.8	C. Becquerel
D. 41.58	D. all of these
1652. 142 One isotope of Uranium is U-238. Any other isotope of Uranium must have	1658. 148 Which element is used to absorb gamma radiations
A. 146 protons	A. Co
B. 92 protons	B. Cl
C. 92 neutrons	C. Ni
D. 146 neutrons	D. P
1653. 143 The quarks are fundamental particles	1659. 149 The core of earth is hot due to
A. true in some cases	A. fission reactions
B. only spin up quarks	B. fusion reactions
C. only spin down quarks	C. frictional forces
D. FALSE	D. all of these
1654. 144 What is the half-time of a radioactive sample (in minutes), if its mean life is 200 s?	1660. 150 To start a fusion reaction, energy required is
A. 0.69 min	A. small
B. 2 min	B. large
C. 2.57 min	C. infinite
D. 2.31 min	D. zero
1655. 145 Which reaction is endothermic	1661. 151 Whenever new nuclei are formed energy is
A. fission	A. absorbed
B. fusion	B. released
C. formation of gas	C. remain unchanged
D. none of these	D. none of these
1656. 146 Which of the following is the same for isotopes?	1662. 152 How many milligrams of tritium will remain after 49.2 years if the starting amount is 32 mg? The half-life of tritium is 12.3 years
A. neutrons	A. 8mg
B. protons	B. 2mg
C. electrons	C. 1mg
	D. 4mg
	1663. 153 the particle that possesses half

integral spin has A. pion B. proton C. k-meson D. photon	A. scattering B. repulsion C. attraction D. annihilation
1664. 154 Which isotope has highest momentum when moving with same velocity A. Protium B. deuterium C. tritium D. all of these have same momentum	1670. 159 Nuclear force is : A. spin independent B. both charge and spin independent C. spin dependent but charge independent D. charge dependent
1665. 155 T_1 and T_2 are the half lives of two radioactive elements of decay constant λ_1 and λ_2 respectively then the value of T_1/T_2 is..... A. $\lambda_2 = \lambda_1$ B. $\lambda_1 \lambda_2$ C. λ_1 / λ_2 D. λ_2 / λ_1	1671. 160 The deuterium atom has ____ quarks A. 3 B. 6 C. 9 D. 12
1666. 156 When deuterium and tritium fuse together they form A. atom B. U atom C. N atom D. He atom	1672. 161 If alpha, beta, and gamma rays carry the same momentum, which has the longest wavelength? A. alpha rays B. beta rays C. gamma rays D. all have same wavelength
1667. 157 The unstable atom means A. electrons are increasing B. protons are increasing C. neutrons are increasing D. any of these	1673. 162 Isotopes means addition of additional ____ in same proton number A. protons B. electrons C. neutrons D. all of them
1668. The radiations all around us are called ____ radiations A. natural B. artificial C. both a or b D. no radiation is around us	1674. 163 If alpha, beta, and gamma rays carry the same momentum, which has the longest wavelength? A. alpha rays B. beta rays C. gamma rays D. all have same wavelength
1669. 158 The proton and antiproton collision will result	1675. 164 A radioactive sample with a half life of 1 month has the label : "Activity=2 micro curies on 1.8.1991." What will be

its activity two months later?

- A. 0.5 micro curies
- B. 8 micro curies
- C. 1 micro curies
- D. 2 micro curies

reaction

- A. two times
- B. ten times
- C. hundred times
- D. thousand times

1676. ¹⁶⁵C14 has half life 5700 years. At the end of 11400 years, the actual amount left is

- A. 0.0625 of original amount
- B. 0.5 of original amount
- C. 0.25 of original amount
- D. 0.125 of original amount

1682. ¹⁷¹ Radioactive material decays by simultaneous emission of two particles with respective half-lives 1620 and 810 years. What is the time, in years, after which one-fourth of the material remains?

- A. 2430 years
- B. 1080 years
- C. 3240 years
- D. 4260 years

1677. ¹⁶⁶ Radon-222 has 136 neutrons, how many neutrons are there in Radon-220

- A. 131
- B. 134
- C. 136
- D. none of these

1683. ¹⁷² What is the atomic number and mass number of Helium?

- A. A=4, Z=2
- B. A=2 Z=4
- C. A=1 Z=1
- D. A=3, Z=1

1678. ¹⁶⁷ If the nuclear radius of Al-27 is 3.6 fm, the approximate nuclear radius of Cu-64 in fermi is

- A. 1.2 gm
- B. 2.4 fm
- C. 3.6 fm
- D. 4.8 fm

1684. ¹⁷³ If alpha, beta, and gamma rays carry the same momentum, which has the longest wavelength?

- A.alpha rays
- B.beta rays
- C.gamma rays
- D.all have same wavelength

1679. ¹⁶⁸ If the nuclear radius of Al-27 is 3.6 fm, the approximate nuclear radius of Cu-64 in fermi is

- A. 1.2 gm
- B. 2.4 fm
- C. 3.6 fm
- D. 4.8 fm

1685. ¹⁷⁴ What is the fraction of atom left after 10 half life of a substance?

- A.1/512
- B.1/1024
- C.1/256
- D.1/2048

1680. ¹⁶⁹ The spin of quarks is

- A. 1
- B. 2
- C. half
- D. quarter

1686. ¹⁷⁵ How many quarks in electron

- A. 0
- B. 1
- C. 2
- D. 3

1681. ¹⁷⁰ The fusion reaction is almost _____ times more stronger than fission



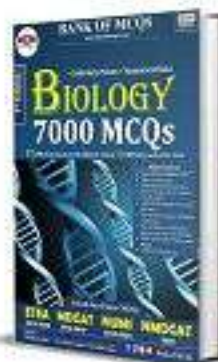
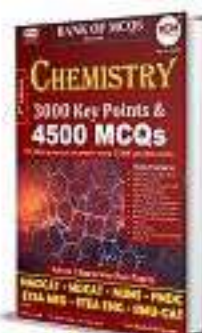
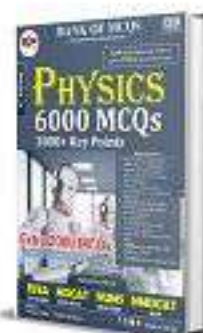
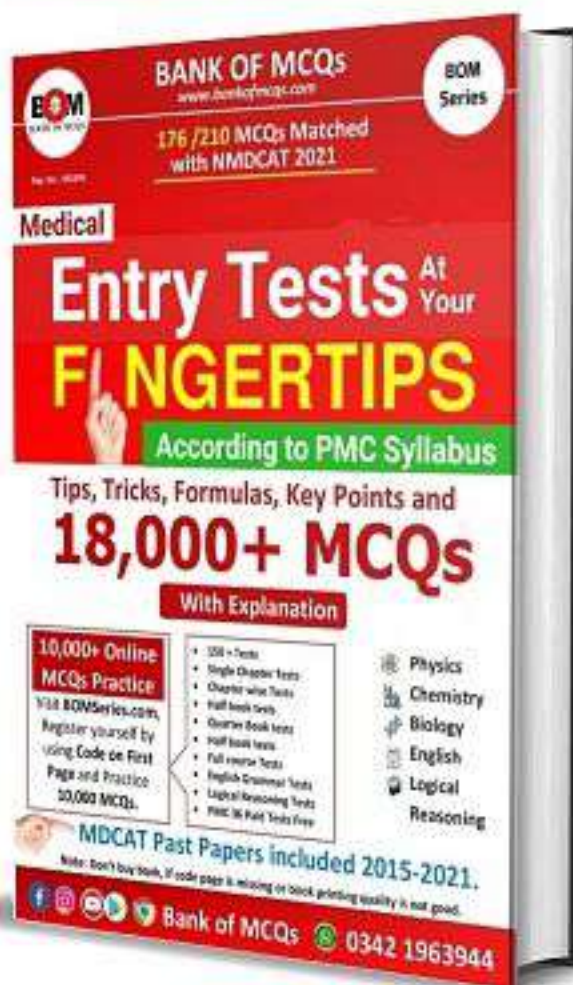
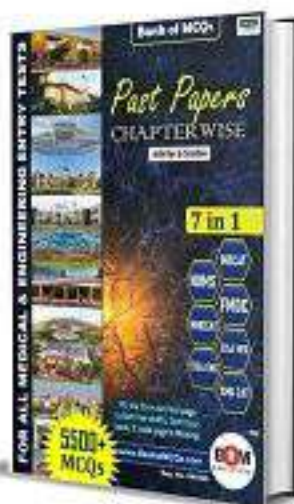
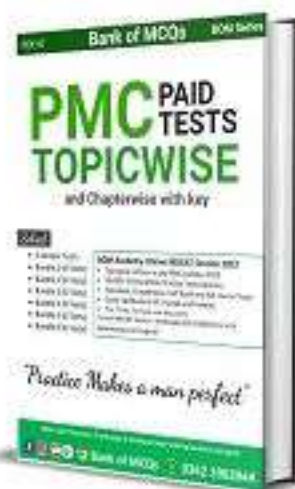
- 1687.** 176 What is the half-time of a radioactive sample (in minutes), if its mean life is 200 s?
 A. 0.69 min
 B. 2 min
 C. 2.57 min
 D. 2.31 min
- 1688.** 177 The half-life of a radioactive substance is 40 years. How long will it take to reduce to one fourth of its original amount and what is the value of decay constant?
 A. 40 year, 0.9173/year
 B. 80 year, 0.0173 year
 C. 90 year, 9.017/year
 D. none of these
- 1689.** 178 The half-life of radium is about 1600 years. Of 100 g of radium existing now, 25 g will remain unchanged after
 A. 2400 years
 B. 3200 years
 C. 6400 years
 D. 4800 years
- 1690.** 179 The half life of U-238 against alpha decay is 4.5×10^9 years. Find the activity of 1 kg of U-238?
 A. 2.4×10^{-4} Ci
 B. 3.34×10^{-4} Ci
 C. 4.34×10^{-4} Ci
 D. 2.4×10^{-5} Ci
- 1691.** 180 What will be the product after alpha decay of U- 238?
 A. Th-234
 B. Po-234
 C. Rn-234
 D. none of these
- 1692.** 181 The radioactive element when decay to first half life the new element is called
 A. daughter element
 B. modified element
 C. radioactive element
 D. all of these
- 1693.** 182 The nucleus shape is considered to be
 A. square
 B. rectangle
 C. sphere
 D. circular
- 1694.** 183 The charge on gamma rays is
 A. 1+
 B. 1-
 C. 0
 D. none of these
- 1695.** 184 What will be the product after alpha decay of U- 238?
 A. Th-234
 B. Po-234
 C. Rn-234
 D. none of these
- 1696.** 185 Which is not radioactive?
 A. ozone
 B. hydrogen
 C. sodium
 D. all of these
- 1697.** 186 A radioactive element emits 200 particles per second. After three hours 25 particles per second are emitted. The half life period of element will be
 A. 80 minutes
 B. 70 minutes
 C. 60 minutes
 D. 50 minutes
- 1698.** 187 The charge on gamma rays is
 A. 1+
 B. 1-
 C. 0
 D. none of these



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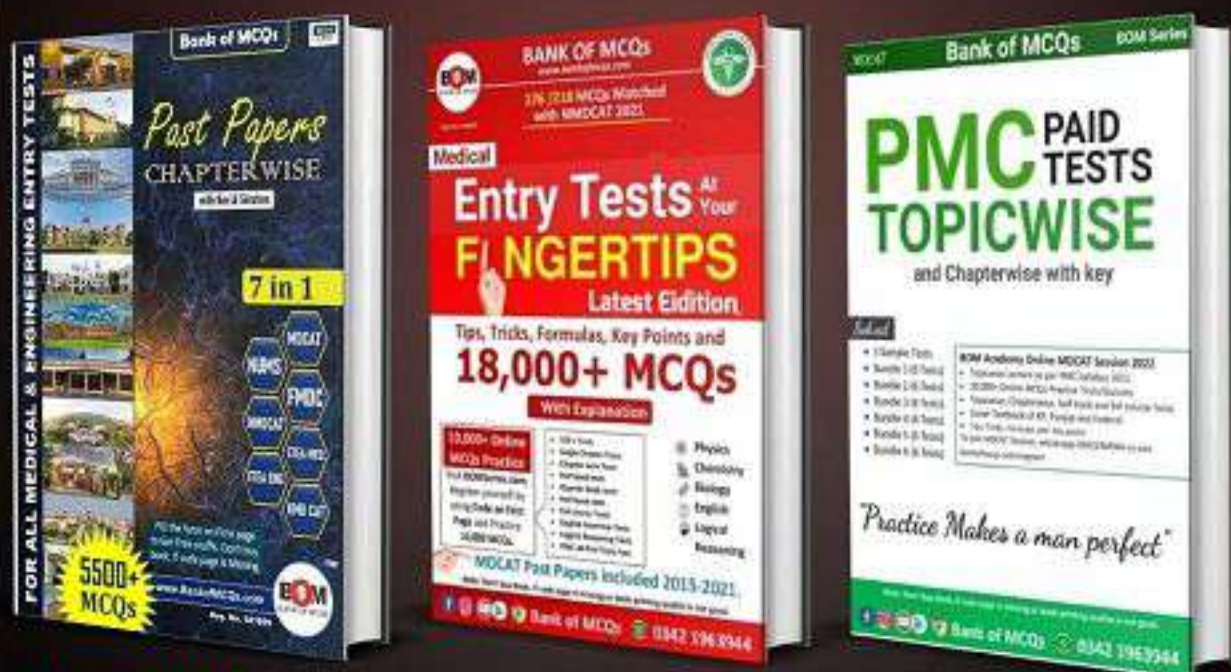


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- 1699** 188 Which element has three isotopes?
 A. H
 B. O
 C. Cl
 D. none of these
- 1700** 189 The radius R of a nucleus is given by :
 A. $R = r_0 A^{-1/3}$
 B. $R = r_0 A^{1/3}$
 C. $R = r_0 A^3$
 D. None of these
- 1701** 190 If a photon is absorbed by a nucleus the energy of nucleus
 A. remain same
 B. increase slightly
 C. decrease slightly
 D. it will pass the nucleus
- 1702** 191 Find the probability that the nucleus of $^{87}\text{Ra}_{221}$ undergoes decay after three half-lives, if its a radioactive substance which has a half-life of 6 days.
 A. $1/6$
 B. $3/2$
 C. $5/6$
 D. $1/2$
- 1703** 192 The Na atom cannot produce x-rays because
 A. inner shell transition is possible
 B. inner shell transition is not possible
 C. it is non radioactive
 D. none of these
- 1704** 1 Curie is equal to
 A. 1 MBq
 B. 37 MBq
 C. 37 GBq
 D. 3.7 GBq
- 1705** What is the S.I. unit of radioactivity?
 A. Curie
 B. Rutherford
 C. Becquerel
 D. all of these
- 1706** In microwave ovens ____ is used to heat the food
 A. x-rays
 B. beta rays
 C. gamma rays
 D. electromagnetic rays
- 1707** When the nucleus of an unstable atom emits only gamma radiation, the nucleus must
 A. gain energy
 B. lose energy
 C. lose protons
 D. gain protons
- 1708** The reason that white light is not harmful radiation is that
 A. its speed is less than other radiations
 B. it is composed of different lights
 C. it is originated from non radioactive element
 D. none of these
- 1709** 198 An element X with Z 14 and A 6 has how many neutrons
 A. 6
 B. 8
 C. 14
 D. 20
- 1710** 199 The down quark has charge ____
 A. $1/2^-$
 B. $1/2^+$
 C. $1/3^-$
 D. $2/3^+$

1.	C	36.	D	71.	B	106.	C	140.	D	175.	C	210.	B	245.	B
2.	C	37.	B	72.	B	107.	B	141.	B	176.	B	211.	B	246.	B
3.	B	38.	C	73.	D	108.	A	142.	B	177.	A	212.	D	247.	D
4.	B	39.	D	74.	A	109.	C	143.	B	178.	A	213.	D	248.	B
5.	C	40.	C	75.	B	110.	C	144.	B	179.	D	214.	D	249.	A
6.	A	41.	A	76.	A	111.	A	145.	D	180.	D	215.	D	250.	B
7.	A	42.	D	77.	B	112.	A	146.	D	181.	D	216.		251.	A
8.		43.	B	78.	B	113.	B	147.	D	182.	A	217.	B	252.	A
9.	D	44.	A	79.	B	114.	D	148.	A	183.	B			253.	D
10.	B	45.	C	80.	C	115.	C	149.	C	184.	B	218.	D	254.	B
11.	D	46.	A	81.	B	116.	A	150.	A	185.	A	219.	B	255.	A
12.	D	47.	C	82.	D	117.	B	151.	A	186.	B	220.	A	256.	B
13.	D	48.	A	83.	B	118.	D	152.	D	187.	A	221.	A	257.	D
14.	D	49.	A	84.	C	119.	D	153.	C	188.	C	222.	C	258.	D
15.	A	50.	A	85.	B			154.	B	189.	A	223.	A	259.	A
16.	C	51.	A	86.	B			155.	B	190.	D	224.	C	260.	A
17.	C	52.	B	87.	B	120.		156.	A	191.	D	225.	A	261.	A
18.	B	53.	D	88.	A	121.	A	157.	A	192.	D	226.	B	262.	D
19.	B	54.	A	89.	C	122.	D	158.	D	193.	B	227.	B	263.	C
20.	A	55.	C	90.	C	123.	B	159.	D	194.	C	228.	B	264.	B
21.	C	56.	B	91.	C	124.	C	160.	D	195.	B	229.	B	265.	B
22.	A	57.	A	92.	B	125.	A	161.	B	196.	C	230.	B	266.	C
23.	B	58.	C	93.	B	126.	D	162.	B	197.	B	231.	D	267.	C
24.	A	59.	C	94.	B	127.	D	163.	C	198.	A	232.	B	268.	B
25.	C	60.	C	95.	C	128.	B	164.	B	199.	B	233.	D	269.	D
26.	A	61.	A	96.	C	129.	B	165.	D	200.	C	234.	B	270.	C
27.	B	62.	B	97.	B	130.	A	166.	C	201.	B	235.	B	271.	A
28.	C	63.	A	98.	A	131.	C	167.	A	202.	C	236.	B	272.	B
29.	C	64.	B	99.	C	132.	D	168.	A	203.	A	237.	B	273.	C
30.	B	65.	A	100.	C	133.	C	169.	C	204.	C	238.	B	274.	B
31.	A	66.	A	101.	B	134.	B	170.	B	205.	B	239.	C	275.	A
32.	B	67.	B	102.	B	135.	A	171.	D	206.	A	240.	B	276.	B
33.	C	68.	B	103.	D	136.	B	172.	C	207.	A	241.	A	277.	D
34.	C	69.	C	104.	B	137.	B	173.	B	208.	D	242.	B	278.	C
35.	A	70.	C	105.		138.	D	174.	B	209.	A	243.	B	279.	D
						139.	B					244.	B		

280.	D	319.		358.	D	397.	A	436.	D	475.	B	514.	B	553.	C
281.	B	320.		359.	D	398.	D	437.	C	476.	B	515.	A	554.	B
282.	D	321.		360.	D	399.	D	438.	C	477.	D	516.	C	555.	B
283.	B	322.	D	361.	B	400.	B	439.	A	478.	A	517.	B	556.	B
284.	C	323.	C	362.	A	401.	A	440.	C	479.	C	518.	B	557.	B
285.	B	324.	C	363.	B	402.	C	441.	C	480.	A	519.	A	558.	A
286.	B	325.	C	364.	D	403.	D	442.	B	481.	B	520.	C	559.	
287.	D	326.	A	365.	C	404.	B	443.	A	482.	D	521.	B	560.	B
288.	A	327.	C	366.	D	405.	A	444.	B	483.	D	522.	D	561.	
289.	A	328.	B	367.	D	406.	A	445.	B	484.	B	523.	B	562.	A
290.	D	329.	B	368.	B	407.	B	446.	C	485.	C	524.	B	563.	A
291.	C	330.	B	369.	A	408.	D	447.	D	486.	C	525.	B	564.	C
292.	D	331.	A	370.	C	409.	A	448.	C	487.	A	526.	A	565.	B
293.	D	332.	C	371.	A	410.	A	449.	A	488.	B	527.	C	566.	C
294.	C	333.	B	372.	D	411.	C	450.	A	489.	A	528.	C	567.	A
295.	B	334.	B	373.	A	412.	B	451.	B	490.	B	529.	C	568.	B
296.	A	335.	B	374.	C	413.	A	452.	D	491.	A	530.	C	569.	B
297.	B	336.	B	375.	C	414.	B	453.	A	492.		531.	C	570.	D
298.	A	337.	C	376.	C	415.	B	454.	B	493.	A	532.	C	571.	C
299.	C	338.	B	377.	A	416.	C	455.	A	494.	C	533.	C	572.	C
300.	D	339.	A	378.	B	417.	C	456.	C	495.	C	534.	D	573.	B
301.	B	340.	A	379.	C	418.	C	457.	D	496.	C	535.	A	574.	A
302.	B	341.	B	380.	D	419.	A	458.	B	497.	D	536.	B	575.	A
303.	C	342.	B	381.	A	420.	C	459.	A	498.	A	537.	A	576.	B
304.	C	343.	C	382.	A	421.	A	460.	B	499.	D	538.	C	577.	C
305.	A	344.	B	383.	A	422.	D	461.	A	500.	C	539.	A	578.	B
306.	C	345.		384.	C	423.	D	462.	A	501.	C	540.	C	579.	B
307.	D	346.	C	385.	C	424.	D	463.	C	502.	C	541.	C	580.	A
308.		347.	A	386.	A	425.	A	464.	D	503.	C	542.	C	581.	B
309.		348.	A	387.	C	426.	C	465.	C	504.	B	543.	C	582.	B
310.		349.	C	388.	A	427.	D	466.	C	505.	B	544.	D	583.	B
311.		350.	D	389.	A	428.	D	467.	C	506.	B	545.	D	584.	C
312.		351.	C	390.	B	429.	D	468.	A	507.	D	546.	A	585.	A
313.		352.	D	391.	B	430.	C	469.	C	508.	C	547.	A	586.	B
314.		353.	B	392.	C	431.	B	470.	A	509.	C	548.	B	587.	C
315.		354.	D	393.	B	432.	B	471.	C	510.	D	549.	B	588.	D
316.		355.	D	394.	C	433.	A	472.	C	511.	C	550.	B	589.	B
317.		356.	D	395.	A	434.	A	473.	C	512.	A	551.	D	590.	C
318.		357.	C	396.		435.	D	474.	B	513.	A	552.	D	591.	A

592.	B	631.	D	670.	D	709.	A	748.	C	787.	B	826.	A	865.	B
593.	C	632.	B	671.	A	710.	A	749.	A	788.	A	827.	C	866.	B
594.	B	633.	B	672.	a	711.	C	750.	B	789.	C	828.	B	867.	A
595.	A	634.	A	673.	A	712.	C	751.	B	790.	D	829.	D	868.	A
596.	D	635.		674.	B	713.	B	752.	A	791.	B	830.	B	869.	B
597.	C	636.	D	675.	A	714.	B	753.	B	792.	A	831.	A	870.	A
598.	B	637.	B	676.	C	715.	C	754.	C	793.	B	832.	A	871.	B
599.	A	638.	A	677.	A	716.	A	755.	C	794.	A	833.	B	872.	A
600.	A	639.	A	678.	D	717.		756.	C	795.	A	834.	A	873.	A
601.	D	640.	A	679.	B	718.	A	757.	B	796.	A	835.	A	874.	B
602.	C	641.	A	680.	B	719.	A	758.	C	797.	C	836.	A	875.	B
603.	C	642.	C	681.	B	720.	A	759.	A	798.	B	837.	A	876.	A
604.	B	643.	A	682.	A	721.	A	760.	B	799.	C	838.	B	877.	A
605.	C	644.	A	683.	A	722.	A	761.	A	800.	B	839.	A	878.	A
606.	A	645.	C	684.	A	723.	B	762.	A	801.	A	840.	A	879.	C
607.	D	646.	A	685.	a	724.	C	763.	A	802.	C	841.	A	880.	A
608.	D	647.	B	686.	C	725.	C	764.	A	803.	C	842.	D	881.	A
609.	D	648.	A	687.	D	726.	A	765.	A	804.	A	843.	A	882.	B
610.	D	649.	D	688.	B	727.	A	766.	C	805.	B	844.	A	883.	D
611.	B	650.	C	689.	C	728.	C	767.	A	806.	A	845.	A	884.	D
612.	D	651.	A	690.	A	729.	B	768.		807.	C	846.	B	885.	A
613.	B	652.		691.	A	730.	C	769.	C	808.	D	847.	B	886.	C
614.	A	653.	B	692.	A	731.	C	770.	C	809.	A	848.	A	887.	A
615.	B	654.	A	693.	A	732.	C	771.	A	810.	D	849.		888.	C
616.	B	655.	B	694.	B	733.	A	772.	A	811.	C	850.		889.	A
617.	B	656.	D	695.	B	734.	B	773.	A	812.	A	851.	A	890.	A
618.	B	657.	A	696.	D	735.	B	774.	B	813.	D	852.	C	891.	C
619.	C	658.	B	697.	C	736.	D	775.	B	814.	B	853.	A	892.	C
620.	B	659.	D	698.	B	737.	A	776.	A	815.	b	854.	A	893.	D
621.	D	660.	C	699.	A	738.	A	777.	A	816.	B	855.	D	894.	C
622.	A	661.	C	700.	C	739.	B	778.	A	817.	A	856.	C	895.	C
623.	D	662.	D	701.	A	740.	B	779.	A	818.	B	857.	B	896.	A
624.	C	663.	C	702.	A	741.	B	780.	D	819.	C	858.	C	897.	B
625.	D	664.	D	703.	A	742.	D	781.	d	820.	B	859.	A	898.	A
626.	B	665.	A	704.	A	743.	A	782.	B	821.	C	860.	D	899.	A
627.	D	666.	C	705.	C	744.	C	783.	A	822.	D	861.	C	900.	A
628.	B	667.	A	706.	D	745.	A	784.	C	823.	A	862.	B	901.	A
629.	D	668.	A	707.	D	746.	A	785.	A	824.	C	863.	C	902.	C
630.	D	669.	A	708.	A	747.	D	786.	C	825.	B	864.	C	903.	A

904.	A	943.	B	982.	A	1021.	C	1060.	B	1099.	D	1138.	A	1177.	A
905.	C	944.	A	983.	B	1022.	A	1061.	B	1100.	C	1139.	B	1178.	D
906.	B	945.	D	984.	A	1023.	C	1062.	C	1101.	C	1140.	D	1179.	D
907.	B	946.	A	985.	A	1024.	B	1063.	A	1102.	D	1141.	b	1180.	C
908.	A	947.	D	986.	D	1025.	D	1064.	D	1103.	A	1142.	A	1181.	C
909.	C	948.	A	987.	D	1026.	C	1065.	B	1104.	B	1143.	B	1182.	A
910.	A	949.	A	988.	D	1027.	A	1066.	B	1105.	b	1144.	A	1183.	B
911.	B	950.	A	989.		1028.	D	1067.	D	1106.	B	1145.	A	1184.	A
912.	B	951.	B	990.	A	1029.	B	1068.	C	1107.	B	1146.	D	1185.	A
913.	D	952.	B	991.	B	1030.	B	1069.	A	1108.	B	1147.	A	1186.	A
914.	B	953.	A	992.	D	1031.	A	1070.	C	1109.	B	1148.	A	1187.	A
915.	A	954.	A	993.	C	1032.	B	1071.	B	1110.	B	1149.	C	1188.	C
916.	D	955.	C	994.	B	1033.	C	1072.	B	1111.	C	1150.	C	1189.	B
917.	D	956.	A	995.	C	1034.	A	1073.	C	1112.	A	1151.	A	1190.	A
918.	A	957.	A	996.	A	1035.	D	1074.	B	1113.	D	1152.	C	1191.	C
919.	A	958.	C	997.	B	1036.	D	1075.	a	1114.	A	1153.	A	1192.	A
920.	C	959.	A	998.	D	1037.	C	1076.	A	1115.	B	1154.	D	1193.	A
921.	D	960.	D	999.	C	1038.	D	1077.	D	1116.	B	1155.	D	1194.	D
922.	A	961.	A	1000.	C	1039.	A	1078.	B	1117.	B	1156.	A	1195.	A
923.	A	962.	A	1001.	D	1040.	B	1079.	A	1118.	A	1157.	C	1196.	D
924.	C	963.	A	1002.	A	1041.	A	1080.	C	1119.		1158.	D	1197.	C
925.	A	964.	D	1003.	C	1042.	A	1081.	D	1120.	B	1159.	A	1198.	A
926.	A	965.	A	1004.	b	1043.	C	1082.	C	1121.	D	1160.	B	1199.	D
927.	B	966.	A	1005.	C	1044.	A	1083.	D	1122.	D	1161.	B	1200.	A
928.	A	967.	B	1006.	A	1045.	B	1084.	A	1123.	B	1162.	C	1201.	C
929.	A	968.	B	1007.	D	1046.	B	1085.	C	1124.	B	1163.	D	1202.	A
930.	A	969.	A	1008.	D	1047.	B	1086.	A	1125.	D	1164.	B	1203.	B
931.	B	970.	D	1009.	C	1048.	B	1087.	C	1126.	B	1165.	A	1204.	B
932.	D	971.	A	1010.	A	1049.	B	1088.	B	1127.	A	1166.	D	1205.	C
933.	A	972.	C	1011.	C	1050.	D	1089.	D	1128.	D	1167.	D	1206.	C
934.	A	973.	A	1012.	D	1051.	D	1090.	A	1129.	B	1168.	A	1207.	C
935.	B	974.	A	1013.	B	1052.	a	1091.	D	1130.	B	1169.	B	1208.	C
936.	A	975.	A	1014.	C	1053.	A	1092.	A	1131.	C	1170.	D	1209.	D
937.	C	976.	B	1015.	B	1054.	B	1093.	B	1132.	B	1171.	D	1210.	C
938.	C	977.	B	1016.	B	1055.	C	1094.	D	1133.	B	1172.	D	1211.	D
939.	A	978.	B	1017.	D	1056.	A	1095.	C	1134.	D	1173.	B	1212.	A
940.	A	979.	D	1018.	B	1057.	D	1096.	D	1135.	A	1174.	A	1213.	B
941.	A	980.	a	1019.	D	1058.	A	1097.	C	1136.	D	1175.	C	1214.	C
942.	B	981.	A	1020.	C	1059.	A	1098.	B	1137.	C	1176.	D	1215.	b

1216.	C	1254.	A	1290.	C	1326.	A	1362.	C	1398.	C	1434.	A	1470.	C
1217.	C	1255.	D	1291.	C	1327.	B	1363.	A	1399.	D	1435.	A	1471.	D
1218.	B	1256.	B	1292.	C	1328.	D	1364.	D	1400.	A	1436.	D	1472.	C
1219.	B	1257.	B	1293.	B	1329.	B	1365.	D	1401.	C	1437.	D	1473.	C
1220.	A	1258.	C	1294.	A	1330.	C	1366.	A	1402.	C	1438.	A	1474.	C
1221.	A	1259.	A	1295.	A	1331.	D	1367.	A	1403.	B	1439.	A	1475.	A
1222.	A	1260.	A	1296.	B	1332.	a	1368.	A	1404.	B	1440.	A	1476.	C
1223.	C	1261.	B	1297.	B	1333.	A	1369.		1405.	D	1441.	A	1477.	B
1224.	D	1262.	A	1298.	D	1334.	A	1370.	C	1406.	D	1442.	B	1478.	D
1225.	B	1263.	B	1299.	A	1335.	C	1371.	C	1407.	A	1443.	A	1479.	C
1226.	A	1264.	B	1300.	C	1336.	D	1372.	B	1408.	D	1444.	C	1480.	B
1227.	C	1265.	A	1301.	A	1337.	D	1373.	A	1409.	B	1445.	B	1481.	C
1228.	C	1266.	B	1302.	B	1338.	C	1374.	B	1410.	B	1446.	A	1482.	D
1229.	A	1267.	A	1303.	C	1339.	A	1375.	B	1411.	B	1447.	A	1483.	A
1230.	A	1268.	D	1304.	B	1340.	B	1376.	C	1412.	A	1448.	D	1484.	C
1231.	D	1269.	A	1305.	A	1341.	C	1377.	B	1413.	C	1449.	A	1485.	B
1232.	D	1270.	C	1306.	A	1342.	A	1378.	A	1414.	B	1450.	B	1486.	A
1233.	C	1271.	A	1307.	C	1343.	B	1379.	C	1415.	B	1451.	D	1487.	A
1234.	C	1272.	B	1308.	C	1344.	A	1380.	A	1416.	A	1452.	A	1488.	C
1235.	D	1273.	B	1309.	C	1345.	D	1381.	C	1417.	A	1453.	C	1489.	D
1236.	A	1274.	B	1310.	A	1346.	C	1382.	C	1418.	C	1454.	D	1490.	C
1237.		1275.	C	1311.	A	1347.	A	1383.	D	1419.	a	1455.	C	1491.	D
1238.	A	1276.	D	1312.	C	1348.	C	1384.	D	1420.	B	1456.	D	1492.	A
1239.	D	1277.	C	1313.	D	1349.	B	1385.	D	1421.	C	1457.	C	1493.	A
1240.	B	1278.	A	1314.	B	1350.	B	1386.	B	1422.	C	1458.	A	1494.	B
1241.	D	1279.	B	1315.	C	1351.	C	1387.	D	1423.	A	1459.	D	1495.	D
1242.	C	1280.	D	1316.	C	1352.	C	1388.	C	1424.	A	1460.	B	1496.	A
1243.	D	1281.	C	1317.	B	1353.	B	1389.	A	1425.	D	1461.	C	1497.	C
1244.	A	1282.	B	1318.	C	1354.	A	1390.	A	1426.	C	1462.	C	1498.	B
1245.	c	1283.	B	1319.	D	1355.	B	1391.	D	1427.	D	1463.	C	1499.	C
1246.	C	1284.	D	1320.	D	1356.	D	1392.	C	1428.	D	1464.	B	1500.	C
1247.	C	1285.	A	1321.	A	1357.	D	1393.	B	1429.	D	1465.	C	1501.	c
1248.	A	1286.	B	1322.	A	1358.	B	1394.	D	1430.	C	1466.	A	1502.	c
1249.	B	1287.	A	1323.	C	1359.	A	1395.	A	1431.	D	1467.	B	1503.	b
1250.	C	1288.	A	1324.	C	1360.	C	1396.	D	1432.	C	1468.	D	1504.	c
1251.	C	1289.	A	1325.	D	1361.	B	1397.	D	1433.	A	1469.	D	1505.	B
1252.	C														
1253.	A														

1506.	A	1532.	A	1558.	C	1584.	C	1610.	C	1636.	A	1662.	B	1688.	B
1507.	C	1533.	A	1559.	D	1585.	A	1611.	B	1637.	A	1663.	B	1689.	B
1508.	C	1534.	D	1560.	D	1586.	A	1612.	A	1638.	A	1664.	C	1690.	B
1509.	A	1535.	B	1561.	B	1587.	D	1613.	C	1639.	B	1665.	D	1691.	A
1510.	A	1536.	A	1562.	C	1588.	C	1614.	D	1640.	B	1666.	D	1692.	D
1511.		1537.	B	1563.	C	1589.	B	1615.	C	1641.	B	1667.	D	1693.	C
1512.	A	1538.	C	1564.	B	1590.	A	1616.	A	1642.	B	1668.	C	1694.	D
1513.	B	1539.	B	1565.	A	1591.	A	1617.	B	1643.	D	1669.	D	1695.	A
1514.	B	1540.	B	1566.	D	1592.	C	1618.	C	1644.	D	1670.	C	1696.	D
1515.	C	1541.	A	1567.	C	1593.	C	1619.	A	1645.	A	1671.	B	1697.	C
1516.	A	1542.	A	1568.	B	1594.	A	1620.	B	1646.	B	1672.	D	1698.	D
1517.	B	1543.	D	1569.	C	1595.	B	1621.	B	1647.	A	1673.	C	1699.	A
1518.	B	1544.	D	1570.	A	1596.	B	1622.	D	1648.	A	1674.	D	1700.	B
1519.	A	1545.	C	1571.	C	1597.	C	1623.	B	1649.	A	1675.	B	1701.	B
1520.	C	1546.	A	1572.	D	1598.	C	1624.	C	1650.	C	1676.	C	1702.	C
1521.	D	1547.	A	1573.	C	1599.	D	1625.	B	1651.	B	1677.	C	1703.	B
1522.	B	1548.	A	1574.	B	1600.	D	1626.	D	1652.	B	1678.	D	1704.	C
1523.	B	1549.	B	1575.	B	1601.	C	1627.	D	1653.	D	1679.	D	1705.	C
1524.	C	1550.	B	1576.	A	1602.	D	1628.	A	1654.	D	1680.	C	1706.	D
1525.	A	1551.	A	1577.	A	1603.	C	1629.	D	1655.	D	1681.	D	1707.	B
1526.	B	1552.	A	1578.	A	1604.	A	1630.	A	1656.	B	1682.	B	1708.	A
1527.	B	1553.	C	1579.	A	1605.	A	1631.	D	1657.	C	1683.	A	1709.	B
1528.	C	1554.	A	1580.	C	1606.	B	1632.	A	1658.	C	1684.	D	1710.	C
1529.	A	1555.	B	1581.	A	1607.	A	1633.	A	1659.	C	1685.	B		
1530.	B	1556.	C	1582.	A	1608.	B	1634.	D	1660.	B	1686.	A		
1531.	A	1557.	B	1583.	C	1609.	B	1635.	C	1661.	B	1687.	D		

Chemistry

- | | |
|---|---|
| <p>1. Introduction to fundamental of chemistry
The break down of molecular ions from natural products give important information about</p> <p>A.size
B.position
C.shape
D. structure</p> | <p>_____mole of sulphate ions (SO_4^{2-})</p> <p>A. 0.1, 0.2
B. 0.1, 0.3
C. 0.2, 0.4
D. 0.2,0.1</p> |
| <p>2. If we are given with the mass of a substance ,we can calculate _____ of other substance with the help of a balanced chemical equation.</p> <p>A. mass
B. volume
C. moles
D. all of these</p> | <p>7. Limiting reactant controls the amount of _</p> <p>A. reactant
B. products
C. both A & B
D. none of these</p> |
| <p>3. The number of neutrons in H_2SO_4 are</p> <p>A. 5
B. 49
C. 48
D. 44</p> | <p>8. Actual yield is always less than theoretical yield due to</p> <p>A. operational losses
B. reaction reversibility
C. side reaction
D. all of these</p> |
| <p>4. Isotopes are the atoms of same element having different number of _____</p> <p>A. electron
B. proton
C. positron
D. neutron</p> | <p>9. It is the fact that 22.414 dm³ of any gas has a different masses but the same number of _____</p> <p>A. atoms
B. particles
C. molecules
D. none of these</p> |
| <p>5. What is the mass of one mole aspartame having formula $\text{C}_{14}\text{H}_{18}\text{N}_2\text{O}_5$</p> <p>A. 4g
B. 40g
C. 50g
D. 1g</p> | <p>10. Which of the following has six isotopes</p> <p>A. palladium
B. tin
C. cadmium
D. carbon</p> |
| <p>6. If 9.8 g of sulfuric acid dissolved in excess quantity of water, it will yield _____moles of hydrogen ion (H^+) and</p> | <p>11. The unit used to express the relative atomic mass is called</p> <p>A. gram unit
B. Avogadro's number
C. atomic mass
D. atomic mass unit</p> <p>12. X-ray work in 2 th century shows that diameter of the atoms are of the order</p> <p>A. .1nm</p> |

<p>B. .2nm C. .3nm D. .4nm</p>	<p>B. 16 g of oxygen C. 32 g of oxygen D. 24 g of oxygen</p>
<p>13. The smallest number of molecules are present in A. 3.6g of H₂ B. 4.8g of C₂H₅OH C. 2.8 g of CO D. 5.4 g of N₂O₅</p>	<p>19. In stoichiometry, we follow law of _____ while doing calculations. A. conservation of mass B. definite proportion C. both A & B D. none of these</p>
<p>14. Chemical equations do not tell about the _____ because of certain limitations. A. rate of reaction B. pressure C. conditions D. both A & C</p>	<p>20. Glucose(C₆H₁₂O₆) is the most important nutrient in a cell for generating chemical potential energy, what is the mass percent of carbon in 1.5g of sample A. 33% B. 40% C. 53.3% D. 6.67%</p>
<p>15. Actual yield is always less than theoretical yield due to A. operational losses B. reaction reversibility C. side reaction D. all of these</p>	<p>21. The negative ions having group of atoms is/are A. OH- B. CO₃²⁻ C. Cr₂O₇²⁻ D. all of these</p>
<p>16. The study of composition of pure substance in 17th century clearly shows that few elements are components of many substances A. qualitative B. quantitative C. both A & B D. extensive</p>	<p>22. Atomicity is determined by number of _____ present in a molecule A. dots B. atoms C. sub particles D. electrons</p>
<p>17. The efficiency of a chemical reactions can be checked by calculating its _____ yields A. percentage B. actual C. theoretical D. all of these</p>	<p>23. The mass of one mole of electron is A. 1.8mg B. 0.184mg C. 0.55 mg D. 0.64 mg</p>
<p>18. 27 g of Al will react with how much mass of O₂ to produce Al₂O₃ A. 8 g of oxygen</p>	<p>24. The number of atoms present in a molecule determines its A. shape B. size</p>

C. molecularity D. atomicity	C. 63.55 amu D. 63.456amu
25. Avogadro's hypothesis is applicable to ____ only. A. all gases B. inert gases C. ideal gases D. light gases	31. Different kind of atoms of same element are called isotope having different _but same ____properties A. physical, atomic B. physical, chemical C. chemical, physical D. chemical, atomic
26. The efficiency of a chemical reactions can be checked by calculating its ____ yields A. percentage B. actual C. theoretical D. all of thes	32. 18g of water contains ____ atoms of hydrogen A. 6.022×10^{23} B. $3 \times 6.022 \times 10^{23}$ C. $2 \times 6.022 \times 10^{23}$ D. $4 \times 6.22 \times 10^{23}$
27. Greater the number of moles , ____ will be the number of molecules A. lesser B. moderate C. greater D. equal	33. Empirical formula and molecular formula of covalent molecule is A. different B. same C. variable D. equal
28. If we are given with the mass of a substance ,we can calculate ____ of other substance with the help of a balanced chemical equation. A. mass B. volume C. moles D. all of these	34. What is the empirical formula for the following molecular formula C_5H_{12} A. C_5H_{12} B. C_5H_6 C. CH_2 D. $C_{2.5}H_6$
29. In the gaseous state, the distance between the molecules is ____ times ____ than their diameters. A. 2 ,lesser B. 3 ,lesser C. 3 ,greater D. 2 ,greater	35. Empirical formula of glucose $C_6H_{12}O_6$ is same with A. acetaldehyde B. formaldehyde C. ethanol D. acetone
30. The Relative atomic mass of copper is A. 63.345amu B. 63.455amu	36. A mole of a substance contains ____ particles A. 6.2×10^{22} B. 6.22×10^{22} C. 6.02×10^{23} D. 6.5×10^{22}

- | | |
|---|--|
| 37. Chemical equations do not tell about the _____ because of certain limitations.
A. rate of reaction
B. pressure
C. conditions
D. both A & c | that few elements are components of many substances
A. qualitative
B. quantitative
C. both A & B
D. extensive |
| 38. The peaks forms in a mass spectrograph shows number of _____ of an element
A. electrons
B. isotopes
C. protons
D. neutrons | 44. The concept of _____ of gases helps to relate solids and liquids in a quantitative manner.
A. density
B. molar volume
C. pressure
D. temperature |
| 39. In the gaseous state, the distance between the molecules is ___ times ___ than their diameters.
A. 2 ,lesser
B. 3 ,lesser
C. 3 ,greater
D. 2 ,greater | 45. In Al_2S_3 ,the valency of Al is
A. 2
B. 3
C. -3
D. -2 |
| 40. In stoichiometry, we follow law of _____ while doing calculations.
A. conservation of mass
B. definite proportion
C. both A & B
D. none of these | 46. An ordinary microscope can measure the size of an object up to or above
A. 25 nm
B. 45 nm
C. 5 nm
D. 6 nm |
| 41. The smallest number of molecules are present in
A. 3.6g of H_2
B. 4.8g of C_2H_5OH
C. 2.8 g of CO
D. 5.4 g of N_2O_5 | 47. The negative ions having group of atoms is/are
A. OH^-
B. CO_3^{2-}
C. $Cr_2O_7^{2-}$
D. all of these |
| 42. 1 amu is equal to
A. $1.666 \times 10^{-27} kg$
B. $1.661 \times 10^{-28} kg$
C. $1.661 \times 10^{-27} kg$
D. $1.661 \times 10^{-27} kg$ | 48. The most common positive ions are formed by the atoms
A. non metals
B. metals
C. noble gases
D. Hydrogen |
| 43. The study of composition of pure substance in 17th century clearly shows | 49. The efficiency of a chemical reactions can be checked by calculating its _____ yields |

- A. percentage
B. actual
C. theoretical
D. all of these
50. The formation of negative ion is a/an ____ process
A. exothermic
B. endothermic
C. both A & B
D. none of these
51. During combustion analysis MgClO_4 is used to absorb ____
A. oxygen gas
B. hydrogen gas
C. water vapors
D. alcohol
52. A full stop may have ____ atoms present in it
A. one million
B. two millions
C. one billion
D. two billions
53. A molecule of water has two bond, so 1 mole of water will contain ____ moles of bonds
A. 1
B. 2
C. 3
D. 4
54. During combustion analysis MgClO_4 is used to absorb ____
A. oxygen gas
B. hydrogen gas
C. water vapors
D. alcohol
55. A full stop may have ____ atoms present in it
A. one million
B. two millions
C. one billion
D. two billions
56. A molecule of water has two bond, so 1 mole of water will contain ____ moles of bonds
A. 1
B. 2
C. 3
D. 4
57. The unit used to express the relative atomic mass is called
A. gram unit
B. Avogadro's number
C. atomic mass
D. atomic mass unit
58. Dalton's atomic theory couldn't explain the concept about
A. isomers
B. protons
C. isotopes
D. nucleus
59. Atomicity is determined by number of ____ present in a molecule
A. dots
B. atoms
C. sub particles
D. electrons
60. The breakdown of molecular ions from natural products gives important information about
A. size
B. position
C. shape
D. structure
61. Greater the number of moles, ____ will be the number of molecules
A. lesser
B. moderate
C. greater

D. equal	C. Soddy mass spectrometer
62. The relative abundance of isotopes of elements is measured by A. atomic spectroscopy B. ionic spectroscopy C. mass spectroscopy D. mass spectrometry	D. atomic spectrometer
63. Which of the following has six isotopes A. palladium B. tin C. cadmium D. carbon	69. The number of charges present on a cation depends on number of electron _by the atom A. gain B. lost C. accept D. produced
64. Limiting reactant controls the amount of _ A. reactant B. products C. both A & B D. none of these	70. Calculate mass in grams of 8.694 moles of Ag_2CO_3 A. 1417.53g B. 2399.544g C. 3456.78g D. 1231.98g
65. Heavy water contain isotope of Hydrogen A. protium B. deuterium C. tritium D. both A & C	71. Which of the uranium isotope have larger mass. A. 6.22×10^{23} atoms of U - 235 B. 6.22×10^{23} atoms of U - 238 C. 6.22×10^{23} atoms of U - 234 D. all of these
66. The number of neutrons in H_2SO_4 are A. 5 B. 49 C. 48 D. 44	72. Which one of them is used as an automobile antifreeze A. Ethanol B. ethene C. ethylene glycol D. propene
67. Avogadro's hypothesis is applicable to _ only. A. all gases B. inert gas C. ideal gases D. light gases	73. _conducts nerve impulse in brain A. serotonin B. aspartame C. ascorbic acid D. hydrazine
68. For the identification of isotopes of elements having solid state A. Aston spectrometer B. Dempster's mass spectrometer	74. The mass of one mole of electron is A. 1.8mg B. 0.184mg C. 0.55 mg D. 0.64 mg
	75. The reactant which consumes completely in a reaction is known as

____reactant	B. 2NA
A.fractional	C. 20NA
B.initial	D. 1 NA
C.limiting	82. Total number of neutron in 5g of D ₂ O (D is H)
D.minor	A .25 NA
76. Nitrogen N ₂ has ____number of electrons, protons and neutrons	B 1.1 NA
A. 7,8,9	C 2.5 NA
B. 7,7,7	D .5 NA
C. 14,14,14	83. Which of the uranium isotope have larger mass.
D. 14,14,15	A. 6. 22 x 1 23 atoms of U - 235
77. The volume at S.T.P occupied by .8 g of N ₂	B. 6. 22 x 1 23 atoms of U - 238
A. 2.24 dm ³	C. 6. 22 x 1 23 atoms of U - 234
B. 6.44 dm ³	D. all of these
C. 1.12 dm ³	84. Out of 28 natural isotopes, how many have even atomic number and mass number
D. 112 dm ³	A. 152
78. A sample so .7 mol of metal M reacts completely with excess of fluorine to form 45 g of MF ₂ ,how many moles of F are present in it.	B. 153
A.1.4 moles	C. 154
B.2.4 moles	D. 155
C.2 moles	85. Limiting reactant controls the amount of _
D.1.2 moles	A. reactant
79. ____is a macromolecule found in blood	B. products
A. Hemoglobin	C. both A & B
B. plasma	D. none of these
C. creatinine	86. Masses of atoms ranges from
D. plasmids	A. 110 ⁻²⁸ kg to 1x10 ⁻²² kg
80. The number of atoms present in a molecule determines its	B. 1x10 ⁻²⁶ kg to 1x10 ⁻²³ kg
A. shape	C. 1x10 ⁻²⁷ kg to 1x10 ⁻²⁴ kg
B. size	D. 1.6373x10 ⁻²⁷ kg to 1x
C. molecularity	87. 2 moles of octane (C ₈ H ₁₈) burns with 25 moles of oxygen (O ₂) and produced ____moles of carbon dioxide along with 18 moles of water
D. atomicity	A. 14
81. Total no. of electrons present in 48 g Mg 2+ are	B. 16
A. 24NA	

C. 18 D. 2	93. If 9.8 g of sulfuric acid dissolved in excess quantity of water, it will yield _____ moles of hydrogen ion (H ⁺) and _____ mole of sulphate ions (SO ₄ ⁻²) A. 0.1, 0.2 B. 0.1, 0.3 C. 0.2, 0.4 D. 0.2, 0.1
88. Formula mass is considered for _____ compounds instead of their molecular mass A. metallic B. ionic C. covalent D. polar covalent	94. _____ is a macromolecule found in blood A. Hemoglobin B. plasma C. creatinine D. plasmids
89. Molecular ions are produced by passing high energy electron beam or X-rays beam through _____ A. atoms B. molecules C. gas D. solid	95. The atoms of hemoglobin is heavier than H-atoms A. 67,000 times B. 68,000 times C. 65,000 times D. 69,000 times
90. A compound has an empirical (simple) formula, C ₂ H ₂ O. If the experimental molecular weight is found to be in the range 16 -17 , the molecular formula of this compound is: (Atomic wt.: C = 12, H = 1, O = 16.) A. C ₃ H ₆ O ₃ B. C ₄ H ₄ O ₂ C. C ₈ H ₈ O ₄ D. C ₆ H ₆ O ₃	96. If number of molecules of different gases are same at S.T.P ,the occupied volume will be A. greater B. same C. smaller D. twice
91. 27 g of Al will react with how much mass of O ₂ to produce Al ₂ O ₃ A. 8 g of oxygen B. 16 g of oxygen C. 32 g of oxygen D. 24 g of oxygen >>	97. If number of molecules of different gases are same at S.T.P ,the occupied volume will be A. greater B. same C. smaller D. twice
92. An atom is composed of electrons, protons, neutrons and A. hyprone B. neutrino C. anti neutrino D. all of these	98. Atomic Structure What is the range of Azimuthal Quantum number(l)? A. to n B. to s

C. to n-1 D. to s-1	C. position D. all of these
99. The 'm' quantum number describes the ____ of electron A. energy level B. orbital or subshell C. orientation of orbital D. Spin of electron	105. The probability of finding an electron between s-orbital is zero. This place is called ____ plane A. nodal B. antinodal C. non nodal D. erect
100. How many electrons can occupy in 7th energy level of an atom. Calculate by using $2n^2$ formula A. 24 B. 5 C. 72 D. 98	106. The region where probability of finding the electron is maximum is called as A. Nucleus B. Atom C. Orbital D. Nodal plane
101. The e/m value is maximum for ____ gas because of ____ value of "m" for positive rays obtained from it. A. Oxygen gas, lowest B. hydrogen gas, highest C. hydrogen gas, lowest D. helium gas, highest	107. The radius of an electron orbit in a hydrogen atom is of the order of A. $1 - 8 \text{ m}$ B. $1 - 1 \text{ m}$ C. $1 - 11 \text{ m}$ D. $1 - 13 \text{ m}$
102. Wave packet or quantum is often called photon in case of ____ A. energy B. brightness C. light D. darkness	108. The value of Principal quantum number is ____ integers up to infinity A. zero, positive B. non zero, positive C. non zero, negative D. positive
103. If uncertainty in momentum of electron is zero, the uncertainty in its position would be ____? A. Less than zero B. more than zero C. one D. infinite	109. Which of the following shows Planck's quantum theory A. $E=h\nu$ B. $E=c/\nu$ C. $E = c\nu$ D. none of these
104. Quantum numbers specify the ____ of electron A. shape B. energy	110. a photon of wavelength $1.27 \times 10^{-5} \text{ m}$ is emitted when it jump from higher to $n = 1$, what will be higher orbit A. $n = 2$ B. $n = 3$ C. $n = 4$

D. $n = 5$	C. remains same
111. Quantum number values for 2p orbitals are A. $n = 2, l = 1$ B. $n = 1, l = 2$ C. $n = 1, l =$ D. $n = 2, l =$	D. be constant
112. The region where probability of finding the electron is maximum is called as A. Nucleus B. Atom C. Orbital D. Nodal plane	117. an element or its compound is first ____ to get its ____ spectrum by spectrometer A. freezed, continuous B. freezed, line C. volatilized, line D. volatilized, continuous
113. The region where probability of finding the electron is negligible is called as A. Nucleus B. Atom C. Orbital D. Nodal plane	118. If $n = 4$ it will contain sub shells A. s B. p C. s, p, d D. s, p, d, f
114. According to 'n+l' rule, the value of 6f is 9 while 7s orbital has '7' value, it shows A. 6f filled first B. 7s placed first C. 7s placed later D. 6f placed later B ...4s>3s>2s>1s	119. Electrons can revolve only in those orbits having ____-angular momentum which depends on its ____ number. A. variable, quantum B. fixed, principal C. fixed, quantum D. variable, principal
115. According to Bohr, the orbits in which electrons revolve around the nucleus are A. oval B. elliptical C. cylindrical D. circular	120. Which of the following shows Planck's quantum theory A. $E = h\nu$ B. $E = c/\nu$ C. $E = c\nu$ D. none of these
116. When we calculate radii of Hydrogen atom by this equation $r = .529A (n^2)$ where $n = 1, 2, 3, 4,$, the distance between orbits of hydrogen atom will A. decrease B. increase	121. Each electron in an atom must have its own unique set of quantum number is a statement of ____ A. Aufbau principle B. Pauli exclusion principle C. Hund's rule D. none of these
	122. An electron in an atom is completely described by its A. 2 quantum numbers B. only one quantum number

C. four quantum numbers D. 3 quantum numbers	D. five
123. Which character of p-orbital determines the geometry of molecules A. planar B. axial C. non directional D. directional	129. _____ cathode is used in discharge tube experiment for discovery of protons A. flat B. round C. perforated D. oval
124. Quantum numbers specify the _____ of electron A. shape B. energy C. position D. all of these	130. The maximum number of electron accommodated in a shell or energy level is calculated by formula A. n^2 B. $2n^2$ C. $2n$ D. $3n$
125. The presence of several fine lines in line spectrum shows the presence of A. shells B. energy levels C. sub shells D. all of these	131. According to _____ theory, atoms were the ultimate particles that cannot be divided further. A. Bohr's B. Rutherford's C. Dalton's D. Cannizzaro's
126. Who discovered positive rays also called protons and when? A. Chadwick, 1895 B. Goldstein, 1886 C. Rutherford, 1885 D. J. Perrin, 1885	132. The region where probability of finding the electron is maximum is called as A. Nucleus B. Atom C. Orbital D. Nodal plane
127. For a sub shell $l=2$ and $m = -2, -1, +1, +2$, it implies that it has _____ space orientation A. one B. two C. three D. five	133. Quantum numbers are set of numerical values which give solution to the equation A. Planks B. Heisenberg C. Schrödinger D. all of these
128. For a sub shell $l=2$ and $m = -2, -1, +1, +2$, it implies that it has _____ space orientation A. one B. two C. three	134. For the study of particles, discharge tube is filled with A. gas B. air C. vapours of a substance

D. all of these	D. slower, bigger
135. an element or its compound is first _____ to get its _____ spectrum by spectrometer A. freezed, continuous B. freezed, line C. volatilized, line D. volatilized, continuous	141. sodium-11 has electronic configuration A. [He]2s1 B. [Ne] 3s1 C. [Ne]3s2 D. [He]2s2
136. The concept of atoms was given by _____ A. Democritus B. Berzelius C. Bohr D. Dalton	142. The value of Planck's constant 'h' is A. 6.626×10^{-34} KJs B. 6.262×10^{-34} Js C. 6.626×10^{-34} Js D. 6.262×10^{-34} KJs
137. How many electrons can occupy in 7th energy level of an atom. Calculate by using $2n^2$ formula A. 24 B. 5 C. 72 D. 98	143. An orbital can accommodate at the most _____ electrons A. 2 B. 14 C. 1 D. 6
138. Quantum numbers specify the _____ of electron A. shape B. energy C. position D. all of these	144. The value of energy obtained for the electron in the nth orbit of hydrogen atom is in A. Joules B. Joules/atom C. Kilojoules D. Kilojoules/atom
139. Canal rays are produced in the discharge tube from _____? A. Anode B. Cathode C. Gas molecules in the tube D. None of these	145. When an electron changes its orbit from outer to inner level, energy is A. no change B. absorbed C. released D. remains constant
140. According to Bohr's theory Electron should move _____ nearer to nucleus in an orbit of _____ radii A. slower, smaller B. faster, smaller C. faster, bigger	146. An orbital can accommodate at the most _____ electrons A. 2 B. 14 C. 1 D. 6
	147. Positive rays are produced when _____ strike the molecules of a gas in a discharge tube

<p>A. low speed neutrons B. high speed neutrons C. low speed electrons D. high speed electrons</p>	<p>D. none of these</p>
<p>148. The value of Principal quantum number "n" represent A. energy of electron B. location of electron C. shells or energy levels D. all of these</p>	<p>154. When an electron changes its orbit from outer to inner level, energy is A. no change B. absorbed C. released D. remains constant</p>
<p>149. The value of Planck's constant 'h' is A. 6.626×10^{-34} KJs B. 6.262×10^{-34} Js C. 6.626×10^{-34} Js D. 6.262×10^{-34} KJs</p>	<p>155. If a hydrogen atom remains in its first excited level, how many times will its radius be greater than Bohr's radius A. twice B. four times C. same, same D. eight times</p>
<p>150. The value of Principal quantum number "n" represent A. energy of electron B. location of electron C. shells or energy levels D. all of these</p>	<p>156. line spectrum of sodium contains ____ colored lines separated by a definite distance A. one yellow B. two yellow C. two brown D. two golden</p>
<p>151. the mass of proton is ____ times heavier than ____ A. 1889,electrons B. 1886,electrons C. 1836,protons D. 1836,electrons</p>	<p>157. The e/m values for the positive rays depends on ____ enclosed in a discharge tube. A. nature of gas B. properties of gas C. composition of gas D. all of these</p>
<p>152. According to ____ theory, atoms were the ultimate particles that cannot be divided further. A. Bohr's B. Rutherford's C. Dalton's D. cannizzaro's</p>	<p>158. How do the 'p' orbitals p_x, p_y, p_z differ from each other A. size B. shape C. orientation D. capacity</p>
<p>153. Which of the following shows Planck's quantum theory A. $E=h\nu$ B. $E=c/\nu$ C. $E = c\nu$</p>	<p>159. The wavelength of radiation that have been absorbed by an element appear as ____ lines and background is ____ in an atomic absorption spectrum A. dark. bright</p>

<p>B. bright, dark C. dark, light D. bright, light</p>	<p>B. axial C. non directional D. directional</p>
<p>160. sodium-11 has electronic configuration A. [He]2s1 B. [Ne] 3s1 C. [Ne]3s2 D. [He]2s2</p>	<p>166. According to Bohr, the orbits in which electrons revolve around the nucleus are A. oval B. elliptical C. cylindrical D. circular</p>
<p>161. The formula for calculating electron in subshells or sub energy levels is A. $2l+1$ B. $2(l+1)$ C. $2(2l+1)$ D. $2(2l-1)$</p>	<p>167. The maximum probability of finding an electron is at distance of A. 0.53mm B. 0.53nm C. 0.153nm D. 1.53mm</p>
<p>162. If a hydrogen atom remains in its first excited level, how many times will its radius be greater than Bohr's radius A. twice B. four times C. same, same D. eight times</p>	<p>168. line spectrum of sodium contains ____ colored lines separated by a definite distance A. one yellow B. two yellow C. two brown D. two golden</p>
<p>163. When an electron jumps from $n = 5$ to $n = 2$ having wavenumber equal to $2.3 \times 10^6 \text{ m}^{-1}$. In which spectral series will it fall? A. Layman B. Balmer C. visible D. infrared</p>	<p>169. The equation $E_n = -2.17 \times 10^{-18} [1/n^2] \text{ J}$ gives the energy associated with electron in nth orbit of hydrogen atom. Its negative sign shows that electron is A. away from nucleus B. bound by nucleus C. closer to nucleus D. all of these</p>
<p>164. an element or its compound is first ____ to get its ____ spectrum by spectrometer A. freezed, continuous B. freezed, line C. volatilized, line D. volatilized, continuous</p>	<p>170. All the three p-orbitals have same energy in the absence of magnetic field and are called ____ orbital's A. generated B. delocalized C. degenerated D. localized</p>
<p>165. Which character of p-orbital determines the geometry of molecules A. planar</p>	<p>171. Spectrum is the visual display or</p>

- _____ of component of white light when it is passed through prism
- A. rarefaction
B. radiation
C. collection
D. dispersion
- 172.** The value of Planck's constant 'h' is
- A. $6.626 \times 10^{-34} \text{ KJs}$
B. $6.626 \times 10^{-34} \text{ Js}$
C. $6.626 \times 10^{-34} \text{ Js}$
D. $6.626 \times 10^{-34} \text{ KJs}$
- 173.** The energy of photons related to
- A. frequency
B. wave length
C. wave number
D. all of these
- 174.** An orbital can accommodate at the most _____ electrons
- A. 2
B. 14
C. 1
D. 6
- 175.** The shapes of subshells is _____ if value of azimuthal quantum number 'l' is 2
- A. spherical
B. dumbbell
C. complicated
D. all of these
- 176.** In which direction Cathode rays deflected in the presence of magnetic field?
- A. Moves upward
B. Moves downward
C. Move randomly
D. Moves in straight line
- 177.** If $n = 4$ then what can be value of 'magnetic quantum number
- A. 4,3,2,1
B. 3,2,1
C. infinity
D. none of these
- 178.** The shapes of subshells is _____ if value of azimuthal quantum number 'l' is 2
- A. spherical
B. dumbbell
C. complicated
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- A. 4,3,2,1
B. 3,2,1
C. infinity
D. none of these
- 181.** When an electron remains between orbit, its momentum is
- A. dequantized
B. quantized
C. emitted
D. changes always
- 182.** Which of the following shows Planck's quantum theory
- A. $E = h\nu$
B. $E = c/\nu$
C. $E = h\nu$
D. none of these
- 183.** An orbital can accommodate at the most _____ electrons
- A. 2
B. 14
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D. 6

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- B. 3,2,1
- C. infinity
- D. none of these

190. When an electron remains between

orbit, its momentum is

- A. dequantized
- B. quantized
- C. emitted
- D. changes always

191.

Gases

The molecules of ___have dipole-dipole interaction

- A. methane
- B. neon
- C. ammonia
- D. ethane-ethyl alcohol

192. While calculating vapor pressure of a liquid in manometer, the column of mercury facing the vapors of a liquid is ___due to pressure on surface of liquid in flask

- A. compressed
- B. depressed
- C. rises
- D. lowers

193. According to Avogadro's law , .899 g of $1\text{dm}^3 \text{H}_2$ and 1.4384 g of $1\text{dm}^3 \text{O}_2$ have number of molecule

- A. same
- B. different
- C. H_2 has more
- D. O_2 has more

194. 88 ___are estimated to constitute more than 99% of the visible universe

- A. solids
- B. liquids
- C. gases
- D. plasmas

195. What is the value of One calorie in joule ?

- A. 4.98J
- B. 7.98J



C. 4.18J D. 8.21J	A. pressure, volume B. pressure, temperature C. temperature. Pressure D. volume, pressure
196. The gas laws describes the _behavior of gases A. abrupt B. non-uniform C. uniform D. disordered	203. A gas having volume of 1 dm ³ is enclosed in a vessel at 1 c and 2.5 atm. This gas is allowed to expand until new pressure is 2 (No Suggestions) will be new volume if the temperature is maintained at 273 k? A. 12dm ³ B. 1.25dm ³ C. 1dm ³ D. 12.3dm ³
197. The ratio of PV to T is a constant quantity I-e A. k B. R C. n D. K	204. Steam causes more severe burns than boiling water because it has A. latent heat of fusion B. latent heat of vaporization C. latent heat of sublimation D. all of these
198. Carboxylase are example of which type of enzyme: A. Hydrolases B. Lyases C. Transferases D. Ligases	205. Calculate the mass of 1 dm ³ of NH ₃ gas at 3 C and 1 mm hg pressure, considering that NH ₃ is ideally behaving A. 0.99g B. 0.89g C. 0.9kg D. 0.78g
199. The molecule of water has structure A. cubic B. tetrahedral C. trigonal D. hexagonal system	206. Molecules of liquids are in constant state of motion, it causes A. diffusion B. evaporation C. melting D. both A & B
200. Values of Van der Waal's constant 'b' in correct order is A. CO ₂ <SO ₂ <O ₂ <H ₂ B. CO ₂ >SO ₂ >O ₂ >H ₂ C. O ₂ <H ₂ <CO ₂ <SO ₂ D. O ₂ >H ₂ >CO ₂ >SO ₂	207. B 25 cm ³ of the sample of H ₂ gas effuses four times as rapidly as 25 cm ³ of an unknown gas what will be the molar mass of unknown gas? A. 16g mol ⁻¹
201. The unit_ is commonly used by meteorologist A. Bar B. centibar C. millibar D. kilobar	
202. Gases are ideal at high __and become non ideal at high ____	

- B. 32g mol⁻¹
C. 72g mol⁻¹
D. 48 gmol⁻¹
- 208.** PV/nRT for an ideal gas is called
A. expansion factor
B. depression factor
C. compressibility factor
D. diffusion factor
VV
- 209.** The sum of mole fraction of the gases in a mixture of gases is
A. always greater than 1
B. always smaller than 1
C. may be equal or less than 1
D. always 1
- 210.** Which of the following properties does not belong to Gases?
A. Indefinite volume
B. Indefinite shape
C. Low density
D. Strong interactions
- 211.** 1 Pascal is equal to
A. 1 Nm⁻²
B. 76 t rr
C. 1 1325 pa
D. all of these
- 212.** Ammonia can form only one H-bond because of presence of
A. 3 free electron
B. one lone pair of electron
C. 5 electron in outer shell
D. none of these
- 213.** What will be density of CH₄ at C and 1 atm
A. 7138 g/cm³
B. 0.7138g/dm³
C. 0.7138g/cm³
D. 71.38g/dm³
- 214.** Plasma 'the fourth state of matter was identified by
A. Berzelius
B. William Crooks
C. Dalton
D. Rutherford
- 215.** If a graph is plotted between pressure on x- axis and volume on y- axis for Boyle's law verification, the curve obtained is called
A. pseudotherm
B. isotherm
C. biotherm
D. all of these
- 216.** The properties of gases, liquids and solids can be understand by
A. atomic theory
B. potential molecular theory
C. kinetic molecular theory
D. none of these
- 217.** London dispersion forces are the only forces present among
A. atoms of helium in gaseous state at high temperature
B. molecules of water
C. molecules of solid iodine
D. molecules of HCl gas
- 218.** The unit for Van der Waals constant 'b' is
A. mol dm⁻³
B. dm³
C. m³ mol⁻¹
D. m³ mol
- 219.** If pressure is reduced to one half and temperature of a gas is doubled, what will be volume
A. reduced 4 times
B. increased 4 times
C. remains same B

D. gets doubled	D. 6/M
220. The vapor pressure of water at 8°C is A. 4.579 torr B. 23 torr C. 8.1 torr D. 17.54 torr	226. Effusion is the movement of a gas through extremely small opening of molecular size into region of ___ pressure A. high B. low C. moderate D. same
221. Liquids can be converted into solids by decreasing their A. potential energy B. kinetic energy C. both A & B D. none of these	227. when sudden expansion of gases takes place, cooling occurs. This is called A. freezing effect B. Joule Thomson effect C. Boyles effect D. J.Perrin effect
222. Which inert gas is mixed with oxygen gas by deep sea divers to adjust the partial pressure of oxygen gas A. Neon B. Helium C. Argon D. Krypton	228. when sudden expansion of gases takes place, cooling occurs. This is called A. freezing effect B. Joule Thomson effect C. Boyles effect D. J.Perrin effect
223. The amount of heat required to vaporize ONE mole of liquid at its ___ is called molar heat of vaporization A. melting point B. boiling point C. freezing point D. cooling point	229. The strength of intermolecular forces in liquids, solids and gases depends directly on A. speed of atoms B. motion of particles C. distance b/w molecules D. all of these
224. The intermolecular forces are very weak in A. solids B. liquids C. gases D. all of these	230. The rate of diffusion or effusion is ___ - proportional to square root of its density at constant T and P A. directly B. inversely C. equally D. highly
225. The density of a gas X is 6 times the density of a gas Y. If the molecular mass of X is M then what will be molecular mass of Y A. M/6 B. 2M C. 6M	231. Which gas among them shows maximum ideal behavior A. Ammonia B. Hydrogen

C. Helium D. Radon	D. none of these
232. The gas is at 3 atm, what will be the pressure of a gas if it expands three times A. 1 atm B. 3atm C. 6atm D. 9atm	238. Kinetic molecular theory was proposed by A. Berzelius B. Boltzmann C. Bernoulli D. Maxwell
233. The density of an ideal gas falls as its temperature __ and pressure ____ A. decrease, increase B. increase, decrease C. falls. Constant D. constant ,constant	239. In Boyle's law, the relationship between pressure and volume is A. directly proportional B. inversely proportional C. constant D. none of these
234. Which gases are used as mixture for breathing in sea? A. Oxygen and nitrogen B. Carbon dioxide and oxygen C. Helium and oxygen D. Helium and hydrogen	240. London forces are present in A. ammonia B. water C. kerosene oil D. HCl
235. Which state of matter don't have definite volume and occupy space A. solids B. liquids C. gases D. all of these	241. Areal gas obeying Van der Waals equation will resemble to ideal gas if both a & b are A. small B. large C. equal D. none of these
236. Charles's law is not being obeyed when temperature is measured on Celsius scale. That's why new scale called ____ has been developed A. zero Fahrenheit B. zero Kelvin C. absolute Fahrenheit D. all of thes	242. What is the S.I. unit of pressure? A. Nm^{-2} B. Nm^2 C. mm of Hg D. atm
237. cooling is caused by A. vapor pressure B. evaporation C. freezing	243. One atmosphere is the force of ____ long column of mercury on an area of 1cm^2 at c A. 76cm B. 76mm C. 76dm D. 76pm
	244. The molecules of solids possess kinetic energy

<p>A. translational B. vibrational C. both A & B D. none of these</p>	<p>B. induced dipole C. London D. spontaneous induced dipole</p>
<p>245. The partial pressure exerted by the water vapors is called A. tension B. aqueous tension C. aqueous pressure D. all of these</p>	<p>251. In Charles's Law, volume of gas is directly related to which factor? A. Pressure B. Temperature C. Volume D. Number of moles</p>
<p>246. The mole fractions of a gas multiplied by the total pressure of the mixture is called __ of a gas A. partial volume B. partial pressure C. partial temperature D. number of moles</p>	<p>252. Which pair shows hydrogen bonding among them A. ammonia & carbon B. acetone and Ker C. acetone and chloroform D. water & Neon</p>
<p>247. The value of Van Der Waals constant 'b' for Hydrogen gas is A. . 266 B. . 366 C. . 318 D. . 562</p>	<p>253. If pressure and volume of a gas are variable while temperature remains constant, this belongs to A. Charles's law B. Boyle's law C. Avogadro's law D. Pascal's law</p>
<p>248. Molecules of ___ can collide among themselves and exchange energy A. solids B. liquids C. gases D. both B & C</p>	<p>254. What is the value of universal gas constant in S.I. units? A. 8.314Jmol⁻¹K⁻¹ B. 8.314 dm³ atm mol⁻¹K⁻¹ C. 0.0821dm³ atm mol⁻¹ K⁻¹ D. 0.0821Jmol⁻¹K⁻¹</p>
<p>249. this gas cannot be liquefied by Linde's method A. methane B. carbon dioxide C. hydrogen D. helium</p>	<p>255. With the increasing molecular mass of hydrocarbons, they changes from A.gases to liquids B.liquids to solids C.both A & B D.none of these</p>
<p>250. Which forces are very significant in non-polar molecules like Cl₂,H₂ and noble gases A. dipole-dipole</p>	<p>256. With the increasing molecular mass of hydrocarbons, they changes from A.gases to liquids B.liquids to solids C.both A & B</p>

D.none of these	D. 157 torr
257. Critical pressure of Argon(Ar) is A. 48 atm B. 33.5atm C. 111.5atm D. 73. Atm	263. Plasma includes ions A. protons B. electrons C. neutrons D. all of these
258. If a gas is warmed by 1 C, it will ____by 1/273 of its original volume A. contracts B. expands C. shrink D. squeezed	264. Boyle's law is stated as:"The product of pressure and volume of a fixed amount gas at constant temperature is a ____ quantity A. variable B. constant C. discreet D. decreasing
259. when P and T are kept constant, $V = R nT/P$ this is called A. Boyle's law B. Charles's law C. Avogadro's law D. Pascal's law	265. If we decrease temperature of a gas 2 times, its volume will A. increase 4 times B. decrease 4 times C. decrease 2 times D. increase 2 times
260. The magnetic fields create low energy plasma which further create molecules in a ____ state A. stable B. metastable C. parastable D. prestable	266. The strength of London forces depends on size of A. electrons B. electronic cloud C. lone pair on an atom D. poles of atoms
261. Greater the mass of gas taken, greater will be slope of straight line. Because greater the ____greater will be volume occupied A. pressure B. temperature C. number of moles D. all of these	267. Which unit of pressure is commonly used by meteorologist A. atm B. pascal C. mm of Hg D. millibar
262. At high altitudes, the pilots feel uncomfortable breathing because the partial pressure of oxygen is lower than A. 16 torr B. 159 torr C. 158torr	268. The unit for pressure used in engineering work is A. torr B. atm C. pounds per square inch D. Nm-2
	269. The rate of diffusion of a gas having

molar mass 32 as compared to H_2 gas will be

- A. 6 times
- B. 4 times
- C. one fourth
- D. one eighth

- A. low temperature
- B. high temperature
- C. low pressure
- D. high pressure

270. For Boyle's law verification, If a graph is plotted between $1/V$ on x-axis and P on y-axis, _____ graph will be obtained

- A. curved
- B. straight line
- C. zigzag
- D. none of these

276. What is the value of universal gas constant in S.I. units?

- A. $8.314 \text{ J mol}^{-1} \text{ K}^{-1}$
- B. $8.314 \text{ dm}^3 \text{ atm mol}^{-1} \text{ K}^{-1}$
- C. $0.0821 \text{ dm}^3 \text{ atm mol}^{-1} \text{ K}^{-1}$
- D. $0.0821 \text{ J mol}^{-1} \text{ K}^{-1}$

271. There are very strong attractive forces due to close packing in _-

- A. solids
- B. liquids
- C. gases
- D. all of these

277. Which of the following term is constant in Boyle's law?

- A. Pressure
- B. Temperature
- C. Volume
- D. Density

272. Critical temperature of ammonia is _---
C

- A. 31.14
- B. 13.24
- C. 132.44
- D. 1.11

278. Two cotton plugs soaked in HCl and NH_3 solutions are introduced in the open ends of glass tube, 1 cm long. Which gas travels fast

- A. HCl
- B. NH_3
- C. equally
- D. both

273. vapor pressure is measured by calculating difference in liquid pressure and

- A. mercury pressure
- B. glass pressure
- C. atmospheric pressure
- D. container pressure

279. Kinetic molecular theory was proposed by

- A. Berzelius
- B. Boltzmann
- C. Bernoulli
- D. Maxwell

274. The least value of Van der Waals constant is of

- A. H_2
- B. N_2
- C. CO_2
- D. C

280. The density of liquids are _than gases but _____ to solids

- A. lesser, closer
- B. greater, closer
- C. smaller, greater
- D. lesser, greater

275. Plasma is difficult to maintain at

281. If we decrease temperature of a gas 2 times, its volume will

- A. increase 4 times

- B. decrease 4 times
C. decrease 2 times
D. increase 2 times
- 282.** Joule-Thomson effect is used to _the temperature of a gas to liquefy it
A. raise
B. higher
C. equalize
D. lower
- 283.** Effusion is the movement of a gas through extremely small opening of molecular size into region of ___pressure
A. high
B. low
C. moderate
D. same
- 284.** In Hydrogen bonding, the O-atom of water molecule forms a ___bond with H-atom of other molecule by sharing its ___ of electron
A. ionic, one
B. coordinate covalent, one lone pair
C. covalent, 2 lone pair
D. all of these
- 285.** Ammonia can form only one H-bond because of presence of
A. 3 free electron
B. one lone pair of electron
C. 5 electron in outer shell
D. none of these
- 286.** The intermolecular forces are very weak in
A. solids
B. liquids
C. gases
D. all of these
- 287.** The intermolecular forces are very weak in
A. solids
B. liquids
C. gases
D. all of these
- 288.** The strength of London forces depends on size of
A. electrons
B. electronic cloud
C. lone pair on an atom
D. poles of atoms
- 289.** Which pair shows hydrogen bonding among them
A. ammonia & carbon
B. acetone and Ker
C. acetone and chloroform
D. water & Neon
- 290.** **LIQUIDS**
Pressure cooker works on which principle?
A. Decrease in external pressure increase the boiling point
B. Increase in external pressure decrease the boiling point
C. Increase in external pressure increase the boiling point
D. None of these
- 291.** 2 Density of ice is _____?
A. Higher than water
B. Lower than water
C. Similar to water
D. Higher the 1.59/cm³
- 292.** 3 At which temperature water has maximum density?
A. 2°C
B. 4°C
C. 0°C

D. $<0^{\circ}\text{C}$

293. 4 Intermolecular distance is larger in ____?

- A. Ionic compounds
- B. Solids
- C. Covalent compounds
- D. Liquids

5

294. 5 The turbid liquid were also called liquid crystals due to presence of some degree of

- A. heat
- B. order
- C. hotness
- D. coldness

295. 6 Which of the following has greater polarizability?

- A. N_2
- B. Cl_2
- C. O_2
- D. I_2

296. 7 Liquids have ____?

- A. Definite shape
- B. Indefinite shape
- C. Definite volume
- D. None of these

297. 8 Which of the following forces are developed only for few moments ?

- A. Dipole dipole forces
- B. Debye forces
- C. London dispersion forces
- D. H-bonding

298. 9 Which of the following is correct relationship between Boiling point and Intermolecular forces ?

- A. Boiling point increases if intermolecular forces increases
- B. Boiling point decreases if intermolecular forces increases

C. Boiling point increases if intermolecular forces decreases
D. Boiling point is not affected by intermolecular forces

299. 10 Dipole forces has direct relation with the ____?

- A. Chemical properties of a substance
- B. Kinetic properties of substance
- C. Thermodynamic properties of substance
- D. Nature of substance

300. 11 How many times a covalent bond is stronger than H-Bond?

- A. 10
- B. 12
- C. 20
- D. 2

301. 12 What is the boiling point of Glycerine at 1 atm?

- A. 280°C
- B. 150°C
- C. 290°C
- D. 110°C

302. 13 K.E of the liquids is directly proportional to ____?

- A. Pressure
- B. Temperature
- C. Mass
- D. Nature

303. 14 Adhesive nature of honey and glue id due to presence of ____?

- A. H-bonding
- B. Dipole dipole forces
- C. Ionic forces
- D. Debye force

304. 15 Select the most electronegative element among the following:

- A. I
- B. F

C. He D. O	C. Lower than solids D. Both A and B
305. 16 In non-polar molecules ,the strength of London forces depends on number of A. moles B. molecules C. atoms D. all of these	312. 23 At which temperature water boils at Murree Hills? A. 50°C B. 100°C C. 98°C D. 67°C
306. 17 Which of the following shows H-bonding? A. CH ₃ CH ₂ OH B. CH ₃ -O-CH ₃ C. CH ₃ CH ₂ Cl D. All of these	313. 24 The densities of liquids are much _____ than gases but _____ to solids A. smaller, closer B. greater, closer C. smaller, far away D. greater, far away
307. 18 Which of the following has lower vapor pressure ? A.Glycerol B.Isopentane C.Ethanol D.Booth a and c	314. 25 The most electropositive element among the following is: A. Li B. Ca C. Cs D. Ca
308. 19 Evaporation is a _____ process? A.Exothermic B.Spontaneous C.Non-Spontaneous D.None of these	315. 26 The densities of liquids are much _____ than gases but _____ to solids A. smaller, closer B. greater, closer C. smaller, far away D. greater, far away
309. 20 Which of the following would not mix with each other easily ? A. Water, ethanol B. Water ,acetone C. Water, pentane D. Water ,chloroform	316. 27 Boiling point of halogens _____ down the group? A. Increases B. Decreases C. Remain same D. Shows abnormal behavior
310. 21 Liquids have _____? A. Definite volume B. Indefinite volume C. Irregular volume D. Changing volume	317. 28 Depending upon the nature of ordering ,liquid crystals are divided into types A. more than 1 B. two C. three D. four
311. 22 Space among the liquids is _____? Lower than gases B. Higher than solids	

318. 29 soap and detergents show cleansing action because of the presence of ___ of molecules
 A. opposite poles
 B. polar part
 C. non polar part
 D. positive end
319. 30 When NaCl dissolves in water, positive end of water surround the Cl⁻ ion and Negative end of water surrounds the Na⁺ end of salt, which forces are present between these ions and water molecule ?
 A. Dipole Dipole forces
 B. Ion dipole forces
 C. H-bond
 D. Debye force
320. 31 Iodine has greater heat of sublimation then its family members due to presence of stronger?
 A. H-bonding
 B. *London dispersion forces*
 C. Dipole-dipole force
 D. Chemical bonding
321. 32 a liquid crystalline state exist between two temperatures I-e melting temperature and ___ temperature
 A. boiling
 B. freezing
 C. clearing
 D. all of these
322. 33 Melting and boiling point of liquids depend upon ___-?
 A. Motion of liquid molecules
 B. Intermolecular forces between the molecules
 C. Kinetic energy of the molecules
 D. Mass of the molecules
323. 34 Rate of diffusion of liquids is _____ than gases
 A. Lower
 B. Higher
 C. Equal to
 D. All of these
324. 35 What is IUPAC name of isopropyl alcohol
 A. 2 - propanol
 B. 1 - propanol
 C. 2 - ethanol
 D. 2 - propane-1-ol
325. 36 H-bonding is a type of _____ ?
 A. Chemical bonding
 B. Ion dipole force
 C. Dipole-dipole force
 D. Polar force
326. 37 What is the relationship between boiling point and External pressure?
 A. Boiling point increases if external pressure is increased
 B. boiling point increases if external pressure decreases
 C. Boiling point is not affected by external pressure
 D. Boiling point decreases if external pressure increased
327. 38 Which of the following has more evaporation rate at same temperature?
 A. Gasoline
 B. Water
 C. Honey
 D. Ethanol
328. 39 When a liquid is heated in a closed container, equilibrium is established between ?
 A. Liquid and Solid
 B. Liquid and Vapour
 C. Liquid solid and vapour
 D. Liquid and vapour solid

- 329.** 40 In which of the following dipoles are not present ?
 A. Water
 B. HCl
 C. Noble gases
 D. Chloroform
- 330.** 41 In which of the following dipoles are not present ?
 A. Water
 B. HCl
 C. Noble gases
 D. Chloroform
- 331.** 42 On which factor boiling point of a liquid does not depends?
 A. External pressure
 B. Vapour pressure
 C. Amount of liquid
 D. Intermolecular forces
- 332.** 43 H-Bonding act as a bridge between ____?
 A. Two electronegative atoms
 B. Electronegative and H atoms
 C. Two H atoms
 D. None of these
- 333.** 44 Among halogens iodine is solid at room temperature while Br₂ is liquid and Cl₂ are gases at room temperature, why?
 A. Due to stronger dipole forces
 B. Due to polarity
 C. Due to stronger London forces
 D. Due to stronger Debye forces
- 334.** 45 The properties of liquid crystals are intermediate b/w crystals and
 A. anisotropic liquids
 B. nematic liquids
 C. isotropic liquids
 D. liquids
- 335.** 46 All the halogens are ____ diatomic molecules
 A. polar
 B. non polar
 C. reactive
 D. non reactive
- 336.** 47 The amount of heat required to form vapors of one mole of a liquid at its boiling point is called as?
 A. Molar heat of fusion
 B. Molar heat of vapourization
 C. Molar heat of sublimation
 D. Molar heat of Evaporation
- 337.** 48 Due to which of the following forces present in water aquatic life is protected in Cold climate ?
 A. Dipole dipole forces
 B. Debye forces
 C. H-bonding
 D. London dispersion forces
- 338.** 49 Which of the following has least polarizability ?
 A. NH₃
 B. H₂O
 C. HF
 D. CH₄
- 339.** 50 Which will evaporate faster; hot water in cup or cold water in a cup ?
 A. Cold water
 B. Hot water
 C. Both evaporate at the same rate
 D. Both evaporate slowly
- 340.** 51 Water is considered as a Universal solvent because of which properties?
 A. Polar nature of water
 B. H-bonding
 C. Electronegativity difference
 D. All are correct
- 341.** 52 Which of the following has higher boiling point?

- | | |
|---|--|
| <p>A. NH_3
 B. H_2O
 C. HF
 D. CH_4</p> | <p>C. 184.4
 D. 184.4</p> |
| <p>342. 53 Maximum Hydrogen bonding is found in
 A. chlorine
 B. Ammonia
 C. water
 D. hydrochloric acid</p> | <p>348. 59 Which type of forces are present between acetone and chloroform?
 A. H-bonding
 B. Dipole-Dipole forces
 C. London dispersion forces
 D. Debye forces</p> |
| <p>343. 54 Which of the substance has the highest melting point?
 A. CO_2
 B. H_2O
 C. NaCl
 D. MgO</p> | <p>349. 60 Liquids have _____?
 A. Definite shape
 B. Indefinite shape
 C. Definite volume
 D. None of these</p> |
| <p>344. 55 In a pressure cooker, boiling point of water is _____?
 A. Raised than the normal
 B. Lower than the normal
 C. Lower than the freezing point
 D. All of these</p> | <p>350. 61 Liquid crystal is discovered by
 A. Friedrich Reinitzer
 B. William Crookes
 C. Bravais
 D. J.J. Thomson</p> |
| <p>345. 56 Iodine has greater heat of sublimation than its family members due to presence of stronger?
 A. H-bonding
 B. London dispersion forces
 C. Dipole-dipole force
 D. Chemical bonding</p> | <p>351. 62 At Mount Everest what would be the boiling point of water?
 A. 100°C
 B. 69°C
 C. 98°C
 D. 102°C</p> |
| <p>346. 57 In proteins the H bonding is present between _____?
 A. C-H
 B. N-H
 C. O-H
 D. Cl-H</p> | <p>352. 63 The Diameter of DNA is maintained due to _____?
 A. Dipole dipole forces
 B. Induced dipole forces
 C. Chemical bond
 D. H-bond</p> |
| <p>347. 58 Due to less polarizability of Fluorine, it boils at _____ $^\circ\text{C}$
 A. -188.1
 B. 188.1</p> | <p>353. 64 The side of the manometer in which mercury rises faces the
 A. atmosphere
 B. liquid
 C. container
 D. gas</p> |
| | <p>354. 65 Ethane and hexane both are nonpolar molecules, but ethane has lower Boiling point than Hexane due to?</p> |

<p>A. Strong london forces in ethane due to smaller size</p> <p>B. Weak london forces in hexane due to larger size</p> <p>C. Strong london forces in hexane due to smaller size</p> <p>D. Strong london forces in hexane due to larger size</p>	<p>A. Decrease in external pressure increase the boiling point</p> <p>B. Increase in external pressure decrease the boiling point</p> <p>C. Increase in external pressure increase the boiling point</p> <p>D. None of these</p>
<p>355. 66 Which of the following has lower vapor pressure ?</p> <p>A. Glycerol</p> <p>B. Isopentane</p> <p>C. Ethanol</p> <p>D. Booth a and c</p>	<p>361. 72 Rate of diffusion of liquids is ____ than gases</p> <p>A. Lower</p> <p>B. Higher</p> <p>C. Equal to</p> <p>D. All of these</p>
<p>356. 67 Evaporation is reverse of ____?</p> <p>A. Sublimation</p> <p>B. Freezing</p> <p>C. Melting</p> <p>D. Condensation</p>	<p>362. 73 H-Bonding act as a bridge between ____?</p> <p>A. Two electronegative atoms</p> <p>B. Electronegative and H atoms</p> <p>C. Two H atoms</p> <p>D. None of these</p>
<p>357. 68 Which instrument is used to measure the vapour pressure of a liquid?</p> <p>A. Barometer</p> <p>B. Manometer</p> <p>C. Thermometer</p> <p>D. Sphygmometer</p>	<p>363. 74 In which of the following water evaporate earlier?</p> <p>A. Cup</p> <p>B. Saucepan</p> <p>C. Glass</p> <p>D. Small bowl</p>
<p>358. 69 In which manner H-Bond is formed in HF molecule ?</p> <p>A. Random</p> <p>B. Zigzag</p> <p>C. Tetrahedral</p> <p>D. Linear</p>	<p>364. 75 By increasing which of the following factor polarizability increases ?</p> <p>A. Atomic radius</p> <p>B. Ionization energy</p> <p>C. Ionic radius</p> <p>D. Hydration energy</p>
<p>359. 70 Boiling needs ____?</p> <p>A. Supply of heat in the start</p> <p>B. Supply of heat constantly</p> <p>C. Supply of heat at the end</p> <p>D. Supply of heat variably</p>	<p>365. 76 At higher altitudes water boils at _____ Boiling point?</p> <p>A. Higher</p> <p>B. Lower</p> <p>C. 100°C</p> <p>D. 0°C</p>
<p>360. 71 Pressure cooker works on which principle?</p>	<p>366. 77 Which one of the following is a strong acid ?</p>

<p>A. HF B. HI C. HBr D. HI</p>	<p>B. Dipole Dipole forces C. Polar covalent bond D. All of these</p>
<p>367. 78 Ice occupies more space than liquid water by _____? A. 0.1 B. 0.09 C. 0.05 D. 0.06</p>	<p>373. 84 Structure of ice is similar to which of the following? A. Liquid water B. Diamond C. Graphite D. Sucrose</p>
<p>368. 79 Which will evaporate faster; hot water in cup or cold water in a cup? A. Cold water B. Hot water C. Both evaporate at the same rate D. Both evaporate slowly</p>	<p>374. 85 Instantaneous dipole is produced when _____? A. Two polar molecules comes closer B. Two non polar molecules comes closer C. Polar and nonpolar molecule comes closer D. All of these</p>
<p>369. 80 Lower boiling point of ether than water is due to the reason? A. Ether has strong intermolecular forces B. Water has weak H-bonding C. Ether has weak intermolecular forces D. Water has lower vapour pressure</p>	<p>375. 86 The forces present within a molecule are called as _____? A. Intermolecular forces B. Van der Waal forces C. Chemical bond D. Weak forces</p>
<p>370. 81 Instantaneous dipole-Induced dipole forces are also named as? A. Debye forces B. Dipole-dipole forces C. London Dispersion forces D. H-bonding</p>	<p>376. 87 The distillation which is carried out under reduced pressure is called as? A. Pressure distillation B. Reduced distillation C. Vacuum distillation D. Low boiling distillation</p>
<p>371. 82 The forces present between the molecules are called as? A. Chemical bond B. Intermolecular forces C. Intra molecular forces D. Strong forces</p>	<p>377. 88 At 0°C what is the physical state of water? A. Ice B. liquid C. Vapour D. Both ice and liquid</p>
<p>372. 83 Greater heat of vapourization of water is due to the presence of which forces? A. H-bonding</p>	<p>378. 89 The measurement of the extent to which electron cloud is distorted is termed as? A. Polarizability</p>

B. Molecularity C. Induction D. Dispersion	D. None of these
379. 90 Which instrument is used to measure the vapour pressure of a liquid? A. Barometer B. Manometer C. Thermometer D. Sphygmometer	385. 96 Which of the following are soluble in water? A. Small alcohols B. Small carboxylic acids C. Acetone D. Butane
380. 91 When heat is provided to a liquid it causes it to ____? A. Contract B. Decompose C. Expand D. Become Non volatile	386. 97 Which one of the following H-bond is strong? A. O-H B. N-H C. F-H D. Cl-H
381. 92 In a vacuum distillation the boiling point of glycerin is reduced to ____? A. 290°C B. 110°C C. 156°C D. 210°C	387. 98 H bonding is not present in which of the following ____? A. DNA B. Proteins C. Carbohydrates D. Lipids
382. 93 The force which holds the atoms within the molecule is called as ____? A. Intermolecular force B. Chemical bond C. London force D. Polar force	388. 99 Which molar heat has higher ΔH value? A. Heat of fusion B. Heat of vapourization C. Heat of sublimation D. Heat of evaporation
383. 94 Which of the following forces are strongest? A. Debye forces B. Dipole Dipole forces C. Induced dipole forces D. Metallic bond	389. 100 Presence of Process of diffusion in liquids is due to ____? A. Definite volume B. Strong intermolecular forces C. Smaller distance D. Constant motion
384. 95 Which of the following is directional bond? A. Ionic bond B. Metallic bond C. H-bond	390. 101 The temperature at which vapor pressure of a liquid becomes equal to external pressure or atmospheric pressure is called as ? A. Melting point B. Boiling point C. Freezing point D. Sublimation point

391. 102 Pressure cooker works on which principle?

- A. Decrease in external pressure increase the boiling point
- B. Increase in external pressure decrease the boiling point
- C. Increase in external pressure increase the boiling point
- D. None of these

392. 103 Density of ice is _____?

- A. Higher than water
- B. Lower than water
- C. Similar to water
- D. Higher than 1.59/cm³

393. 104 At which temperature water has maximum density?

- A. 2°C
- B. 4°C
- C. 0°C
- D. <0°C

394. 105 The turbid liquid were also called liquid crystals due to presence of some degree of

- A. heat
- B. order
- C. hotness
- D. coldness

395. 106 Which of the following has greater polarizability?

- A. N₂
- B. Cl₂
- C. O₂
- D. I₂

396. 107 Liquids have _____?

- A. Definite shape
- B. Indefinite shape
- C. Definite volume
- D. None of these

397. 108 Which of the following is correct

relationship between Boiling point and Intermolecular forces ?

- A. Boiling point increases if intermolecular forces increases
- B. Boiling point decreases if intermolecular forces increases
- C. Boiling point increases if intermolecular forces decreases
- D. Boiling point is not affected by intermolecular forces

398. 109 Dipole forces has direct relation with the _____?

- A. Chemical properties of a substance
- B. Kinetic properties of substance
- C. Thermodynamic properties of substance
- D. Nature of substance

399. 110 How many times a covalent bond is stronger than H-Bond?

- A. 10
- B. 12
- C. 20
- D. 2

400.

Solids

What are the basic particles of ice crystals

- A. atoms
- B. anions
- C. cations
- D. molecules

401. Arrangement of atoms in Molecular Solids can be studied with the help of

- A. Gamma Rays
- B. X Rays
- C. Spectrometry
- D. Electron Microscope

402. Brittleness of Ionic solids is due to the fact that Ions arrange themselves in



<p>way to,</p> <p>A. Attract each other</p> <p>B. Compress</p> <p>C. Repel</p> <p>D. overlap each other</p>	<p>A. Magnetic</p> <p>B. Repulsive</p> <p>C. Electrostatic</p> <p>D. Weak</p>
<p>403. which one of them belongs to tetragonal system</p> <p>A. Bi</p> <p>B. Sn</p> <p>C. Fe</p> <p>D. Zn</p>	<p>409. The covalent crystals having giant molecules are insoluble in all the solvents</p> <p>A. Silicone carbide</p> <p>B. diamond</p> <p>C. both A & B</p> <p>D. none of these</p>
<p>404. The smallest part of crystal lattice showing all the properties of a crystal is called as ____?</p> <p>A. Crystallite</p> <p>B. Unit cell</p> <p>C. Unit crystal</p> <p>D. Monomer</p>	<p>410. in solid iodine, I-I bond distance is</p> <p>A. 77.1 pm</p> <p>B. 271.5 pm</p> <p>C. 11 pm</p> <p>D. 166.7 pm</p>
<p>405. The boiling point of water is lower than HF because of ____hydrogen bonding</p> <p>A. strong</p> <p>B. moderate</p> <p>C. weak</p> <p>D. constant</p>	<p>411. if 2 axes are of equal length and third is either shorter or longer than other two, all angles are 90°</p> <p>A. cubic system</p> <p>B. tetragonal system</p> <p>C. triclinic system</p> <p>D. hexagonal system</p>
<p>406. Which type of movement is shown by the atoms of the solid?</p> <p>A. Translational motion</p> <p>B. Vibrational motion</p> <p>C. Rotational motion</p> <p>D. Linear motion</p>	<p>412. The nature of amorphous solid is</p> <p>A. isotropic</p> <p>B. anisotropic</p> <p>C. mesotropic</p> <p>D. neotropic</p>
<p>407. The energy is ____when oppositely charged ions brought close to each other</p> <p>A. released</p> <p>B. absorbed</p> <p>C. remain same</p> <p>D. constant</p>	<p>413. Carbon dioxide is an Example of</p> <p>A. Ionic Solid</p> <p>B. Metallic Solid</p> <p>C. Molecular Solid</p> <p>D. Covalent Solid</p>
<p>408. The nature of Binding Force in Ionic Crystals is</p>	<p>414. The Extension of structure in a crystalline solid is not</p> <p>A. Regular</p> <p>B. Geometrical</p> <p>C. Three-Dimensional</p> <p>D. None of these</p>

415. Cholesteryl Benzoate turns milky at
A. 123°C
B. 135°C
C. 145°C
D. 179°C
416. Diamond is a bad conductor because of
A. high density
B. no free electron
C. tight structure
D. transparent to light
417. Which of the following solids shows hydrogen bonding
A. ionic
B. metallic
C. covalent
D. molecular
418. Crystalline Solids are made up of
A. Atoms
B. Molecules
C. Ions
D. All of these
419. when water freezes at C, spaces occur between its molecules which results in its ____
A. decrease in volume
B. decrease in density
C. increase in density
D. increase in volume
420. The existence of an element in more than one crystalline forms called
A. isomerism
B. allotropy
C. anisotropy
D. all of these
421. In NaCl crystal, chloride ions present at the face center are distributed in
A. One Unit Cell
B. 8 Unit cells
C. 4 Unit cells
D. 2 Unit cells
422. The shape of crystal in which it usually grows is called its
A. size
B. capacity
C. habit
D. property
423. Which one of them is a good conductor of electricity
A. ionic solids
B. molecular solids
C. network covalent solids
D. metallic solids
424. Melting Point of Non Polar Molecular solids are
A. High
B. Low
C. Sharp
D. None of these
425. Boiling Points of Polar Molecular solids are
A. Low
B. Moderate
C. High
D. Cannot be predicted
426. Ancient glass becomes milky due to
A. refraction
B. crystallization
C. volatilization
D. dispersion
427. Which one of them have high melting point?
A. diamond
B. sulphur
C. ice
D. zinc
428. Angles in a Unit Cell are denoted by
A. x,y,z
B. a,b,c

C. α , β , γ D. i, j, k	A. Fixed B. Variable C. have a range of value D. None of these
429. Energy in formation of a crystal lattice is A. Absorbed B. Released C. Dependent on Crystal Size D. None of these	436. This is not a molecular solid A. sugar B. ice C. boron nitride D. solid iodine
430. Crystalline Solids can be converted into amorphous solids by A. Sublimation B. Evaporation C. abrupt cooling D. Hammering	437. Sodium metal shows metallic luster is explained by A. diffusion of Na^+ B. oscillation of loose electrons C. excitation of free protons D. strong crystal lattice
431. Percentage of free space in a body centered cubic unit cell is A. .32 B. .34 C. .28 D. .3	438. Atoms in solids are A. Loosely Packed B. In random motion C. Excited D. Closely packed
432. In Powdered form the angles and faces in a crystal are A. Ruptured B. Changed C. Unchanged D. None of these Chemistry >> Chemical	439. Which one of them is known as super cooled liquids? A. glass B. diamond C. silica D. carbon
433. NaNO_3 and CaCO_3 are A. allotropes B. amorphous C. isomorphous D. polymorphous	440. The temperature at which one crystalline form changes to other is called _temperature A. critical B. absolute C. transition D. none of these
434. Which of the following is not an Ionic Solid A. NaCl B. KBr C. MgCl_2 D. CO	441. Structure of a Crystal is changed due to A. Cooling B. Heating C. Impurity D. None of these
435. Melting point of crystalline solids are	442. Metals look shiny as light falls on metal

surface collide with mobile electrons and make them __ these electron gives light when _____

- A. neutral. Excited
- B. excited, de-excited
- C. de-excited, excited
- D. none of these

- B. Crystalline solids
- C. Polymorphic solids
- D. Isomorphous solids

443. Anisotropy is a property of crystal based on its

- A. Chemical Properties
- B. Lattice Structure
- C. Physical Properties
- D. Density

449. which one of them can conduct electricity in solid state

- A. diamond
- B. graphite
- C. Nail
- D. Iodine

444. Structure of a Crystal is changed due to

- A. Cooling
- B. Heating
- C. Impurity
- D. None of these

450. which one the characteristic of Ionic solids ?

- A. high vapor pressure
- B. good conductivity
- C. low melting point
- D. solubility in polar solvents

445. Ice is an example of

- A. Polar Molecular Solid
- B. Non-Polar Molecular Solid
- C. Ionic Solid
- D. Covalent Solid

451. Structure of a Crystal is changed due to

- A. Cooling
- B. Heating
- C. Impurity
- D. None of these

446. Isomorphism is exhibited by

- A. Molecular crystals
- B. covalent solids
- C. Ionic Crystals
- D. Metallic solids

452. The shape of KNO_3 above 128°C is

- A. cubic
- B. orthorhombic
- C. rhombohedral
- D. tetragonal

447. Which of the following is an Isomorph of Copper

- A. Zn
- B. Cd
- C. Ag
- D. Mn

453. Carbon dioxide is an Example of

- A. Ionic Solid
- B. Metallic Solid
- C. Molecular Solid
- D. Covalent Solid

448. The solids which does not possess the regular arrangement of atoms are called as __?

- A. Amorphous solids

454. The temperature at which one crystalline form changes to other is called __temperature

- A. critical
- B. absolute
- C. transition
- D. none of these

455. The transition temperature of all allotropic forms of an element are

always less than its A. freezing point B. melting point C. boiling point D. none of these	B. crystal lattice C. lattice sites D. Lattice location
456. if 2 axes are of equal length and third is either shorter or longer than other two, all angles are 9 A. cubic system B. tetragonal system C. triclinic system D. hexagonal system	462. grey and white tin co-exist at temperature A. 128 C B. 13.2 C C. 32-38 C D. 95.5 C
457. Molecular Solids are held together by weak intermolecular forces called A. Van der Waal forces B. Dipole Dipole Interaction C. Both A and B D. Electrostatic Forces	463. London force of interaction forms crystals A. covalent crystals B. ionic crystals C. molecular crystals D. metallic crystals
458. In Rhombohedral system, all three angles lies between _degree A. 9 & 45 B. 9 & 2 C. 9 & 12 D. 12 & 18	464. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ is an example of crystal system A. triclinic B. tetragonal C. cubic D. rhombohedral
459. Anisotropy is a property of crystal based on its A. Chemical Properties B. Lattice Structure C. Physical Properties D. Density	465. Ionic solids exist in three dimensional array which is called A. unit cell B. lattice C. system D. all of these
460. The smallest part of the crystal lattice has all the properties of the entire crystals, this is called A. unit B. unit cell C. unit crystal D. all of these	466. when water freezes to ice, it occupies ___ more space A. 0.9 g/cm^3 B. 0.1 g/cm^3 C. 0.12 g/cm^3 D. 0.13 g/cm^3 Chemistry >> Chemical
461. Lattice Points are also called A. space lattice	467. vGlass is an example of A. ionic solid B. covalent solid C. pseudo solid D. semisolid

- | | |
|---|--|
| 468. symmetry is repetition of ___ when a crystal rotates at 36 along its axis
A. faces
B. edges
C. angles
D. all of these | C. Cubic Face Centred
D. Tetrahedral |
| 469. Solidified Noble gases contains
A. Polar molecules
B. Polar atoms
C. Non Polar atoms
D. None of these | 475. Hydrogen bonding is involved in
A. cleansing action of soap
B. biological molecule
C. solubility
D. all of these |
| 470. The identical number of layers in cubic and hexagonal closest packing are
A. First three
B. first two
C. only one
D. first four | 476. The size and shape of a crystal depends upon some crystallographic elements which are
A. 3
B. 4
C. 6
D. 8 |
| 471. Which of the following is an Isomorph of Copper
A. Zn
B. Cd
C. Ag
D. Mn | 477. The most symmetrical crystal system
A. triclinic
B. tetragonal
C. cubic
D. rhombohedral |
| 472. Thermal conductivity of graphite is greater when mobile electron are moving _to its layers
A. perpendicular
B. right angle
C. parallel
D. all of these | 478. Classification of Solids is based upon the arrangement of
A. Molecules
B. Atoms
C. Ions
D. All of these |
| 473. To conduct electricity through Ionic Solid, ions should be
A. Excited
B. Energized
C. Free
D. In random Motion | 479. which one the characteristic of Ionic solids ?
A. high vapor pressure
B. good conductivity
C. low melting point
D. solubility in polar solvents |
| 474. Sulphate ion is
A. Triangular Planar
B. Cubic | 480. which of the following solids is isotropic
A. ionic solids
B. molecular solids
C. amorphous solids
D. metallic solids |
| | 481. Number of Electron in Na ⁺ Ion are
A. 11
B. 9 |

C. 10 D. 12	B. 9 & 2 C. 9 & 12 D. 12 & 18
482. The atomic ratio of isomorphs of ZnSO_4 , and NiSO_4 is A. 2:1 B. 2:01:04 C. 1:01:04 D. 1:1	489. The smallest part of the crystal lattice has all the properties of the entire crystals, this is called A. unit B. unit cell C. unit crystal D. all of these
483. Energy released when one mole of an ionic crystal is formed is A. Activation energy B. Potential energy C. Energy of formation D. Lattice Energy	490. Lattice Points are also called A. space lattice B. crystal lattice C. lattice sites D. Lattice location
484. Atoms arranged in regular and repeating manner is the characteristic of A. ionic solids B. molecular solids C. crystalline solids D. covalent solids	491. grey and white tin co-exist at temperature A. 128 C B. 13.2 C C. 32-38 C D. 95.5 C
485. The shape of KNO_3 above 128 C is A. cubic B. orthorhombic C. rhombohedral D. tetragonal	492. London force of interaction forms crystals A. covalent crystals B. ionic crystals C. molecular crystals D. metallic crystals
486. Isomorphism is exhibited by A. Molecular crystals B. covalent solids C. Ionic Crystals D. Metallic solids	493. $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ is an example of crystal system A. triclinic B. tetragonal C. cubic D. rhombohedral
487. The molecules of CO_2 in dry ice form A. covalent crystals B. ionic crystals C. metallic crystals D. molecular crystals	494. Anisotropy is a property of crystal based on its A. Chemical Properties B. Lattice Structure C. Physical Properties D. Density
488. In Rhombohedral system, all three angles lies between _degree A. 9 & 45	

495. if 2 axes are of equal length and third is either shorter or longer than other two, all angles are 90°
 A. cubic system
 B. tetragonal system
 C. triclinic system
 D. hexagonal system
496. The transition temperature of all allotropic forms of an element are always less than its
 A. freezing point
 B. melting point
 C. boiling point
 D. none of these
497. Chloride Ion in NaCl are placed at the corner of regular
 A. Pentagon
 B. Cuboid
 C. Octahedron
 D. Cube
498. The temperature at which one crystalline form changes to other is called _temperature
 A. critical
 B. absolute
 C. transition
 D. none of these
499. Chloride Ion in NaCl are placed at the corner of regular
 A. Pentagon
 B. Cuboid
 C. Octahedron
 D. Cube
500. The transition temperature of all allotropic forms of an element are always less than its
 A. freezing point
 B. melting point
 C. boiling point
 D. none of these
501. The shape of KNO_3 above 128 °C is
 A. cubic
 B. orthorhombic
 C. rhombohedral
 D. tetragonal
502. Structure of a Crystal is changed due to
 A. Cooling
 B. Heating
 C. Impurity
 D. None of these
503. which one the characteristic of Ionic solids ?
 A. high vapor pressure
 B. good conductivity
 C. low melting point
 D. solubility in polar solvents
504. The solids which does not possess the regular arrangement of atoms are called as___?
 A. Amorphous solids
 B. Crystalline solids
 C. Polymorphic solids
 D. Isomorphous solids
505. Which of the following is an Isomorph of Copper
 A. Zn
 B. Cd
 C. Ag
 D. Mn
506. Isomorphism is exhibited by
 A. Molecular crystals
 B. covalent solids
 C. Ionic Crystals
 D. Metallic solids
507. The lattice energy of KBr is _____ KJ/mol
 A. -833
 B. -665

C. -895 D. -728	regular arrangement of atoms are called as___?
508. Ice is an example of A. Polar Molecular Solid B. Non-Polar Molecular Solid C. Ionic Solid D. Covalent Solid	A. Amorphous solids B. Crystalline solids C. Polymorphic solid D. Isomorphous solids
509. Structure of a Crystal is changed due to A. Cooling B. Heating C. Impurity D. None of these	515. Which one of them is known as super cooled liquids? A. glass B. diamond C. silica D. carbon
510. Ice is an example of A. Polar Molecular Solid B. Non-Polar Molecular Solid C. Ionic Solid D. Covalent Solid	516. Atoms in solids are A. Loosely Packed B. In random motion C. Excited D. Closely packed
511. Anisotropy is a property of crystal based on its A. Chemical Properties B. Lattice Structure C. Physical Properties D. Densit	517. Sodium metal shows metallic luster is explained by A. diffusion of Na ⁺ B. oscillation of loose electrons C. excitation of free protons D. strong crystal lattice
512. Metals look shiny as light falls on metal surface collide with mobile electrons and make them __ these electron gives light when _____ A. neutral. Excited B. excited,de-excited C. de-excited, excited D. none of these	518. Cl-Cl Bond distance is is 5.63 A, While Na-Cl bond distance is A. Half of 5.63 B. double to 5.63 C. 5.63 D. None of these
513. The temperature at which one crystalline form changes to other is called _temperature A. critical B. absolute C. transition D. none of these	519. This is not a molecular solid A. sugar B. ice C. boron nitride D. solid iodine
514. The solids which does not possess the	520. Melting point of crystalline solids are A. Fixed B. Variable C. have a range of value

D. None of these	
521. Which of the following is not an Ionic Solid A. NaCl B. KBr C. MgCl ₂ D. CO	527. K _c and K _p have the same value when reactants and products have same number of A. Atoms B. Molecules C. Ions D. Moles
522. NaNO ₃ and CaCO ₃ are A. allotropes B. amorphous C. isomorphous D. polymorphous	528. Strong Electrolytes are those which ionizes A. Slowly B. Do not ionize C. Ionize rapidly D. None of these
523. Chemical Equilibrium The equilibrium Constant is always written as a ratio of A. Reactants over products B. Products over reactants C. Product times Reactants D. None of these	529. As Reaction proceeds the concentration of reactants A. decreases B. Remain unchanged C. increases D. cannot be predicted
524. A very small value of K _c depicts A. No Reaction B. Backward Reaction C. Little Forward Reaction D. Complete Reaction	530. What is the pH of human blood? A. 7.45 B. 7.35 C. 7 D. 7.53
525. With different number of moles of reactants and product the volume of system A. Remains unchanged B. changes C. decrease D. increase	531. Effect of Change in Pressure for a reaction with different number of moles at reactant and product side are A. Irreversible Reactions B. Reversible reactions C. Reversible gaseous reactions D. All of these
526. A reaction with a tendency of occurring in forward and backward direction simultaneously is termed as A. Irreversible B. Unidirectional C. Multidirectional D. Reversible	532. Concentration of reactants and products are expressed as Moles per unit A. Area B. length C. Volume

D. None of these	C. Kp
533. Suppression in ionization is done for	D. None of these
A. Weak Electrolyte	540. In Haber's process the final product ammonia is converted into
B. Strong Electrolyte	A. solid state
C. Only Reactants	B. Liquid state
D. Dissociated Ions	C. gaseous state
534. Activated complex is formed due to	D. None of these
A. Pressure	541. Equilibrium curve can be drawn by plotting
B. Temperature	A. Time and Speed
C. Effective collision	B. Temperature and Pressure
D. Ineffective collision	C. Time & Concentration
535. Heat of a solution for the substance whose solubility decrease with increase in temperature is	D. Pressure & Concentration
A. Positive	542. Δn is the difference in number of moles of reactants and products in a reaction which is
B. Zero	A. Solid Phase
C. High	B. Liquid phase
D. Negative	C. Gaseous Phase
536. The conversion of Nitrogen to ammonia or nitrogenous compounds is called	D. Plasma Phase
A. Nitrification	543. If no of moles of products are more than those of reactants, volume in the equilibrium expression appears in
B. Nitrogen Fixation	A. denominator
C. Denitrification	B. Numerator
D. Assimilation	C. As Exponent
537. According to Le chatelier's Principle Exothermic reactions are favored by	D. None of these
A. Increase in Pressure	544. Conjugate base of a weak acid is
B. Increase in Volume	A. Weak
C. decrease in Temperature	B. Strong
D. All of these	C. Unstable
538. $K_p = K_c (RT)^{\Delta n}$, T stands for	D. None of these
A. Temperature	545. For Ideal gases the molar concentration can be expressed as their
B. Absolute Temperature	A. Volume
C. Critical Temperature	B. density
D. All of these	C. partial pressure
539. Equilibrium constant for Ideal gases in terms of partial pressure is denoted by	D. temperature
A. K_c	
B. K	

546. Buffer solutions resist change in their
A. temperature
B. solubility
C. volatility
D. pH
547. When a catalyst is added to a reversible reaction, at equilibrium state the value of equilibrium constant
A. decreases
B. Increases
C. Remains unchanged
D. First decrease then increase
548. The precipitation of weaker electrolyte follows
A. Law of Mass Action
B. Law of energy Conservation
C. Le chatelier's Principle
D. None of these
549. In an Irreversible reaction the tendency of it to go in reverse direction is
A. High
B. low
C. negligible
D. none Of these
550. Activated complex is formed due to
A. Pressure
B. Temperature
C. Effective collision
D. Ineffective collision
551. Phenol gives electrophilic substitution reactions due to?
A. OH group
B. Phenoxide ion
C. Benzene ring
D. All of these
552. The E.m.f of a Cell is equals to
A. Emf(oxidation) - Emf(Reduction)
B. Emf(oxidation) + Emf(Reduction)
C. Emf(oxidation) x Emf(Reduction)
D. None of these
553. If K_p and K_c have same values Δn will be
A. Maximum
B. Minimum
C. Zero
D. Negligible
554. Manufacturing of Ammonia by Haber's process is an
A. endothermic reaction
B. exothermic reaction
C. irreversible
D. Slow
555. A chemical reaction has reached has reached to a state of dynamic equilibrium at certain temperature, Which of the statement is incorrect
A. Concentration of the reactants remains constant
B. Products are continuously being formed
C. The rate of forward and backward reactions are same
D. The reaction has stopped completely
556. Decomposition of Ozone has a very low value of equilibrium constant because of its
A. stability
B. reactivity
C. compressibility
d. Instability
557. Strong Electrolytes are those which ionizes
A. Slowly
B. Do not ionize
C. Ionize rapidly
D. None of these
558. First Law of thermodynamics is

- A. $\Delta E = \Delta H$
 B. $\Delta E = q + p$
 C. $\Delta E = q + w$
 D. $\Delta E = -P\Delta V$

559. Dalton's law of partial pressure is used to derive the relation between K_c and

- A. Temperature
 B. Universal Gas constant
 C. Δn
 D. K_p

560. If Ammonia is not withdrawn continuously from equilibrium mixture its yield will be

- A. increased
 B. decreased
 C. remain unchanged
 D. None of these

561. The catalyst in the formation of ester from alcohol and a weak acid is

- A. A base
 B. Palladium
 C. Nickel
 D. A mineral Acid

562. Manufacturing of Ammonia by Haber's process is an

- A. endothermic reaction
 B. exothermic reaction
 C. irreversible
 D. Slow

563. Heat of solution for NaCl is

- A. High
 B. low
 C. Zero
 D. One chemistry

564. Equilibrium constant has

- A. Units
 B. No Units
 C. Both A and B
 D. A negative value

565. By Increasing temperature in Ammonia synthesis the value of K_c

- A. decreases
 B. increases
 C. remain constant
 D. None of these

566. Shifting the position of equilibrium can be used to Increase

- A. Temperature
 B. pressure
 C. yield of reaction
 D. All of these

567. When Number of moles of reactants and products are same Equilibrium constant will have

- A. negative value
 B. Large value
 C. No units
 D. Units

568. In Haber's process volume percentage of ammonia in equilibrium mixture is

- A. 30%
 B. 32%
 C. 35%
 D. 33%

569. To avoid long reaction time and to get equilibrium mixture quickly we add

- A. More reactants
 B. catalyst
 C. inhibitors
 D. enzymes

570. Le Chatelier Principle is about

- A. Reaction Mixture
 B. Reactants
 C. Equilibrium Mixture
 D. Products

571. Which of the these reactions occur at a moderate rate

- A. Rusting Of Iron

<p>B. Fermentation of sugar C. Hydrolysis of Ester D. Chemical weathering of stone work by acid.</p>	<p>compound C. Presence of Catalyst D. All of these</p>
<p>572. H_3O^+ ions act as A. Base B. Catalyst C. Buffer D. Acid</p>	<p>578. The conversion of Nitrogen to ammonia or nitrogenous compounds is called A. Nitrification B. Nitrogen Fixation C. Denitrification D. Assimilation</p>
<p>573. reaction with a tendency of occurring in forward and backward direction simultaneously is termed as A. Irreversible B. Unidirectional C. Multidirectional D. Reversible</p>	<p>579. Reaction of Sodium with water is an example of A. Reversible reaction B. Endothermic C. Irreversible D. Slow</p>
<p>574. equilibrium, if heat energy is then removed, the equilibrium will shift A. to the product side B. to reactant side C. toward the middle D. None of these</p>	<p>580. Temperature for maximum yield at an appropriate reaction rate is A. 200 C B. 250C C. 450C D. 400C</p>
<p>575. The activation energy for forward and reverse reaction can be lowered by A. Lowering temperature B. decreasing pressure C. catalyst D. All of these</p>	<p>581. Concentration of reactants and products are expressed as Moles per unit A. Area B. length C. Volume D. None of these</p>
<p>576. By increasing the concentration of substance on reactant side shifts the equilibrium to A. Backward direction B. Forward Direction C. higher concentration D. None of these</p>	<p>582. The coefficients of balanced equation are a part of Equilibrium constant value as A. denominator B. numerator C. powers of concentration D. All of these</p>
<p>577. Half-life period for a first order reaction is independent of A. Conditions of temperature B. Initial Concentration of the</p>	<p>583. By changing Pressure at equilibrium which value is changing A. K_c B. K_p</p>

C. Equilibrium Position D. All of these	reactants and product the volume of system A. Remains unchanged B. changes C. decrease D. increase
584. At equilibrium if the concentration of product is increased reaction will proceed to A. Forward Direction B. Backward Direction C. Remain Undisturbed D. None of these	591. Which of these have a positive value of enthalpy A. Combustion B. Neutralization C. Atomization D. All of these
585. The product of active masses of reactant is related to A. Equilibrium constant B. rate of reaction C. Direction of reaction D. Temperature of reaction	592. Le Chatelier Principle is about A. Reaction Mixture B. Reactants C. Equilibrium Mixture D. Products
586. Change in Pressure will only affect the substances which are in A. Liquid state B. Solid State C. Plasma state D. Gaseous State	593. The rate of formation of ammonia is not economical at A. Low temperature B. Very high pressure C. Both A and B D. None of these
587. H_3O^+ ions act as A. Base B. Catalyst C. Buffer D. Acid	594. Rate of reaction increases with increase by increasing temperature because A. The concentration of the reaction increases B. The activation energy for reaction increases C. Collision frequency increases D. All of these
588. Equilibrium constant for Ideal gases in terms of partial pressure is denoted by A. K_c B. K C. K_p D. None of these	595. Strong Electrolytes are those which ionizes A. Slowly B. Do not ionize C. Ionize rapidly D. None of these
589. If at equilibrium state temperature is increased, it will favor A. Exothermic Reactions B. Endothermic Reactions C. Reversible gaseous reactions D. Irreversible reactions	596. 80% of ammonia produced by Haber's process is used in manufacturing
590. With different number of moles of	

<p>A. Explosives B. polymers C. fertilizers D. All of these</p>	<p>product is increased reaction will proceed to A. Forward Direction B. Backward Direction C. Remain Undisturbed D. None of these</p>
<p>597. Le Chatelier Principle is about A. Reaction Mixture B. Reactants C. Equilibrium Mixture D. Products</p>	<p>604. Strong Electrolytes are those which ionize A. Slowly B. Do not ionize C. Ionize rapidly D. None of these</p>
<p>598. At equilibrium the reaction mixture contains A. Only Products B. Reactants C. Both D. None of these</p>	<p>605. Change in Pressure will only affect the substances which are in A. Liquid state B. Solid State C. Plasma state D. Gaseous State</p>
<p>599. For higher yields of ammonia increase in temperature is replaced by A. Increasing pressure B. decreasing volume C. Using catalyst D. All of these</p>	<p>606. Volume factor can appear in equilibrium constant expression in A. denominator B. Numerator C. Both A and B D. Only in Numerator</p>
<p>600. With different number of moles of reactants and product the volume of A. Remains unchanged B. changes C. decrease D. increase</p>	<p>607. Half-life period for a first order reaction is independent of A. Conditions of temperature B. Initial Concentration of the compound C. Presence of Catalyst D. All of these</p>
<p>601. The conversion of Nitrogen to ammonia or nitrogenous compounds is called A. Nitrification B. Nitrogen Fixation C. Denitrification D. Assimilation</p>	<p>608. Manufacturing of Ammonia by Haber's process is an A. endothermic reaction B. exothermic reaction C. irreversible D. Slow</p>
<p>602. The rate of reaction A. Increases as the reaction proceeds B. Decreases as the reaction proceeds C. Remains unchanged D. None of these</p> <p>603. At equilibrium if the concentration of</p>	<p>609. Chemical Kinetics</p>

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| <p>1 Change in concentration of reactants and products can only be found by</p> <p>A. Physical methods</p> <p>B. Chemical Methods</p> <p>C. Physical and Chemical methods</p> <p>D. None of These</p> | <p>A. Titration with KMnO_4</p> <p>B. Titration With Standard Alkali</p> <p>C. Distillation</p> <p>D. Evaporation of mixture</p> |
| <p>610. 2 $\frac{dx}{dt}$ is rate of reaction expression where dx is</p> <p>A. Concentration</p> <p>B. Change in Concentration</p> <p>C. Very small change in Concentration</p> <p>D. All of these</p> | <p>616. 8 Rate of chemical reactions helps in designing industrial process which is</p> <p>A. Completed instantaneously</p> <p>B. Slow</p> <p>C. Economical</p> <p>D. None of these</p> |
| <p>611. 3 $\frac{dx}{dt}$ is rate of change of concentration with respect to</p> <p>Temperature</p> <p>Pressure</p> <p>C. time</p> <p>D. None of these</p> | <p>617. 9 Type of reactants or product decides the nature of method adapted for finding</p> <p>A. Rate constant</p> <p>B. Enthalpy</p> <p>C. Temperature</p> <p>D. Rate of a Reaction</p> |
| <p>612. 4 Half-life can be found out for a reaction of</p> <p>A. first order</p> <p>B. Second Order</p> <p>C. Any Order</p> <p>D. Zero Order</p> | <p>618. 10 The slope determined by drawing a right angled triangle drawn with tangent as hypotenuse will be same</p> <p>A. with different sizes of triangles drawn</p> <p>B. at different point on curve</p> <p>C. at the start and end of curve</p> <p>D. All of these</p> |
| <p>613. 5 The half-life of Uranium is 0</p> <p>A. 700 Million years</p> <p>B. 706 Million years</p> <p>C. 89 days</p> <p>D. 710 million year</p> | <p>619. 11 Hydrolysis means reaction with</p> <p>A. Oxygen</p> <p>B. Hydrogen</p> <p>C. Water</p> <p>D. Air</p> |
| <p>614. 6 Reaction intermediate</p> <p>A. Cannot be Separated from reaction mixture</p> <p>B. Contain normal bonds</p> <p>C. can be isolated from reaction mixture</p> <p>D. Both B and C</p> | <p>620. 12 Zero order reactions do not depend upon concentration of</p> <p>A. products</p> <p>B. reactants</p> <p>C. Ions</p> <p>D. Radicals</p> |
| <p>615. 7 After the hydrolysis of ester the change in concentration of acid at different intervals is calculated by</p> | <p>621. 13 Higher order reactions has half-life</p> <p>A. same as first order</p> <p>B. Different from first order reactions</p> |

C. Directly proportional to Concentration of reactants	life period
D. None of these	A. 40%
622. 14 Specific Rate constant is also known as	B. 70%
A. Time Constant	C. 50%
B. relative rate constant	D. 30%
C. Instantaneous rate constant	629. 21 Unit for rate of reaction is
D. velocity constant	A. Mole / litre
623. 15 The rate equation is an	B. Moles / gram
A. Experimental expression	C. Moles / Second
B. Theoretical expression	D. moles/dm ³ s ⁻¹
C. based on Hit and Trail	630. 22 Rate of reaction can have a value which is
D. All Of these	A. in fraction
624. 16 Rate of reaction can be calculated by calculating	B. Negative
A. Change in temperature	C. Positive
B. Change in pressure	D. All Of these
C. Change in volume	631. 23 In exothermic reactions forward reactions need
D. Change in concentration	A. More Energy
625. 17 Rate of reaction has	B. No energy
A. No units	C. Less Energy
B. unit of Moles/dm ³	D. Catalyst
C. Unit as Moles / litre	632. 24 The change in concentration of reactants or products per unit time is
D. Unit as Moles/dm ³ s ⁻¹	A. rate constant
626. 18 Slope of the curve can be determined by	B. reaction speed
A. Area under the curve	C. Rate of a reaction
B. calculating length of curve	D. All of these
C. Drawing a tangent to the curve	633. 25 Hydrolysis of Tertiary Butyl bromide is a
D. All of these	A. First order reaction
627. 19 Specific Rate constant changes its value with	B. Zero Order Reaction
A. Time Constant	C. Pseudo Second Order
B. Change in Temperature	D. Pseudo First Order
C. Change in Concentration	634. 26 As the time interval approaches Zero the average and instantaneous rate become
D. Change in Pressure	A. Negative
628. 20 How much percentage of reactants is converted into products during half	B. Zero

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| <p>C. Negligible
D. Positive</p> <p>635. 27 As the hydrolysis of ester proceeds more and more acid is formed giving a</p> <p>A. Rising curve
B. Falling Curve
C. Straight line
D. None of these</p> <p>636. 28 In the rate equation $R=k[A]^a[B]^b$, a and b as exponents decides</p> <p>A. Direction of reaction
B. Extent of Reaction
C. Order of Reaction
D. Temperature of Reaction</p> <p>637. 29 The mechanism of reaction can be understood by</p> <p>A. Experimental details
B. Balanced chemical equation
C. Molar Ratio
D. All of these</p> <p>638. 30 Instantaneous rate of reaction is the rate at any</p> <p>A. At Equilibrium
B. one instant
C. Given Temperature
D. Given Pressure</p> <p>639. 31 A substance which does not appear in balanced chemical reaction is called</p> <p>A. Buffer
B. Spectator Substance
C. Reaction Intermediate
D. None of these</p> <p>640. 32 Rate of a reaction is dependent on</p> <p>A. Reactant's Concentration
B. Product Concentration
C. Slowest Step
D. All of these</p> <p>641. 33 In the rate equation $R=k[A]^a[B]^b$, order of reaction is</p> | <p>A. $a \times b$
B. $a-b$
C. $b-a$
D. $a+b$</p> <p>642. 34 Rate determining step of a chemical reaction which occur in more than one step depends upon the</p> <p>A. fastest step
B. Slowest Step
C. catalyst used
D. Temperature of reaction</p> <p>643. 35 Physical methods of finding the rate of reaction always involve</p> <p>A. A catalyst
B. A graph
C. A calculating software
D. None of These</p> <p>644. 36 In one second if the concentration changes from 0.1 to 0.25 then the rate will be</p> <p>A. 0.02 Moles/dm³s⁻¹
B. 0.03 Moles/dm³s⁻¹
C. 0.15 Moles/dm³s⁻¹
D. 0.11 Moles/dm³s⁻¹</p> <p>645. 37 The half-life for first order reaction is independent of initial</p> <p>A. temperature
B. pressure
C. concentration
D. all of these</p> <p>646. 38 The half-life for first order reaction is independent of initial</p> <p>A. temperature
B. pressure
C. concentration
D. all of these</p> <p>647. 39 The slope determined by drawing a right angled triangle drawn with tangent as hypotenuse will be same</p> |
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<p>A. with different sizes of triangles drawn</p> <p>B. at different point on curve</p> <p>C. at the start and end of curve</p> <p>D. All of these</p>	<p>C. Infrared radiation</p> <p>D. All of these</p>
<p>648. 40 In a rate expression the Bracket [] indicates,</p> <p>A. Rate</p> <p>B. Time Concentration</p> <p>C. Reaction yield</p> <p>D. Concentration</p>	<p>654. 46 The order of reaction for which half-life is inversely proportional to the concentration of reaction is</p> <p>A. Second Order</p> <p>B. Zero Order</p> <p>C. First Order</p> <p>D. Third Order</p>
<p>649. 41 Rate of reaction can be studied graphically by plotting time and</p> <p>A. temperature</p> <p>B. Concentration</p> <p>C. Pressure</p> <p>D. Activation Energy</p>	<p>655. 47 Half Life $\propto 1/a^{(n-1)}$ where n is</p> <p>A. Number of reactant molecules</p> <p>B. Number of moles of reactants</p> <p>C. Number of moles of products</p> <p>D. Order of Reactions</p>
<p>650. 42 Slope of the curve can be determined by</p> <p>A. Area under the curve</p> <p>B. calculating length of curve</p> <p>C. Drawing a tangent to the curve</p> <p>D. All of these</p>	<p>656. 48 The slope of the curve obtained by plotting concentration change with time is actually</p> <p>A. Reaction time</p> <p>B. Reaction Speed</p> <p>C. Rate of reaction</p> <p>D. All of these</p>
<p>651. 43 Slope of the curve can be determined by</p> <p>A. Area under the curve</p> <p>B. calculating length of curve</p> <p>C. Drawing a tangent to the curve</p> <p>D. All of these</p>	<p>657. 49 Rate equation for the hydrolysis of Tertiary Butyl Bromide is independent of concentration of water as a reactant because</p> <p>A. It's in excess</p> <p>B. A solvent</p> <p>C. Solute</p> <p>D. Both A and B</p>
<p>652. 44 Near completion of a chemical reaction average rate is</p> <p>A. Lower than instantaneous rate</p> <p>B. higher than instantaneous rate</p> <p>C. Equal to instantaneous rate</p> <p>D. None of these</p>	<p>658. 50 The rate of reaction between two specific time intervals is</p> <p>A. Instantaneous rate</p> <p>B. constant rate</p> <p>C. Average Rate</p> <p>D. All of these</p>
<p>653. 45 Spectrometry is used when reactants and products absorb</p> <p>A. Ultraviolet radiations</p> <p>B. Visible radiation</p>	<p>659. 51 Slope of the curve can be determined by</p>

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| <p>A. Area under the curve
B. calculating length of curve
C. Drawing a tangent to the curve
D. All of these</p> | <p>B. directly proportional to cube of concentration
C. inversely proportional to concentration
D. directly proportional to concentration</p> |
| <p>660. 52 Rate of chemical reactions helps in designing industrial process which is
A. Completed instantaneously
B. Slow
C. Economical
D. None of these</p> | <p>666. 58 If a graph is plotted with concentration data of a reactant in a chemical reaction the curve is
A. Rising
B. Falling
C. U shaped
D. None of these</p> |
| <p>661. 53 The number of reacting molecules which changes their concentration in chemical change is called
A. Extent of a Reaction
B. Order of a Reaction
C. Specific rate of a reaction
D. Enthalpy of reaction</p> | <p>667. 59 Rate of chemical reactions helps in designing industrial process which is
A. Completed instantaneously
B. Slow
C. Economical
D. None of these</p> |
| <p>662. 54 The average and instantaneous rate can be equal
A. Throughout the reaction
B. Near Reaction Completion
C. At one instant Only
D. At start of reaction</p> | <p>668. 60 The positive sign in the rate expression for products depicts
A. Decrease in concentration
B. Increase in concentration
C. Increase in yield
D. decrease in temperature</p> |
| <p>663. 55 Drawing a graph between concentration change with time gives a
A. Straight line
B. parabola
C. Curve
D. Scattered graph</p> | <p>669. 61 The number of reacting molecules which changes their concentration in chemical change is called
A. Extent of a Reaction
B. Order of a Reaction
C. Specific rate of a reaction
D. Enthalpy of reaction</p> |
| <p>664. 56 dx/dt is rate of change of concentration with respect to
A. Temperature
B. Pressure
C. time
D. None of these</p> | <p>670. 62 Drawing a graph between concentration change with time gives a
A. Straight line
B. parabola
C. Curve
D. Scattered graph</p> |
| <p>665. 57 For 3rd order reactions the half-life is
A. inversely proportional to square of concentration</p> | <p>671. 63 If the concentration of reactants in a</p> |

<p>chemical reaction is Unity the rate is called</p> <p>A. Unit rate constant B. specific rate constant C. Relative rate constant D. Average rate constant</p>	<p>C. Moderate D. Zero</p>
<p>672. 64 The average and instantaneous rate can be equal</p> <p>A. Throughout the reaction B. Near Reaction Completion C. At one instant Only D. At start of reaction</p>	<p>678. 70 Order of reaction can be determined</p> <p>A. Theoretically B. Experimentally C. Summing up the exponents of rate equation D. All of these</p>
<p>673. 65 against time instead of reactants the curve obtained will be</p> <p>A. Parabolic B. Rising C. Falling D. Elliptical</p>	<p>679. 71 Reaction which are completed in steps must contain</p> <p>A. Rate determining Step B. Slowest step C. fastest step D. Both A and B</p>
<p>674. 66 In general Photochemical reactions are of order</p> <p>A. 1 B. 3 C. 2 D. 0</p>	<p>680. 72 When rate of reaction is measured by the amount of radiation absorbed it is called</p> <p>A. Optical Rotation method B. Electrical Conductivity method C. Refractometry Method D. Spectrometry</p>
<p>675. 67 Rate constant is denoted by?</p> <p>A. k B. kr C. kv D. ks</p>	<p>681. 73 If the time interval is very small for determining the rate of a reaction the values of average and instantaneous rate</p> <p>A. are both Zero B. Very close to each other C. differs by a large number D. are negative</p>
<p>676. 68 Conductivity of a solution changes with change in</p> <p>A. Reactant Ions Concentration B. Temperature of mixture C. Adding an Impurity D. By catalyst</p>	<p>682. 74 As reaction starts instantaneous rate is</p> <p>A. Higher than Average rate B. Lower Than average rate C. equal to average rate D. None of these</p>
<p>677. 69 The rate of reaction for the hydrolysis of ester is</p> <p>A. High B. Low</p>	<p>683. 75 With the passage of time rate of reaction always</p> <p>A. Increases B. Remains constant</p>

- C. Decreases
D. Increases exponentially
- 684.** 76 If a graph is plotted with concentration data of a reactant in a chemical reaction the curve is
A. Rising
B. Falling
C. U shaped
D. None of these
- 685.** 77 For 3rd order reactions the half-life is
A. inversely proportional to square of concentration
B. directly proportional to cube of concentration
C. inversely proportional to concentration
D. directly proportional to concentration
- 686.** 78 In one second if the concentration changes from 0.1 to 0.25 then the rate will be
A. 0.02 Moles/dm³s⁻¹
B. 0.03 Moles/dm³s⁻¹
C. 0.15 Moles/dm³s⁻¹
D. 0.11 Moles/dm³s⁻¹
- 687.** 79 Change in concentration of reactants and products can only be found by
A. Physical methods
B. Chemical Methods
C. Physical and Chemical methods
D. None of These
- 688.** 80 dx/dt is rate of reaction expression where dx is
A. Concentration
B. Change in Concentration
C. Very small change in Concentration
D. All of these
- 689.** 81 Half-life can be found out for a reaction of
A. first order
B. Second Order
C. Any Order
D. Zero Order
- 690.** 82 The positive sign in the rate expression for products depicts
A. Decrease in concentration
B. Increase in concentration
C. Increase in yield
D. decrease in temperature
- 691.** 83 Rate determining step is also called
A. Critical step
B. Rate Limiting step
C. Final Step
D. None of these
- 692.** 84 The half-life of Uranium is
A. 700 Million years
B. 706 Million years
C. 89 days
D. 710 million year
- 693.** 85 Reaction intermediate
A. Cannot be Separated from reaction mixture
B. Contain normal bonds
C. can be isolated from reaction mixture
D. Both B and C
- 694.** 86 After the hydrolysis of ester the change in concentration of acid at different intervals is calculated by
A. Titration with KMnO₄
B. Titration With Standard Alkali
C. Distillation
D. Evaporation of mixture
- 695.** 87 The slope of the curve obtained by plotting concentration change with time is actually
A. Reaction time

<p>B. Reaction Speed C. Rate of reaction D. All of these</p>	<p>C. Confined space D. None of these</p>
<p>696. 88Rate of a reaction is dependent on A. Reactant's Concentration B. Product Concentration C. Slowest Step D. All of these</p>	<p>702. 6)Thermochemistry is very important to learn about A. Chemical Equilibrium B. Chemical Bonding C. Heat contents of a compound D. All of these</p>
<p>697. Thermochemistry The imaginary surface separating system and surroundings is called A. Buffer B. Transition Zone C. Boundary D. Intermediate state</p>	<p>703. 7)When does it mean, when a reaction is exothermic? A. Energy content of product is more B. Energy content of reactant is less C. Heat is transferred from the system to surrounding D. Heat is transferred from the Surrounding to the system</p>
<p>698. 2)The total of all the possible kind of energies in a system is called A. Total energy B. Kinetic Energy C. Potential Energy D. Internal Energy</p>	<p>704. 8)At which of the following temperature standard enthalpies are measured? A. 373K B. 298K C. 350K D. All of these</p>
<p>699. 3) What is the value of enthalpy of neutralization when one mole of base reacts with one mole of acid? A. 60.5 kJ/mol B. -46.5kJ/mol C. -70.5 kJ/mol D. -57.4kJ/mol</p>	<p>705. 9)Which one of the following has positive value? A. Heat lost by the system B. Work done on the system C. Work done by the system D. Positive ΔE when heat lost by the system</p>
<p>700. 4) Heat absorbed by a substance at constant pressure is equal to_? A. ΔG B. ΔH C. ΔE D. $\Delta H - \Delta E$</p>	<p>706. 10)Conversion of water into steam is a A. Spontaneous Reactions B. Exothermic Reaction C. Reversible Reaction D. Combustion Reaction</p>
<p>701. 5) Anything under test or observation in laboratory is called A. Surrounding B. System</p>	<p>707. 11)In Thermodynamic terms boundary separates_____ A. Surrounding from the environment B. Reactants from contamination</p>

<p>C. System from surrounding D. Products from the surrounding</p>	<p>A. 200 atm B. 25 atm C. 20 atm D. 75 atm</p>
<p>708. 12) In the enthalpy relation, $\Delta H = (q)p + \Delta(PV)$ the value $\Delta(PV)$ can be neglected for the reactions involving ___? A. Gases B. Liquids C. Liquids and solids D. Liquids and Gases</p>	<p>714. 18) Kinetic Energy is the sum of A. Rotational & Vibrational B. Translation & Rotational C. Rotational, Vibrational and Translation D. All of these</p>
<p>709. 13) The property of the system which does not depend upon the path followed by the system is called as ___? A. State function B. Path function C. Dependent function D. Independent function</p>	<p>715. 19) Law of conservation of energy is actually A. Second law of thermodynamics B. Third Law of Thermodynamics C. First Law of Thermodynamics D. Zeroth law of Thermodynamics</p>
<p>710. 14) Which one of the following is the correct value for the enthalpy of formation of CO? A. -110 kJ/mol B. -210 kJ/mol C. -111 kJ/mol D. None of these</p>	<p>716. 20) The only thing which can predict that reaction will be spontaneous or nonspontaneous is A. Enthalpy Change B. Free Energy of the system C. Energy Change D. Temperature Change</p>
<p>711. 15) Thermal energy is also called as ___? A. Internal energy B. Temperature of a body C. Kinetic energy D. Heat energy</p>	<p>717. 21) Kinetic energy of the molecule may be all of the following except? A. Vibrational B. Translational C. Rotational D. Static</p>
<p>712. 16) ΔH_f of which of the following can not be measured directly? A. Al_2O_3 B. B_2O_3 C. CO D. All of these</p>	<p>718. 22) Change in volume of a system depends only upon A. Initial conditions B. Final Conditions C. Initial and final conditions D. Path of the reaction</p>
<p>713. 17) What pressure of Oxygen is maintained inside the bomb calorimeter?</p>	<p>719. 23) Heat of combustion is always a ___? A. Exothermic reaction B. Endothermic reaction</p>

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| <p>C. Spontaneous reaction
D. nonspontaneous reaction</p> <p>720. 24) A state function depends upon the ____?</p> <p>A. Initial condition of the system
B. Final condition of the system
C. Path of the system
D. Both initial and final condition of the system</p> <p>721. 25) Falling water of a waterfall is an example of</p> <p>A. Reversible Reaction
B. Spontaneous Reactions
C. Endothermic Reactions
D. All of these</p> <p>722. 26) What will be the value of work done at constant pressure in a pressure-volume system?</p> <p>A. $w = PV$
B. $w = \Delta PV$
C. $w = P\Delta V$
D. $w = P + \Delta V$</p> <p>723. 27) State function is the ____ property of system.</p> <p>A. Microscopic
B. Dependent
C. Macroscopic
D. Constant</p> <p>724. 28) The enthalpy change of a reaction which involve the formation of atom from its elements at S.T.P is called as</p> <p>A. Enthalpy of formation
B. Enthalpy of combustion
C. Enthalpy of neutralization
D. Enthalpy of sublimation</p> <p>725. 29) The value of heat of neutralization of strong acid with a strong base is always ____?</p> <p>A. Constant</p> | <p>B. Variable
C. Depends on the strength of acid
D. Depends on the strength of base</p> <p>726. 30) A piston in a cylinder is a part of</p> <p>A. System
B. Surroundings
C. Boundary
D. None of These</p> <p>727. 31) Which of the following process is an example of exothermic reaction?</p> <p>A. Evaporation
B. Fusion
C. Sublimation
D. Respiration</p> <p>728. 32) Chemical reactions involve change in heat energy and the study is called</p> <p>A. Electrochemistry
B. Biochemistry
C. Thermochemistry
D. Analytical Chemistry</p> <p>729. 33) Exothermic Reactions heat is</p> <p>A. Taken in
B. Give out to surroundings
C. Neither given nor lost
D. None of these</p> <p>730. 34) Which one of the following enthalpy change is always exothermic in nature?</p> <p>A. Enthalpy of combustion
B. Enthalpy of solution
C. Enthalpy of formation
D. Enthalpy of atomization</p> <p>731. 35) The reactions that needs energy are called as ____?</p> <p>A. Endothermic reactions
B. Exothermic reactions
C. Exergonic reactions
D. Heat releasing reactions</p> <p>732. 36) Which one of the following is not an example of state function?</p> |
|--|---|

<p>A. Temperature (T) B. Volume (V) C. Enthalpy (E) D. Heat (q)</p>	<p>C. ΔE D. $\Delta H - \Delta E$</p>
<p>733. 37) Formation of ZnSO_4 from blue copper sulphate solution is a spontaneous A. Oxidation reaction B. Addition Reaction C. Reduction Reaction D. Redox reaction</p>	<p>739. 43) Thermochemistry is very important to learn about A. Chemical Equilibrium B. Chemical Bonding C. Heat contents of a compound D. All of these</p>
<p>734. 38) Work done by the system is always A. Positive B. Zero C. Negative D. Equals to Unity</p>	<p>740. 44) When does it mean, when a reaction is exothermic? A. Energy content of product is more B. Energy content of reactant is less C. Heat is transferred from the system to surrounding D. Heat is transferred from the Surrounding to the system</p>
<p>735. 39) The imaginary surface separating system and surroundings is called A. Buffer B. Transition Zone C. Boundary D. Intermediate state</p>	<p>741. 45) At which of the following temperature standard enthalpies are measured? A. 373K B. 298K C. 350K D. All of these</p>
<p>736. 40) The total of all the possible kind of energies in a system is called A. Total energy B. Kinetic Energy C. Potential Energy D. Internal Energy</p>	<p>742. 46) Which one of the following has positive value? A. Heat lost by the system B. Work done on the system C. Work done by the system D. Positive ΔE when heat lost by the system</p>
<p>737. 41) What is the value of enthalpy of neutralization when one mole of base reacts with one mole of acid? A. 60.5 kJ/mol B. -46.5 kJ/mol C. -70.5 kJ/mol D. -57.4 kJ/mol</p>	<p>743. 47) Conversion of water into steam is a A. Spontaneous Reactions B. Exothermic Reaction C. Reversible Reaction D. Combustion Reaction</p>
<p>738. 42) Heat absorbed by a substance at constant pressure is equal to ____? A. ΔG B. ΔH</p>	<p>744. 48) In Thermodynamic terms boundary separates ____? A. Surrounding from the environment B. Reactants from contamination</p>

C. System from surrounding D. Products from the surrounding	A. 200 atm B. 25 atm C. 20 atm D. 75 atm
745. 49) In the enthalpy relation, $\Delta H = (q)p + \Delta(PV)$ the value $\Delta(PV)$ can be neglected for the reactions involving ___? A. Gases B. Liquids C. Liquids and solids D. Liquids and Gases	751. 55) Kinetic Energy is the sum of A. Rotational & Vibrational B. Translation & Rotational C. Rotational, Vibrational and Translation D. All of these
746. 50) The property of the system which does not depend upon the path followed by the system is called as ___? A. State function B. Path function C. Dependent function D. Independent function\	752. 56) The only thing which can predict that reaction will be spontaneous or nonspontaneous is A. Enthalpy Change B. Free Energy of the system C. Energy Change D. Temperature Change
747. 51) Which one of the following is the correct value for the enthalpy of formation of CO? A. -110 kJ/mol B. -210 kJ/mol C. -111 kJ/mol D. None of these	753. 57) Kinetic energy of the molecule may be all of the following except? A. Vibrational B. Translational C. Rotational
748. 52) Thermal energy is also called as ___? A. Internal energy B. Temperature of a body C. Kinetic energy D. Heat energy	754. 58) Heat of combustion is always a ___? A. Exothermic reaction B. Endothermic reaction C. Spontaneous reaction D. nonspontaneous reaction
749. 53) ΔH_f of which of the following can not be measured directly? A. Al_2O_3 B. B_2O_3 C. CO D. All of these	755. 59) Change in volume of a system depends only upon A. Initial conditions B. Final Conditions C. Initial and final conditions D. Path of the reaction
750. 54) What pressure of Oxygen is maintained inside the bomb calorimeter?	756. 60) A state function depends upon the ___? A. Initial condition of the system B. Final condition of the system C. Path of the system

	D. Both initial and final condition of the system	B. Variable
757.	61) Falling water of a waterfall is an example of A. Reversible Reaction B. Spontaneous Reactions C. Endothermic Reactions D. All of these	C. Depends on the strength of acid D. Depends on the strength of base
758.	62) Strong acid can be involved in a spontaneous reaction which is termed as A. Addition Reaction B. Substitution Reaction C. Neutralization Reaction D. Reversible Reaction	763. 67) A piston in a cylinder is a part of A. System B. Surroundings C. Boundary D. None of These
759.	63) What will be the value of work done at constant pressure in a pressure-volume system? A. $w = PV$ B. $w = \Delta PV$ C. $w = P\Delta V$ D. $w = P + \Delta V$	764. 68) Which of the following process is an example of exothermic reaction? A. Evaporation B. Fusion C. Sublimation D. Respiration
760.	64) The enthalpy change of a reaction which involve the formation of atom from its elements at S.T.P is called as A. Enthalpy of formation B. Enthalpy of combustion C. Enthalpy of neutralization D. Enthalpy of sublimation	765. 69) Chemical reactions involve change in heat energy and the study is called A. Electrochemistry B. Biochemistry C. Thermochemistry D. Analytical Chemistry
761.	65) State function is the _____ property of system. A. Microscopic B. Dependent C. Macroscopic D. Constant	766. 70) Exothermic Reactions heat is A. Taken in B. Give out to surroundings C. Neither given nor lost D. None of these
762.	66) The value of heat of neutralization of strong acid with a strong base is always _____? A. Constant	767. 71) Which one of the following enthalpy change is always exothermic in nature? A. Enthalpy of combustion B. Enthalpy of solution C. Enthalpy of formation D. Enthalpy of atomization
		768. 72) The reactions that needs energy are called as _____? A. Endothermic reactions B. Exothermic reactions C. Exergonic reactions D. Heat releasing reactions
		769. 73) Which one of the following is not an example of state function?

<p>A. Temperature (T) B. Volume (V) C. Enthalpy (E) D. Heat (q)</p>	<p>B.Exothermic reactions C.Exergonic reactions D.None of these</p>
<p>770. 74) Joule is the unit of ? A.Heat B.Energy C.Work D.All of these</p>	<p>776. 80) State functions are independent of A. Enthalpy Change B. Surroundings C. Path of the reaction D. System</p>
<p>771. 75) Which of the following law explains that net heat change in a reaction is same whether it takes place through two or more different ways? A. Born Haber cycle B. Joule's principle C. Hess's law D. Law of conservation of energy</p>	<p>777. 81) ΔH and ΔE have same values for the reaction in ____? A. Solid phase B. Gases phase C. Liquids, solids and solution D. None of these</p>
<p>772. 76) For the reaction; $\text{NaOH} + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{O}$ the change in enthalpy is called as ____? A. Enthalpy of formation B. Enthalpy of neutralization C. Enthalpy of Sublimation D. Enthalpy of reaction</p>	<p>778. 82) The reactions that release heat are called as ____? A. Endothermic reactions B. Exothermic reactions C. Endergonic reactions D. Heat gaining reactions</p>
<p>773. 77) The sum of potential and kinetic energy of a system is called A. Entropy B. Enthalpy C. Internal Energy D. Heat Energy</p>	<p>779. 83) Evaporation of water is an example of? A. Endothermic reaction B. Exothermic reaction C. Spontaneous reaction D. Chemical; reaction</p>
<p>774. 78) The condition of a system is called as ____? A. Reaction conditions B. Concentration C. State of system D. All of these</p>	<p>780. 84) Production of Ammonia by Haber process is a A. Endothermic Reaction B. Exothermic Reaction C. Irreversible Reaction D. Redox Reaction</p>
<p>775. 79) Temperature of the surrounding falls during ____? A.Endothermic reactions</p>	<p>781. 85) ΔH_r° is the standard enthalpy change of which of the following process? A. When 1 mol of compound formed from its elements B. When 1 mole of substance is dissolved to make a solution</p>

C. When 1 mole of Reactants are converted into products	A. Buffer
D. When 1 mole of salt is formed	B. Transition Zone
782. 86) Potential Energy of a system comes from the	C. Boundary
A. Van der Waal forces	D. Intermediate state
B. Bonds between molecules	789. 93) The total of all the possible kind of energies in a system is called
C. Ionic Bonds	A. Total energy
D. All of these	B. Kinetic Energy
783. 87) What does thermodynamics means?	C. Potential Energy
A. Study of change in state of the system	D. Internal Energy
B. Study of energy changes during a process	790. 94) What is the value of enthalpy of neutralization when one mole of base reacts with one mole of acid?
C. Study of material content of a system	A. 60.5 kJ/mol
D. All of these	B. -46.5kJ/mol
784. 88) Work done by the system is always	C. -70.5 kJ/mol
A. Positive	D. -57.4kJ/mol
B. Zero	791. 95) Heat absorbed by a substance at constant pressure is equal to__?
C. Negative	A. ΔG
D. Equals to Unity	B. ΔH
785. 89) Enthalpy of a system is given as__?	C. ΔE
A. $\Delta H = qv + w$	D. $\Delta H - \Delta E$
B. $H = E + PV$	792. 96) Anything under test or observation in laboratory is called
C. $H = qp + PV$	A. Surrounding
D. $H = E$	B. System
786. 90) Formation of $ZnSO_4$ from blue copper sulphate solution is a spontaneous	C. Confined space
A. Oxidation reaction	D. None of these
B. Addition Reaction	793. 97) Thermochemistry is very important to learn about
C. Reduction Reaction	A. Chemical Equilibrium
D. Redox reaction	B. Chemical Bonding
787. 91) Work done by the system is always	C. Heat contents of a compound
A. Positive	D. All of these
B. Zero	794. 98) Thermochemistry is very important to learn about
C. Negative	A. Chemical Equilibrium
D. Equals to Unity	B. Chemical Bonding
788. 92) The imaginary surface separating system and surroundings is called	

C. Heat contents of a compound D. All of these	C. Spontaneous reaction D. nonspontaneous reaction
795. 99) When does it mean, when a reaction is exothermic? A. Energy content of product is more B. Energy content of reactant is less C. Heat is transferred from the system to surrounding D. Heat is transferred from the Surrounding to the system	801. 105) Decomposition of Water into Hydrogen and oxygen is a A. Reversible Reaction B. Endothermic Reaction C. Exothermic Reaction D. Oxidation Reaction
796. 100) At which of the following temperature standard enthalpies are measured? A. 373K B. 298K C. 350K D. All of these	802. 106) Temperature and volume in an experiment are part of A. Surroundings B. System C. State of a system D. All of these
797. 101) Which one of the following has positive value? A. Heat lost by the system B. Work done on the system C. Work done by the system D. Positive ΔE when heat lost by the system	803. 107) An enthalpy cycle used to calculate the lattice energy is A. Hess Law B. Carnot Cycle C. Born haber Cycle D. Haber's Process
798. 102) Conversion of water into steam is a A. Spontaneous Reactions B. Exothermic Reaction C. Reversible Reaction D. Combustion Reaction	804. 108) Due to the formation of protective layer of oxides at Aluminum oxide surface, it is hard to burn it A. completely in air B. completely in oxygen C. with carbon D. with nitrogen
799. 103) In Thermodynamic terms boundary separates _____? A. Surrounding from the environment B. Reactants from contamination C. System from surrounding D. Products from the surrounding	805. 109) ΔH_f° is the standard enthalpy change of which of the following process? A. When 1 mol of compound formed from its elements B. When 1 mole of substance is dissolved to make a solution C. When 1 mole of Reactants are converted into products D. When 1 mole of salt is formed
800. 104) Enthalpy change of solution of Na_2CO_3 is a _____ reaction? A. Exothermic reaction B. Endothermic reaction	806. 110) What does thermodynamics means?

<p>A. Study of change in state of the system B. Study of energy changes during a process C. Study of material content of a system D. All of these</p>	<p>B. Zero C. Negative D. Equals to Unity</p>
<p>807. 111) Potential Energy of a system comes from the A. Van der Waal forces B. Bonds between molecules C. Ionic Bonds D. All of these</p>	<p>813. 117) Formation of ZnSO_4 from blue copper sulphate solution is a spontaneous A. Oxidation reaction B. Addition Reaction C. Reduction Reaction D. Redox reaction</p>
<p>808. 112) Enthalpy of a system is given as ____? A. $\Delta H = qv + w$ B. $H = E + PV$ C. $H = qp + PV$ D. $H = E$</p>	<p>814. 118) Work done by the system is always A. Positive B. Zero C. Negative D. Equals to Unity</p>
<p>809. 113) Work done by the system is always A. Positive B. Zero C. Negative D. Equals to Unity</p>	<p>815. 119) The imaginary surface separating system and surroundings is called A. Buffer B. Transition Zone C. Boundary D. Intermediate state</p>
<p>810. 114) Formation of ZnSO_4 from blue copper sulphate solution is a spontaneous A. Oxidation reaction B. Addition Reaction C. Reduction Reaction D. Redox reaction</p>	<p>816. 120) The total of all the possible kind of energies in a system is called A. Total energy B. Kinetic Energy C. Potential Energy D. Internal Energy</p>
<p>811. 115) Enthalpy of a system is given as ____? A. $\Delta H = qv + w$ B. $H = E + PV$ C. $H = qp + PV$ D. $H = E$</p>	<p>817. 121) Potential Energy of a system comes from the A. Van der Waal forces B. Bonds between molecules C. Ionic Bonds D. All of these</p>
<p>812. 116) Work done by the system is always A. Positive</p>	<p>818. 121) The total of all the possible kind of energies in a system is called A. Total energy B. Kinetic Energy C. Potential Energy</p>

D. Internal Energy

819. 122) What is the value of enthalpy of neutralization when one mole of base reacts with one mole of acid?

A. 60.5 kJ/mol
 B. -46.5 kJ/mol
 C. -70.5 kJ/mol
 D. -57.4 kJ/mol

820.

Electrochemistry

Current in electrolysis is carried through

A. Free electrons
 B. Positive Ions
 C. Negative Ions
 D. Both B and C

821. 2 In balancing it is very important to identify the substance whose

A. Physical state is changed
 B. oxidation number is changed
 C. Enthalpy is changed
 D. All of these

822. 3 In Down Cell anode is made up of

A. Graphite
 B. Copper
 C. Iron
 D. Silver

823. 4 In Ion electron method, while balancing oxygen and Hydrogen atoms

A. First balance Hydrogen
 B. First balance oxygen
 C. balance both at the same time
 D. order doesn't matter

824. 5 The platinum in SHE act as a

A. Buffer
 B. Salt Bridge
 C. Electrical Conductor
 D. All of these

825. 6 In Electrochemical Cell Negative Ions

are migrated towards

A. Anode
 B. Cathode
 C. Toward the bottom of the cell
 D. Towards the walls of the cell

826. 7 In a galvanic cell, Zinc Sulphate left beaker acquires a

A. A negative charge
 B. A net positive charge
 C. Neutral
 D. None of these

827. 8 Redox Reaction are actually transfer of

A. Electrons
 B. Charges
 C. Energy
 D. Hydrogen Ions

828. 9 Current in electrolysis is carried through

A. Free electrons
 B. Positive Ions
 C. Negative Ions
 D. Both B and C

829. 10 In Metal Hydrides the Oxidation number of Hydrogen is

A. 1
 B. -1
 C. zero
 D. 2

830. 11 By accepting an electron Hydronium Ion is converted into

A. Hydrogen gas
 B. Hydrogen Atoms
 C. Water
 D. OH⁻ ions

831. 12 In oxidation number method the final step to balance equation is

A. Hit and Trial Method
 B. Inspection method

<p>C. Identifying the reducing participants D. Identifying the oxidized participants</p>	<p>ion electron method A. Net charge should be same on each side B. Total number of atoms should be same C. Total number of Ions should be same D. Both A and B</p>
<p>832. 13 In Ion electron method, while balancing oxygen and Hydrogen atoms A. First balance Hydrogen B. First balance oxygen C. balance both at the same time D. order doesn't matter</p>	<p>839. 20 Platinum Foil is coated with finely divided platinum black in SHE to give larger A. Mass B. Volume C. Surface Area D. Temperature difference</p>
<p>833. 14 Each half reaction in ion electron method is balanced by adding A. Electrons on left hand side B. Electron on ride hand side C. Both left or right hand side D. None of these</p>	<p>840. 21 For balancing oxygen and hydrogen atoms in acids or neutral solutions A. Water can be added B. H^+ ions can be added C. Both A and B D. OH^- ions can be added</p>
<p>834. 15 Conversion of Electrical energy into chemical energy is A. Mechanical Energy B. Electromechanical Energy C. Electrochemistry D. Chemical Energy</p>	<p>841. 22 The hydrogen gas bubbling into one molar solution of HCl has a pressure of A. 2atm B. 780 mmHg C. 19 Psi D. 1 atm</p>
<p>835. 16 In Metal Hydrides the Oxidation number of Hydrogen is A. 1 B. -1 C. zero D. 2</p>	<p>842. 23 In electrolysis of $NaNO_3$, Nitrate ions are not discharged but A. Hydroxide Ions are discharged B. Hydrogen Ions are Discharged C. Sodium Ions are Discharged D. None of these</p>
<p>836. 17 In electrochemical series reduction potential relates to only A. Real Conditions B. Standard Conditions C. Positive Values D. Negative Values</p>	<p>843. 2 4 The hydrogen gas bubbling into one molar solution of HCl has a pressure of A. 2atm B. 780 mmHg C. 19 Psi D. 1 atm</p>
<p>837. 18 Electrode Potential is developed when a metal is dipped into A. An Acid B. A base C. In its own ions D. Water</p>	<p>844. 25 In electrolysis of $NaNO_3$, Nitrate ions</p>
<p>838. 19 nAfter adding two half reactions in</p>	

are not discharged but

- A. Hydroxide Ions are discharged
- B. Hydrogen Ions are Discharged
- C. Sodium Ions are Discharged
- D. None of these

D. 1.1 Volt

845. 26 In a Voltaic Cell Zinc Electrode is dipped in

- A. Copper Sulphate
- B. Copper chloride
- C. Zinc Chloride
- D. Zinc Sulphate

- 851.** 32 Fused Bauxite is electrolyzed to get
- A. Sodium
 - B. Magnesium
 - C. Aluminum
 - D. Iron

846. 27 Electrolyte can be in

- A. Plasma state
- B. Solution or Fused state
- C. Solid form
- D. Gaseous State

- 852.** 33 Electrolysis of bauxite is done by
- A. Haber's Process
 - B. Born Haber cycle
 - C. Ion Exchange Method
 - D. Hall-Heroult Process

847. 28 Electrolysis is carried out in

- A. A beaker
- B. Flask
- C. Evaporating Dish
- D. Electrolytic Cell

- 853.** 34 In Electrochemical Cell Positive Ions are migrated towards
- A. Anode
 - B. Cathode
 - C. Toward the bottom of the cell
 - D. Towards the walls of the cell

848. 29 Caustic Soda is made by electrolysis of concentrated solution of NaCl in

- A. Nelson's Cell
- B. Hg - Cell
- C. Castner Kellner Cell
- D. All of these

- 854.** 35 By accepting an electron Hydronium Ion is converted into
- A. Hydrogen gas
 - B. Hydrogen Atoms
 - C. Water
 - D. OH⁻ ions

849. 30 Only those substances are written in Ion Electron Method

- A. which are oxidizing
- B. which are reducing
- C. which are not taking part in reaction
- D. Which will take part in reaction

- 855.** 36 Salt bridge are used to give
- A. Highly conductive path
 - B. To balance amount of - and + ion in both half cells
 - C. Both A and B
 - D. to increase resistivity

850. 31 For a Voltaic Cell containing Zn and Copper electrodes the cell potential at standard conditions is

- A. 2 Volts
- B. 2.2 Volts
- C. 1 Volt

- 856.** 37 A voltaic cell produces electrical energy from
- A. Potential energy
 - B. Chemical energy of Ions
 - C. Kinetic Energy
 - D. Free Electrons

- 857.** 38 Voltaic Cell can be converted into a Reverse galvanic Cell by
- A. Changing positions of electrodes
 - B. Replacing Salt Bridge with a Wire



	<p>C. Providing an External Source of electricity</p> <p>D. All of these</p>	<p>B. zero</p> <p>C. Negative</p> <p>D. All of these</p>
858. 39 Electrolysis is a	<p>A. Spontaneous Reactions</p> <p>B. Oxidation-reduction reaction</p> <p>C. Reduction Reaction</p> <p>D. Oxidation Reaction</p>	865. 46 Downs Cell is used for the electrolysis of
859. 40 Salt Bridge is used for the purpose of	<p>A. Producing Electrons</p> <p>B. Circuit Completion</p> <p>C. Increasing speed of electrons</p> <p>D. All of these</p>	<p>A. Aqueous NaCl</p> <p>B. Aqueous NaNO₃</p> <p>C. Fused NaCl</p> <p>D. Fused NaNO₃</p>
860. 41 Number of Electrons added on both sides of oxidation and reduction half reactions are balanced	<p>A. At the start of procedure</p> <p>B. Somewhere in the middle of balancing</p> <p>C. After Adding two Half reactions</p> <p>D. Before Adding two Half Reactions</p>	866. 47 In a galvanic cell, Zinc Sulphate left beaker acquires a
861. 42 In Electrochemical Cells Reduction takes place at	<p>A. Anode</p> <p>B. Cathode</p> <p>C. At the surface of electrolyte</p> <p>D. None of these</p>	<p>A. A negative charge</p> <p>B. A net positive charge</p> <p>C. Neutral</p> <p>D. None of these</p>
862. 43 Salt Bridge contains	<p>A. Aqueous Calcium Chloride</p> <p>B. Molten zinc powder</p> <p>C. KCl in a Gel</p> <p>D. NaCl in a gel</p>	867. 48 Hydroxide Ions are combine to give
863. 44 In Electrolysis of NaNO ₃ , Na + is	<p>A. Discharged at anode</p> <p>B. Discharge at cathode</p> <p>C. Do Not discharge</p> <p>D. None of these</p>	<p>A. Alcohols</p> <p>B. Aldehydes</p> <p>C. Oxygen</p> <p>D. Hydrogen</p>
864. 45 Oxidation Number can be	<p>A. Positive</p>	868. 49 In Down Cells Cathode is made up of
		<p>A. Graphite</p> <p>B. Copper</p> <p>C. Iron</p> <p>D. Inert material</p>
		869. 50 Standard Electrode potential is measured at
		<p>A. 273K</p> <p>B. 293K</p> <p>C. 298K</p> <p>D. 292K</p>
		870. 51 In a voltaic cell, two half cells actually separates
		<p>A. Two electrolytes</p> <p>B. Anode and Cathode</p> <p>C. Oxidation Half cell and Reduction half Cell</p> <p>D. All of these</p>
		871. 52 In Down Cell anode is made up of

<p>A. B. Copper C. Iron D. Silver</p>	<p>simultaneously C. to form hydrogen bonds D. All of these</p>
<p>872. 53 Standard electrode Potential is denoted by A. E B. E^{-1} C. E^0 D. ∂</p>	<p>878. 58 Downs Cell is used for the electrolysis of A. Aqueous NaCl B. Aqueous NaNO_3 C. Fused NaCl D. Fused NaNO_3</p>
<p>873. 54 For balancing oxygen and hydrogen atoms in acids or neutral solutions A. Water can be added B. H^+ ions can be added C. Both A and B D. OH^- ions can be added</p>	<p>879. 59 What is the emf of Zn-Cu cell? A. 1.01V B. 1.23V C. 1.1V D. 1.44V</p>
<p>874. 55 In Balancing Redox equation the first thing is to A. balance out all the Reactants B. Write the skeleton Equation C. Calculate the oxidation Number D. Identify the elements</p>	<p>880. 60 A voltaic cell produces electrical energy from A. Potential energy B. Chemical energy of Ions C. Kinetic Energy D. Free Electrons</p>
<p>875. 56 In oxidation number method of Balancing the first step is to write A. Oxidation number on Reactants B. Oxidation number on products C. Oxidation number for both reactants & Products D. None of these</p>	<p>881. 61 In Industry Caustic Soda is formed by electrolysis of A. Dilute NaCl Solution B. Fused NaCl C. Concentrated NaCl Solution D. NaCl Solution</p>
<p>876. 57 In Down Cell anode is made up of A. Graphite B. Copper C. Iron D. Silver</p>	<p>882. 62 Arrangement of metals on the basis of their electrode potentials on standard hydrogen scale is called A. Reactivity Series B. Potential Difference C. Activated Potential D. Electrochemical Series</p>
<p>877. 58 The electrolysis of aqueous solutions of salt is complex because of the ability of water A. to vaporize B. to be oxidize and reduce</p>	<p>883. 63 Number of Electrons added on both sides of oxidation and reduction half reactions are balanced A. At the start of procedure B. Somewhere in the middle of balancing</p>

C. After Adding two Half reactions D. Before Adding two Half Reactions	A. Aqueous NaCl B. Aqueous NaNO ₃ C. Fused NaCl D. Fused NaNO ₃
884. 64 Current in electrolysis is carried through A. Free electrons B. Positive Ions C. Negative Ions D. Both B and C	891. 71 Sum of oxidation numbers of all the molecules in a neutral atom is A. Unity B. negative C. 1 D. Zero
885. 65 The reaction in Galvanic Cell is A. Spontaneous B. nonspontaneous C. Irreversible D. Endothermic	892. 72 Order of discharge of ions depends upon A. Their temperature B. Their concentration C. Their Activation Energy D. All of these
886. 66 In Electrochemical Cell Positive Ions are migrated towards A. Anode B. Cathode C. Toward the bottom of the cell D. Towards the walls of the cell	893. 73 Each half reaction in ion electron method is balanced by adding A. Electrons on left hand side B. Electron on right hand side C. Both left or right hand side D. None of these
887. 67 Salt Bridge is used for the purpose of A. Producing Electrons B. Circuit Completion C. Increasing speed of electrons D. All of these	894. 74 Conversion of Electrical energy into chemical energy is A. Mechanical Energy B. Electromechanical Energy C. Electrochemistry D. Chemical Energy
888. 68 In a galvanic cell Copper compartment get net negative charge due to arrival of A. Free charge from zinc sulphate solution B. Electron C. Protons D. Zinc Ions	895. 75 Fused Bauxite is electrolyzed to get A. Sodium B. Magnesium C. Aluminum D. Iron
889. 69 Decrease in Oxidation number is A. Oxidation B. Reduction C. Both A and B D. None of these	896. 76 Two compartments of a galvanic cell are connected by A. A battery B. Electrical Wires C. A pipe D. Salt Bridge
890. 70 Downs Cell is used for the electrolysis of	

- | | |
|--|--|
| 897. 77 Oxidation Number of all the elements in free state is
A. unity
B. Positive
C. Zero
D. Negative | 904. 84 Current in electrolysis is carried through
A. Free electrons
B. Positive Ions
C. Negative Ions
D. Both B and C |
| 898. 78 Electrons in a Voltaic Cell flow from
A. Cathode to Anode
B. Anode to Cathode
C. Right to left
D. None of these | 905. 85 In balancing it is very important to _____ identify the substance whose
A. Physical state is changed
B. oxidation number is changed
C. Enthalpy is changed
D. All of these |
| 899. 79 In Down Cell anode is made up of
A. Graphite
B. Copper
C. Iron
D. Silver | 906. 86 In Down Cell anode is made up of
A. Graphite
B. Copper
C. Iron
D. Silver |
| 900. 80 Downs Cell is used for the electrolysis of
A. Aqueous NaCl
B. Aqueous NaNO ₃
C. Fused NaCl
D. Fused NaNO ₃ | 907. 87 In Ion electron method, while balancing oxygen and Hydrogen atoms
A. First balance Hydrogen
B. First balance oxygen
C. balance both at the same time
D. order doesn't matter |
| 901. 81 Representing Reaction in Voltaic cell symbol used for salt bridge is
A. \cap
B. $::$
C. \equiv
D. $ $ | 908. 88 The platinum in SHE act as a
A. Buffer
B. Salt Bridge
C. Electrical Conductor
D. All of these |
| 902. 82 When a molten salt is electrolyzed the products are
A. Complex
B. Predictable
C. Unpredictable
D. All of these | 909. 89 The platinum in SHE act as a
A. Buffer
B. Salt Bridge
C. Electrical Conductor
D. All of these |
| 903. 83 Electrolysis is a
A. Spontaneous Reactions
B. Oxidation-reduction reaction
C. Reduction Reaction
D. Oxidation Reaction | 910. 90 In a galvanic cell, Zinc Sulphate left beaker acquires a
A. A negative charge
B. A net positive charge
C. Neutral
D. None of these |

911. 91 Redox Reaction are actually transfer of

- A. Electrons
- B. Charges
- C. Energy
- D. Hydrogen Ions

912. 92 Current in electrolysis is carried through

- A. Free electrons
- B. Positive Ions
- C. Negative Ions

913. 93 In Metal Hydrides the Oxidation number of Hydrogen is

- A. 1
- B. -1
- C. zero
- D. 2

914. 94 By accepting an electron Hydronium Ion is converted into

- A. Hydrogen gas
- B. Hydrogen Atoms
- C. Water
- D. OH⁻ ions

915. 95 Two compartments of a galvanic cell are connected by

- A. A battery
- B. Electrical Wires
- C. A pipe
- D. Salt Bridge

916. 96 In Electrochemical Cells oxidation takes place at

- A. Cathode
- B. Anode
- C. Away from anode
- D. None of these

917. 97 In Electrochemical Cells oxidation takes place at

- A. Cathode
- B. Anode

- C. Away from anode
- D. None of these

918.

Chemical Bonding

Formation of Hydrogen molecule according to VBT theory involves overlap of

- A. 1s orbital
- B. 2s orbital
- C. 2p orbital
- D. 2px orbital

919. Those elements, with electronic configuration of valence shell ns^2np^6 show little tendency to react chemically, are called

- A. lanthanides
- B. Actinides
- C. Alkali metals
- D. Noble gases

920. In aluminum oxide, ions are present in the ratio 2:3, its formula is

- A. AlO
- B. Al₂O
- C. Al₂O₃
- D. Al₃O₂

921. The valency of an atom will be one if there is a sufficient gap b/w first and second

- A. electron affinity
- B. ionization energy
- C. electronegativity
- D. none of these

922. When we move from left to right in transition elements, the decrease is ___ due to intervening electrons

- A. large
- B. very large
- C. small
- D. very small

923. The minimum amount of energy required to remove an electron from its gaseous atom to form an ion is known as
A. electron affinity
B. ionization energy
C. electronegativity
D. potential energy
924. the transfer of electron from an atm of ____ I.E to other atom with ____ E.A is called ionic bond by Lewis
A. high, low
B. low, low
C. low, high
D. high, high
925. The elements with intermediate value of ionization energy value are called
A. metals
B. non metals
C. metalloid
D. transition elements
926. A bonding electron pairs of is attracted by ____ of atoms
A. one nucleus
B. both nuclei of atoms
C. lone pair
D. shared pair of electron
927. When an electron is added, energy is released, so electron affinity is given the
A. positive sign
B. negative sign
C. neutral
D. delta sign
928. Greater the amount of negative charge on an atom, the size of ion will also be
A. smaller
B. greater
C. higher
D. lower
929. The electronic configuration of Ne-1 is
A. $1s^2, 2s^2, 2p_x^2, 2p_y^2, 2p_z^2$
B. $1s^2, 2s^2, 2p_x^2$
C. $1s^2, 2s^2, 2p_x^2, 2p_y^1$
D. $1s^2, 2s^2, 2p_x^2, 2p_y^2, 2p_z^1$
930. If the difference of electronegativity is 1.7 or more than that, the bond formed is said to be
A. Ionic bond
B. covalent bond
C. metallic bond
D. chemical bond
931. In energy terms, the elements at high energy state are
A. electronegative elements
B. electropositive elements
C. neutral elements
D. charged elements
932. Which of the following properties is not related to transition metals ____?
A. Complex formation
B. Color
C. Fixed valency
D. d-orbital
933. The shielding effect ____ from left to right in a period
A. decreases
B. increases
C. remains same
D. no change
934. Energy is ____ when an electron is added to the isolated gaseous atom
A. increased
B. released
C. decreased
D. absorbed
935. the tendency of of an atom to attract a shared electron pair towards itself is called

<p>A. electron affinity B. ionization energy C. electronegativity D. polarity</p>	<p>B. 145 KJ/mol C. 155 KJ/mol D. 773 KJ/mol</p>
<p>936. BH₃ has a geometry with H-B-H bond angles of 120° A. linear B. trigonal planar C. tetrahedron D. bent</p>	<p>942. Metals have ionization energy value A. Low B. high C. intermediate D. neutral</p>
<p>937. In CCl₄, all C-Cl bonds are _____ but molecule is _____ overall A. polar, nonpolar B. nonpolar, neutral C. polar, Neutral D. neutral, on polar</p>	<p>943. In some cases during atomic orbital hybridization, ground state electrons promoted to excited states, as a result _____ increases A. number of shells B. number of electrons C. number of unpaired electrons D. number of bonds</p>
<p>938. The increase in atomic radii in _____ is due to increase in the number of shells and the screening effect A. groups B. periods C. both A & B D. none of these</p>	<p>944. Electron affinity of an atom is the energy released when an electron _____ to an empty or partially filled orbital of an atom to form _____ A. removed, cation B. added, cation C. added, anion D. removed, anion</p>
<p>939. The formation of coordination complex compounds formed by transition metals is explained by A. Ligand field theory B. crystal field theory C. molecular orbital theory D. both A & B</p>	<p>945. It is very _____ to remove electron from a positively charged ion than a neutral atom due to increase in nuclear charge A. easy B. difficult C. moderate D. none of these</p>
<p>940. Metals have ionization energy value A. Low B. high C. intermediate D. neutral</p>	<p>946. The shielding effect _____ from left to right in a period A. decreases B. increases C. remains same D. no change</p>
<p>941. The second ionization energy value of magnesium ion after the removal of second electron is A. 135 KJ/mol</p>	<p>947. In chemical combination of H-atom with sodium. It gains an electron but in case</p>

of HF, H-atom A. gains 2 e- B. lose 1e- C. lose 2e- D. gain 2e-	B. KJ/mol C. KJ/atom D. J/atom
948. Sulphur-16 gets its stabilization by gaining 2 electron to become equal to A. neon B. argon C. helium D. krypton	954. The gap in first, second and third ionization energy values helps to guess A. atomic number of an element B. valency of an element C. charge on an atom D. atomic mass of an element
949. The good electron loser elements belongs to group A. 1A B. 2A C. 3A D. 4A	955. The molecular geometry of SO ₂ is A. annular B. ring C. angular D. linear
950. According to VSEPR theory, the repulsions are called A. joule repulsion B. planks repulsion C. Van der waals repulsion D. J.J. Thomson repulsion	956. A _ bond may be polar or nonpolar A. Ionic bond B. covalent bond C. metallic bond D. co-ordinate bond
951. Who was able to determine the distance b/w K ⁺ and Cl ⁻ in potassium chloride crystal A. Bohr's B. Pauling C. Berzelius D. Rutherford	957. The probability of finding an electron _____ even at large distances from the nucleus A. becomes one B. becomes zero C. never becomes zero D. varies from 0 to 1
952. The increase in size of an anion is due to increase in repulsion of A. electron-proton B. electron-electron C. electron-nucleus D. proton-nucleus	958. The ionic radius of an ion is the radius of the ion while considering it to be _ in shape A. oval B. round C. rectangular D. spherical
953. The unit of electron affinity is A. J/mol	959. All elements get their stabilization to attain nearest ___ configuration A. alkali metals B. noble metals C. alkaloids D. Noble gases

960. As far as nuclear charge increases, the decrease in ionic radii will also
A. larger
B. smaller
C. remains same
D. moderate
961. The valence electron pairs are arranged around the central atom to remain at maximum distance apart to keep repulsion
A. maximum
B. moderate
C. zero
D. minimum
962. The chemical reactivities of elements, depend upon their characteristics electronic ____
A. shields
B. forces
C. configurations.
D. Shells
963. The ionic radius is always ____ than the atomic radius from which it is derived
A. higher
B. larger
C. moderate
D. smaller
964. Ionization energies of atoms depends upon the factors
A. atomic radius of atoms
B. nature of orbital
C. shielding effect of inner electrons
D. all of these
965. The electron affinity and atomic radius are ____ to each other
A. directly proportional
B. inversely proportional
C. no effect
D. remains constant
966. In the formation of HF, ____ donates the major of its electron among hydrogen atom or fluorine atom
A. H-atom
B. F-atom
C. both A & B
D. none of these
967. Potassium has electronic configuration (2,8,8,1) and become ion by attaining configuration
A. 2.8.8,2
B. 2,8,8,
C. 2,8,1
D. 2,8,8,8
968. The molecules like CH_4 , CCl_4 or SiH_4 show attitude of non-polarity due to
A. structure
B. symmetry of structure
C. nature of structure
D. charges on structure
969. Nitrogen N_2 molecule has 3 unpaired electron on each atom therefore it shows three bond that are
A. 2 sigma & 1 pi bond
B. 1 sigma & 2 pi bond
C. 3 sigma
D. 3 pi bond
970. The elements of which group show abnormally very low values of electron affinity in every period of periodic table
A. group 2A
B. group 5A
C. both A & B
D. none of these
971. The elements of which group show abnormally very low values of electron affinity in every period of periodic table
A. group 2A
B. group 5A

- C. both A & B
D. none of these
- 972.** Nyholm & Gillespie explains the shapes of molecules for
A. transition elements
B. non transition elements
C. only alkali metals
D. Alkaline earth metals
- 973.** Electron affinity is the measure of ____ for extra electron
A. repulsion of electron
B. attraction of electron
C. attraction of nucleus
D. repulsion of nucleus
- 974.** The total number of bond angles in methane are
A. 2
B. 3
C. 5
D. 4
- 975.** Nyholm & Gillespie explains the shapes of molecules for
A. transition elements
B. non transition elements
C. only alkali metals
D. Alkaline earth metals
- 976.** Electron affinity is the measure of ____ for extra electron
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C. attraction of nucleus
D. repulsion of nucleus
- 977.** The total number of bond angles in methane are
A. 2
B. 3
C. 5
D. 4
- 978.** In general, atomic radii decreases from left to right in a period, due to increase in
A. number of shells
B. nuclear charge
C. shielding effect
D. bond length
- 979.** Formation of Hydrogen molecule according to VBT theory involves overlap of
A. 1s orbital
B. 2s orbital
C. 2p orbital
D. 2px orbital
- 980.** Those elements, with electronic configuration of valence shell $ns2np6$ show little tendency to react chemically, are called
A. lanthanides
B. Actinides
C. Alkali metals
D. Noble gases
- 981.** In aluminum oxide, ions are present in the ratio 2:3, its formula is
A. AlO
B. Al_2O
C. Al_2O_3
D. Al_3O_2
- 982.** The valency of an atom will be one if there is a sufficient gap b/w first and second
A. electron affinity
B. ionization energy
C. electronegativity
D. none of these
- 983.** The minimum amount of energy required to remove an electron from its gaseous atom to form an ion is known as
A. electron affinity

- B. ionization energy
C. electronegativity
D. potential energy
984. the transfer of electron from an atom of ____ I.E to other atom with ____ E.A is called ionic bond by Lewis
A. high, low
B. low, low
C. low, high
D. high, high
985. The elements with intermediate value of ionization energy value are called
A. metals
B. non metals
C. metalloid
D. transition elements
986. A bonding electron pairs of is attracted by ____ of atoms
A. one nucleus
B. both nuclei of atoms
C. lone pair
D. shared pair of electron
987. When an electron is added, energy is released, so electron affinity is given the
A. positive sign
B. negative sign
C. neutral
D. delta sign
988. Greater the amount of negative charge on an atom, the size of ion will also be
A. smaller
B. greater
C. higher
D. lower
989. The electronic configuration of Ne-1 is
A. $1s^2, 2s^2, 2p_x^2, 2p_y^2, 2p_z^2$
B. $1s^2, 2s^2, 2p_x^2,$
C. $1s^2, 2s^2, 2p_x^2, 2p_y^1$
D. $1s^2, 2s^2, 2p_x^2, 2p_y^2, 2p_z^1$
990. If the difference of electronegativity is 1.7 or more than that, the bond formed is said to be
A. Ionic bond
B. covalent bond
C. metallic bond
D. chemical bond
991. In energy terms, the elements at high energy state are
A. electronegative elements
B. electropositive elements
C. neutral elements
D. charged elements
992. The bonding pair of electron are equally shared b/w the atoms in
A. HF
B. HCl
C. H₂O
D. H₂
993. The shielding effect ____ from left to right in a period
A. decreases
B. increases
C. remains same
D. no change
994. Energy is ____ when an electron is added to the isolated gaseous atom
A. increased
B. released
C. decreased
D. absorbed
995. the tendency of of an atom to attract a shared electron pair towards itself is called
A. electron affinity
B. ionization energy
C. electronegativity
D. polarity
996. BH₃ has a geometry with H-B-H bond

angles of 120°

- A. linear
- B. trigonal planar
- C. tetrahedron
- D. bent

- A. number
- B. nature
- C. structure
- D. both A & B

997. In CCl_4 , all C-Cl bonds are _____ but molecule is _____ overall

- A. polar, nonpolar
- B. nonpolar, neutral
- C. polar, Neutral
- D. neutral, on polar

1003. The unit of electronegativity is

- A. Joule
- B. Kilojoules
- C. watt
- D. no unit

998. The increase in atomic radii in _____ is due to increase in the number of shells and the screening effect

- A. groups
- B. periods
- C. both A & B
- D. none of these

1004. Which will need maximum energy to remove its one electron?

- A. $\text{Na} \rightarrow \text{Na}^+ + e^-$
- B. $\text{Ca} \rightarrow \text{Ca}^{++} + e^-$
- C. $\text{K} \rightarrow \text{K}^{++} + e^-$
- D. $\text{c}^{2+} \rightarrow \text{c}^{3+} + e^-$

999. The formation of coordination complex compounds formed by transition metals is explained by

- A. Ligand field theory
- B. crystal field theory
- C. molecular orbital theory
- D. both A & B

1005. _____ is used to measure atomic radii

- A. Gamma rays
- B. alpha rays
- C. X-rays
- D. beta rays

1000. Metals have ionization energy value

- A. Low
- B. high
- C. intermediate
- D. neutral

1006. When an atom shares more than one electrons, the bond formed is

- A. single bond
- B. double bond
- C. triple bond
- D. both B & C

1001. The decrease in atomic radii is very prominent in

- A. second group
- B. second period
- C. higher groups
- D. higher periods

1007. BF_3 is an electron pair acceptor and complete its octet by accepting

- A. an electron
- B. pair of electron
- C. 3 electron
- D. 4 electron

1002. Different type of hybridization takes place depending upon _____ of orbital's participating in hybridization

1008. Which of the following remains the same in a period

- A. nuclear charge
- B. number of electrons
- C. shielding effect
- D. ionization energy

1009. The bond formed b/w homonuclear



diatomic molecule is ___in nature

- A. polar
- B. non-polar
- C. may be polar or nonpolar
- D. ionic

- C. additive
- D. all of these

1010. The electron affinity of fluorine is less than chlorine as we move down the group, this deviation in behavior is due to its

- A. small size
- B. seven electron
- C. thick electronic cloud
- D. all of these

1015. The amount of energy evolved during the formation of hydrogen molecule is

- A. 436.45 KJ/mol
- B. 444.45 J/mol
- C. 436.45 J/mol
- D. 444.45 KJ/Mol

1016. The energy released during the formation of crystal lattice of KCl is

- A. 39 KJ/mol
- B. 49 KJ/mol
- C. 59 KJ/mol
- D. 69 KJ/mol

1011. Intervening electrons have a negative charge which repulses other electrons and ___attraction b/w nucleus and electrons

- A. blocks
- B. reduces
- C. increases
- D. enhances >>

1017. The four C-H bond of methane are formed by overlap of

- A. sp^3-s
- B. sp^2-s^2
- C. sp^3-s^2
- D. sp^3-sp^3

1012. The electronegativity difference of the elements can be related to the following property of bonds

- A. dipole moment
- B. bond energies
- C. both A & B
- D. none of these

1018. The bond formed b/w NH_3 and BF_3 is co-ordinate bond because NH_3 ___ due to presence of one lone pair

- A. acceptor
- B. donor
- C. neutral
- D. negatively charged

1013. The outermost s and p orbitals of Noble gases are completely filled that why they are

- A. stable, reactive
- B. stable, uncreative
- C. unstable, reactive
- D. unstable, uncreative

1019. Aluminum, has 3 electrons in its valence shell, therefore it has the ability to form ion

- A. monovalent
- B. divalent
- C. trivalent
- D. tetravalent

1014. The ionic radii appeared to be a/an property

- A. associative
- B. multiplicative

1020. The bond formed by the complete transfer of electron is called

- A. ionic bond
- B. covalent bond
- C. metallic bond

D. polar covalent bond

A. 1A

B. 2A

C. 3A

D. 4A

1021. The ionization energy of group __shows abnormal trend

A. 3A & 4A

B. 5A & 6A

C. 6A & 4A

D. 3A & 6A

1022. In some cases during atomic orbital hybridization, ground state electrons promoted to excited states , as a result __increases

A. number of shells

B. number of electrons

C. number of unpaired electrons

D. number of bonds

1023. Electron affinity of an atom is the energy released when an electron _to an empty or partially filled orbital of an atom to form__

A. removed,cation

B. added,cation

C. added, anion

D. removed, anion

1024. It is very _--to remove electron from a positively charged ion than a neutral atom due to increase in nuclear charge

A. easy

B. difficult

C. moderate

D. none of these

1025. In chemical combination of H-atom with sodium. It gains an electron but in case of HF,H-atom

A. gains 2 e-

B. lose 1e-

C. lose 2e-

D. gain 2e-

1026. The good electron loser elements belongs to group

1027. According to VSEPR theory ,the repulsions are called

A. joule repulsion

B. planks repulsion

C. Van der waals repulsion

D. J.J.Thomson repulsion

1028.

S and P Block Elements

The group 1 elements are named as alkali metals because

A. Their oxides are basic

B. Their oxide and hydroxides are water soluble

C. Both a & b

D. They are found in the earth

1029. 2 Which of the species has a permanent dipole moment?

A. SF₄

B. SiF₄

C. BF₃

D. XeF₄

1030. 3 Which one is radioactive?

A. Cs

B. Fr

C. Li

D. K

1031. 4 The element caesium bears resemblance with

A. Ca

B. Cr

C. Both of the above

D. None of the above

1032. 5 The second ionization potential of alkali metals are very high due to



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- A. Being s-block elements
- B. Inert gas configurations
- C. ns¹ electronic configuration
- D. Being metals

1033. 6 In diaphragm cell, hydrogen is discharged by the reduction of

- A. Water
- B. HCl
- C. Na⁺
- D. NaCl

1034. 7 Which of the following are weakest intermolecular forces ?

- A. Dipole dipole forces
- B. Debye forces
- C. London dispersion forces
- D. H-bonding

1035. 8 The last subshell of alkaline earth metals

- A. 2s
- B. 1s
- C. 2d
- D. 3d

1036. 9 Which one can form complex?

- A. Na
- B. Cr
- C. Li
- D. K

1037. 10 The formula of Chile Saltpeter is

- A. NaNO₃
- B. CaCO₃
- C. Ba (NO₃)₂
- D. NH₄Cl

1038. 11 Nitrates of which pair of elements gives different products on thermal decomposition?

- A. Na, K
- B. Mg, Ca
- C. Li, Na
- D. Li, Ca

1039. 12 Shielding Effect increases_____?

- A. Down the Group
- B. Along period
- C. Diagonally
- D. only along d -block

1040. 13 S-S bond is present in which of the ion pairs

- A. S₂O₇²⁻, S₂O₃²⁻
- B. S₄O₆²⁻, S₂O₇²⁻
- C. S₂O₇²⁻, S₂O₈²⁻
- D. S₄O₆²⁻, S₂O₃²⁻

1041. 14 More energy to remove an electron from_____?

- A. Half filled subshell
- B. Completely Filled Subshell
- C. Partially filled subshell
- D. Both a and b

1042. 15 Which one is not member of Alkali metals?

- A. Na
- B. K
- C. Cs
- D. Mg

1043. 16 Find the amphoteric oxide

- A. CaO
- B. CO₂
- C. SnO₂
- D. SiO₂

1044. 17 Alkali and alkaline earth metals impart colours when heated over the burner, it is due to

- A. Smaller electronegativity of alkali metals
- B. The smaller ionic radius of these metals
- C. De-excitation of electrons from higher energy levels to low energy level
- D. Excitation of electrons from low energy levels to higher energy levels

1045. 18 Alkali metals group lies in ____?

- A. d-block
- B. s-block
- C. f-block
- D. P-block

1046. 19 BeO is__ in nature

- A. Acidic
- B. Basic
- C. Amphoteric
- D. Neutral

1047. 20 Oxygen is not released on heating which of the compounds?

- A. $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$
- B. $\text{K}_2\text{Cr}_2\text{O}_7$
- C. $\text{Zn}(\text{ClO}_3)_2$
- D. KClO_3

1048. 21 The word Alkali means

- A. Base
- B. Basic salt
- C. Ashes
- D. Spirit

1049. 22 Addition of 2% gypsum in cement

- A. Triggers hydration
- B. Triggers hydrolysis
- C. Prevents rapid hardening
- D. All of the above

1050. 23 Lighter the Oxidation state of Metal more will be ____?

- A. Acidity of metal
- B. Polarization power
- C. Basicity of metal
- D. None of these

1051. 24 Ionization energy depends on which of the following factors?

- A. Size of atoms
- B. Nuclear Charge
- C. Number of shells
- D. All of these

1052. 25 Which sulphates is not soluble in

water?

- A. Sodium sulphate
- B. Potassium sulphate
- C. Zinc sulphate
- D. Barium sulphate

1053. 26 Graphite has a structural similarity with

- A. B_2H_6
- B. B_4C
- C. B
- D. BN

1054. 27 Which one of the following pairs shown the diagonal relationship in the periodic table?

- A. Sodium and Lithium
- B. Lithium and magnesium
- C. Lithium and beryllium
- D. Boron and Beryllium

1055. 28 On which of the following factors Hydration Energy depend?

- A. Charge to size ratio
- B. Polarizability of anions
- C. Polarization power of Cations
- D. All of these

1056. 29 Isoelectronic species have same

- A. electronic configuration
- B. Ionic size
- C. Reactivity
- D. PH

1057. 30 The second ionization potential of alkali metals are very high due to

- A. Being s-block elements
- B. Inert gas configurations
- C. ns^1 electronic configuration
- D. Being metals

1058. 31 Gypsum is applied to the soil as a source of

- A. Ca and P
- B. S and P



- C. Ca and S
D. We could not apply
- 1059.** 32 Addition of second Electron to a uni-negative ion always____?
A. An endothermic process
B. An exothermic process
C. Neutral process
D. Energy wasted
- 1060.** 33 Crystals of $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ when exposed to air
A. Lose water and remain solid
B. Gain water and remain solid
C. Gain water and become liquid
D. Remains unchanged
- 1061.** 34 Isoelectronic species have same
A. electronic configuration
B. Ionic size
C. Reactivity
D. PH
- 1062.** 35 Ionization energy depends on which of the following factors?
A. Size of atoms
B. Nuclear Charge
C. Number of shells
D. All of these
- 1063.** 36 Sodium is not observed in +2 oxidation state because of its
A. high first ionization potential
B. high second ionization potential
C. high ionic radius
D. high electronegativity
- 1064.** 37 Which one of the following carbonate is water-insoluble?
A. Na_2CO_3
B. K_2CO_3
C. $(\text{NH}_4)_2\text{CO}_3$
D. CaCO_3
- 1065.** 38 Ammonia may be prepared by heating ammonium chloride with
A. Water
B. NaCl
C. Aqueous sodium hydroxide
D. H_2SO_4
- 1066.** 39 Which of the statement is incorrect for XeO_4 ?
A. four $p\pi-d\pi$ bonds are present
B. four $sp^3 - p\sigma$ bonds are present
C. It has a tetrahedral shape
D. It has a square planar shape
- 1067.** 40 The deliquescence is a property in which a solid
A. Absorbs moisture and remains solid
B. Absorbs moisture and turns to liquid form
C. Loses water of crystallization
D. Increases the number of water of crystallization
- 1068.** 41 Which one is natron?
A. Na_2CO_3
B. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
C. $\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$
D. NaHCO_3
- 1069.** 42 Both Hydrogen and Halogens form
A. Ionic compounds mostly
B. Unipositive ion
C. Diatomic molecule
D. Stable bond with water
- 1070.** 43 Ionic Salts of Group 1 elements can conduct Electricity when they are in____?
A. Solid form
B. Molten form
C. Aqueous form
D. Both b and c
- 1071.** 44 Which is the correct order of decreasing acidity of Lewis acids?
A. $\text{BBr}_3 > \text{BCl}_3 > \text{BF}_3$
B. $\text{BF}_3 > \text{BCl}_3 > \text{BBr}_3$

C. $\text{BCl}_3 > \text{BF}_3 > \text{BBr}_3$ D. $\text{BBr}_3 > \text{BF}_3 > \text{BCl}_3$	C. Lithium and beryllium D. Boron and Beryllium
1072. 45 Molten sodium burns with brilliant yellow flame in a chlorine atmosphere to form ____? A. NaCl B. NaOH C. NaBr D. ClO	1078. 51 On which of the following factors Hydration Energy depend? A. Charge to size ratio B. Polarizability of anions C. Polarization power of Cations D. All of these
1073. 46 The group 1 elements are named as alkali metals because A. Their oxides are basic B. Their oxide and hydroxides are water soluble C. Both a & b D. They are found in the earth	1079. 52 Isoelectronic species have same A. electronic configuration B. Ionic size C. Reactivity D. PH
1074. 47 Which of the species has a permanent dipole moment? A. SF_4 B. SiF_4 C. BF_3 D. XeF_4	1080. 53 The second ionization potential of alkali metals are very high due to A. Being s-block elements B. Inert gas configurations C. ns1 electronic configuration D. Being metals
1075. 48 Which sulphates is not soluble in water? A. Sodium sulphate B. Potassium sulphate C. Zinc sulphate D. Barium sulphate	1081. 54 The second ionization potential of alkali metals are very high due to A. Being s-block elements B. Inert gas configurations C. ns1 electronic configuration D. Being metals
1076. 49 Graphite has a structural similarity with A. B_2H_6 B. B_4C C. B D. BN	1082. 55 In diaphragm cell, hydrogen is discharged by the reduction of A. Water B. HCl C. Na^+ D. NaCl
1077. 50 Which one of the following pairs shown the diagonal relationship in the periodic table? A. Sodium and Lithium B. Lithium and magnesium	1083. 56 Which of the following are weakest intermolecular forces ? A. Dipole dipole forces B. Debye forces C. London dispersion forces D. H-bonding
	1084. 57 The last subshell of alkaline earth

metals

A. 2s

B. 1s

C. 2d

D. 3d

1085. 58 Which one can form complex?

A. Na

B. Cr

C. Li

D. K

1086. 59 The formula of Chile Saltpeter is

A. NaNO_3

B. CaCO_3

C. $\text{Ba}(\text{NO}_3)_2$

D. NH_4Cl

1087. 60 Nitrates of which pair of elements gives different products on thermal decomposition?

A. Na, K

B. Mg, Ca

C. Li, Na

D. Li, Ca

1088. 61 Shielding Effect increases _____?

A. Down the Group

B. Along period

C. Diagonally

D. only along d-block

1089. 62 S-S bond is present in which of the ion pairs

A. $\text{S}_2\text{O}_7^{2-}$, $\text{S}_2\text{O}_3^{2-}$

B. $\text{S}_4\text{O}_6^{2-}$, $\text{S}_2\text{O}_7^{2-}$

C. $\text{S}_2\text{O}_7^{2-}$, $\text{S}_2\text{O}_8^{2-}$

D. $\text{S}_4\text{O}_6^{2-}$, $\text{S}_2\text{O}_3^{2-}$

1090. 63 More energy to remove an electron from _____?

A. Half filled subshell

B. Completely Filled Subshell

C. Partially filled subshell

D. Both a and b

1091. 64 Which one is not member of Alkali metals?

A. Na

B. K

C. Cs

D. Mg

1092. 65 Find the amphoteric oxide

A. CaO

B. CO_2

C. SnO_2

D. SiO_2

1093. 66 Alkali and alkaline earth metals impart colours when heated over the burner, it is due to

A. Smaller electronegativity of alkali metals

B. The smaller ionic radius of these metals

C. De-excitation of electrons from higher energy levels to low energy level

D. Excitation of electrons from low energy levels to higher energy levels

1094. 67 Alkali metals group lies in _____?

A. d-block

B. s-block

C. f-block

D. p-block

1095. 68 BeO is _____ in nature

A. Acidic

B. Basic

C. Amphoteric

D. Neutral

1096. 69 Oxygen is not released on heating which of the compounds?

A. $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$

B. $\text{K}_2\text{Cr}_2\text{O}_7$

C. $\text{Zn}(\text{ClO}_3)_2$

D. KClO_3

1097. 70 The word Alkali means

- A. Base
B. Basic salt
C. Ashes
D. Spirit
- 1098.** 71 Addition of 2% gypsum in cement
A. Triggers hydration
B. Triggers hydrolysis
C. Prevents rapid hardening
D. All of the above
- 1099.** 72 Lighter the Oxidation state of Metal more will be ____?
A. Acidity of metal
B. Polarization power
C. Basicity of metal
D. None of these
- 1100.** 73 Which is the correct order of decreasing acidity of Lewis acids?
A. $\text{BBr}_3 > \text{BCl}_3 > \text{BF}_3$
B. $\text{BF}_3 > \text{BCl}_3 > \text{BBr}_3$
C. $\text{BCl}_3 > \text{BF}_3 > \text{BBr}_3$
D. $\text{BBr}_3 > \text{BF}_3 > \text{BCl}_3$
- 1101.** 74 Molten sodium burns with brilliant yellow flame in a chlorine atmosphere to form ____?
A. NaCl
B. NaOH
C. NaBr
D. ClO
- 1102.** 75 The group 1 elements are named as alkali metals because
A. Their oxides are basic
B. Their oxide and hydroxides are
- linked with plant ashes?
A. Nitrogen Family
B. Alkali metals
C. Rare earth metals
D. Oxygen Family
- 1105.** 78 Binary compounds of halogens with alkali metals are called
A. Oxides
B. Hydrides
C. Halides
D. Nitriles
- 1106.** 79 One of them is not an alkali metal, Mark it
A. Francium
B. Caesium
C. Rubidium
D. Radium
- 1107.** 80 Metallic character depends on ____?
A. Electron Affinity
B. Ionization energy
C. Electronegativity
D. All of these
- 1108.** 81 Electrolysis of a dilute solution of NaCl results at the anode
A. Sodium
B. Hydrogen
C. Chlorine
D. Oxygen
- 1109.** 82 The Oxidation state of Alkali metals is?
A. 1
B. 2
C. 3
D. 0
- 1110.** 83 Gypsum is applied to the soil as a source of
A. Ca and P
B. S and P
- 1103.** 76 Which of the species has a permanent dipole moment?
A. SF_4
B. SiF_4
C. BF_3
D. XeF_4
- 1104.** 77 Which of the following family is

- C. Ca and S
D. We could not apply
- 1111.** 84 Crystals of $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$ when exposed to air
A. Lose water and remain solid
B. Gain water and remain solid
C. Gain water and become liquid
D. Remains unchanged
- 1112.** 85 Isoelectronic species have same
A. electronic configuration
B. Ionic size
C. Reactivity
D. PH
- 1113.** 86 Ionization energy depends on which of the following factors?
A. Size of atoms
B. Nuclear Charge
C. Number of shells
D. All of these
- 1114.** 87 Sodium is not observed in +2 oxidation state because of its
A. high first ionization potential
B. high second ionization potential
C. high ionic radius
D. high electronegativity
- 1115.** 88 Which one of the following carbonate is water-insoluble?
A. Na_2CO_3
B. K_2CO_3
C. $(\text{NH}_4)_2\text{CO}_3$
D. CaCO_3
- 1116.** 89 Ammonia may be prepared by heating ammonium chloride with
A. Water
B. NaCl
C. Aqueous sodium hydroxide
D. H_2SO_4
- 1117.** 90 Which of the statement is incorrect for XeO_4 ?
A. four $p\pi-d\pi$ bonds are present
B. four $sp^3 - p\sigma$ bonds are present
C. It has a tetrahedral shape
D. It has a square planar shape
- 1118.** 91 The deliquescence is a property in which a solid
A. Absorbs moisture and remains solid
B. Absorbs moisture and turns to liquid form
C. Loses water of crystallization
D. Increases the number of water of crystallization
- 1119.** 92 Which one is natron?
A. Na_2CO_3
B. $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
C. $\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$
D. NaHCO_3
- 1120.** 93 Both Hydrogen and Halogens form
A. Ionic compounds mostly
B. Unipositive ion
C. Diatomic molecule
D. Stable bond with water
- 1121.** 94 Ionic Salts of Group 1 elements can conduct Electricity when they are in___?
A. Solid form
B. Molten form
C. Aqueous form
D. Both b and c
- 1122.** 95
95c Which is the correct order of decreasing acidity of Lewis acids?
A. $\text{BBr}_3 > \text{BCl}_3 > \text{BF}_3$
B. $\text{BF}_3 > \text{BCl}_3 > \text{BBr}_3$
C. $\text{BCl}_3 > \text{BF}_3 > \text{BBr}_3$
D. $\text{BBr}_3 > \text{BF}_3 > \text{BCl}_3$
- 1123.** 96 Molten sodium burns with brilliant yellow flame in a chlorine atmosphere

to form____?

- A. NaCl
- B. NaOH
- C. NaBr
- D. ClO

- A. 2
- B. 3
- C. 5
- D. 7

1124 97 Which one is radioactive?

- A. Cs
- B. Fr
- C. Li
- D. K

1130 4 Which element has completely filled d subshell in both atomic and ionic form?

- A. Cr
- B. Fe
- C. V
- D. Zn

1125 98 The element caesium bears resemblance with

- A. Ca
- B. Cr
- C. Both of the above
- D. None of the above

1131 5 The central atom along with ligands is called

- A. Complex ion
- B. Coordination sphere
- C. Ligand
- D. Complex compound

1126 99 To remove an electron from an atom is always_____?

- A. Exothermic process
- B. Endothermic Process
- C. Neutral
- D. Energy wasted

1132 6 In the production of wrought iron Mg Si and P are removed in the form of

- A. Oxides
- B. Silicates
- C. Slag
- D. Carbonates

1127

Transition Elements

When we dissolve a compound of transition element in a solution of salt then it will form

- A. Simple ions
- B. Strong anions
- C. Double salts
- D. Complex ions

1133 7 Which of the following is typical transition metal?

- A. Sc
- B. Y
- C. Cd
- D. Co

1128 2 lanthanides and actinides resemble in?

- A. ionization state
- B. Oxidation state
- C. electronic configuration
- D. Formation of complexes

1134 8 In the production of wrought iron Mg Si and P are removed in the form of

- A. Oxides
- B. Silicates
- C. Slag
- D. Carbonates

1129 3 Which oxidation is possessed by all the elements of group III B ?

1135 9 When light is exposed to transition element then electrons jump from lower orbital's to higher orbitals in

- A. Orbitals of f-subshell
- B. Orbital's of d-sub shell



C. Orbitals of p-subshell D. Both A & B	C. Because of extra stability of half filled d^5 system D. Because it is typical transition element
1136 10 Non-typical transition elements belong to? A. 2B B. 3B C. 221B D. 1B	1142 16 During bond formation d orbitals splits into ____ of orbitals? A. 3 sets B. 4 sets C. 5 sets D. 2 sets
1137 11C The species which donates electrons to the central metal atom in the coordination sphere is called A. Anion B. Cation C. The ligand is positively charged D. Acid	1143 17 What is the general trend of melting and boiling point of transition elements along period? A. Increases from left to right B. Decreases from left to right C. Increases upto middle than decreases D. Decreases upto middle than increases
1138 chemistry >> Gases Which of the following 12 properties is not related to transition metals ____? A. Complex formation B. Color C. Fixed valency D. d-orbital	1144 18 Location of transition elements is in between? A. s and p block B. d and f block C. s and f block D. None
1139 13 The total number of transition elements are? A. 48 B. 32 C. 58 D. 28	1145 19 $[\text{Fe}(\text{CN})_6]^{4-}$ is called as ____? A. Complex compound B. Transition element ion C. Anion D. Complex anion
1140 14 Pure metal A. Corrode slowly B. Does not corrode easily C. Corrode rapidly D. None of these	1146 20 Melting and boiling point of transition elements is higher due to ____? A. Higher binding energies B. Strong metallic bonding C. Hardness D. All of these
1141 15 Why Cr shows $3d^5 4s^1$ configuration instead of $3d^4 4s^2$? A. Because it is transition element B. Because it shows different oxidation states	1147 21 d block elements are also called as ____? A. Rare earth elements

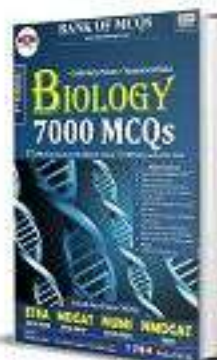
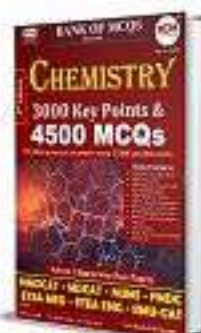
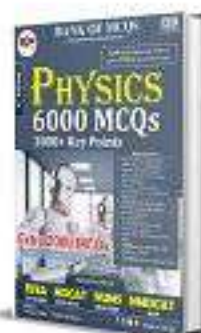
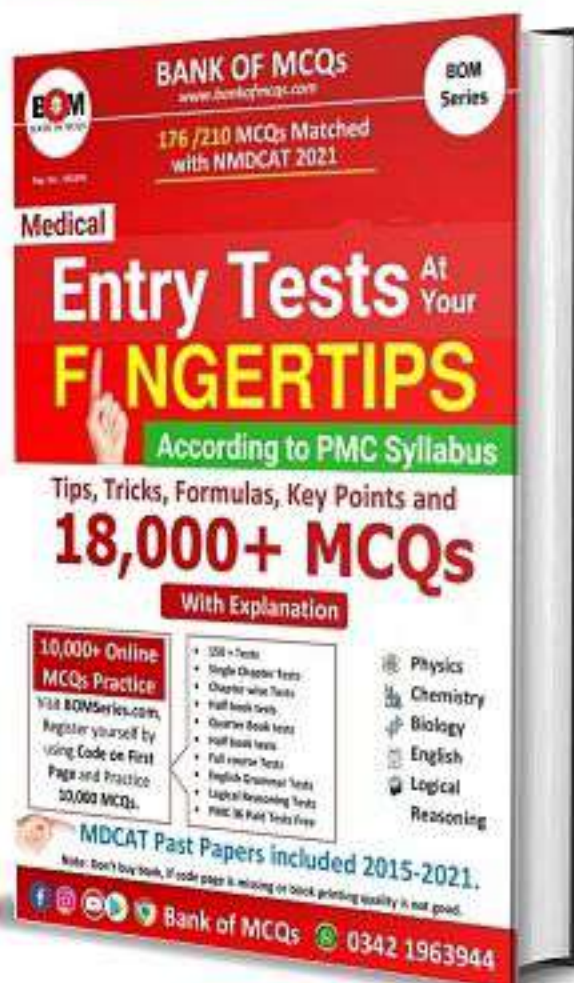
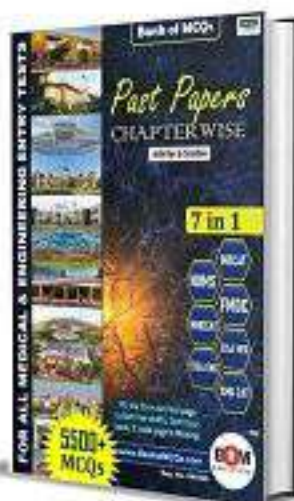
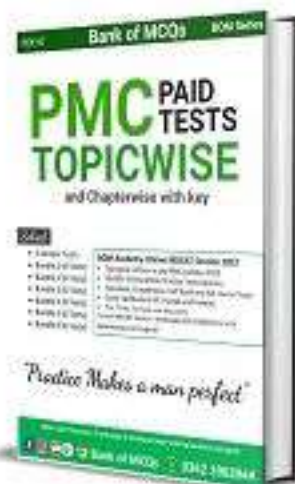
<p>B. Outer transition elements C. Inner transition elements D. Typical transition elements</p>	
<p>1148. 22 f-block elements are called ? A. inner transition B. outer transition C. both D. none</p>	<p>1154. 28 What is the general trend of melting and boiling point of transition elements along period? A. Increases from left to right B. Decreases from left to right C. Increases upto middle than decreases D. Decreases upto middle than increases</p>
<p>1149. 23 Pure metal A. Corrode slowly B. Does not corrode easily C. Corrode rapidly D. None of these</p>	<p>1155. 29 Which metal is paramagnetic? A. Cr B. Mn C. Fe D. All of these</p>
<p>1150. 24 When we react an active metal like Al with less active element like Cu, it will form A. Dry cell B. Galvanic cell C. Electrolytic cell D. A and B</p>	<p>1156. 30 In pig iron the concentration of C-atom is A. .12 — .25% B. 2.5 — 4.5% C. 2. — 4. % D. .25 — 2.5%</p>
<p>1151. 25 Non-typical transition elements belong to? A. 2B B. 3B C. 221B D. 1B</p>	<p>1157. 31 During bond formation d orbitals splits into ____ of orbitals ? A. 3 sets B. 4 sets C. 5 sets D. 2 sets</p>
<p>1152. 26 d-block elements are present _____ in the periodic table ? A. Right of the periodic table B. Left of the periodic table C. Bottom of periodic table D. Between s and p block elements</p>	<p>1158. 32 Which one of the following has more unpaired electrons? A. Mn B. Cr C. Cu D. Zn Chemistry >></p>
<p>1153. 27 Which of the following element can form interstitial alloy with transition elements? A. Zn B. Mg C. H D. All of these</p>	<p>1159. 33 With impurities like P and S the open hearth furnace is lined with A. SiO₂ B. Fe₂O₃ C. FeO D. CaO, MgO</p> <p>1160. 34 The transition elements belongs to</p>



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- A. Zn, Cd, Hg
- B. Fe, Ru, Os
- C. Mn, Te, Re
- D. Cr, Mo, W

- C. electronic configuration
- D. Formation of complexes

1161. 35 The elements having partially filled d and f orbitals are called as ____?

- A. Transition elements
- B. d-Block elements
- C. f-block elements
- D. All of these

1167. 41 Compounds attracted by applied strong magnetic field are called

- A. Diamagnetic
- B. Paramagnetic
- C. Good conductor
- D. Ferromagnetic

1162. 36 Paramagnetic behavior of transition elements is due to presence of ____?

- A. s electrons
- B. Unpaired electrons
- C. Paired electrons
- D. Outer d electrons

1168. 42 Location of transition elements is in between?

- A. S and p block
- B. d and f block
- C. s and f block
- D. None

1163. 37 Hardness of transition metals is due to ____?

- A. More melting point
- B. More electrons
- C. Variable oxidation state
- D. Higher binding energies

1169. 43 Compounds attracted by applied strong magnetic field are called

- A. Diamagnetic
- B. Paramagnetic
- C. Good conductor
- D. Ferromagnetic

1164. 38 Transition elements for complexes because ____?

- A. They have empty d orbitals
- B. They show variable oxidation states
- C. Both a and b
- D. They have strong bonding

1170. 44 lanthanides and actinides resemble in?

- A. ionization state
- B. Oxidation state
- C. electronic configuration
- D. Formation of complexes

1165. 39 The Transition elements are located between

- A. D and F block elements
- B. Chalcogens and halogens
- C. lanthanides & actinides
- D. S and P block elements

1171. 45 The Transition elements are located between

- A. D and F block elements
- B. Chalcogens and halogens
- C. lanthanides & actinides
- D. S and P block elements

1166. 40 lanthanides and actinides resemble in?

- A. ionization state
- B. Oxidation state

1172. 46 Transition elements for complexes because ____?

- A. They have empty d orbitals
- B. They show variable oxidation states
- C. Both a and b
- D. They have strong bonding

1173. 47 Paramagnetic behavior of transition



elements is due to presence of ____?

- A. s electrons
- B. Unpaired electrons
- C. Paired electrons
- D. Outer d electrons

- B. Ni,Hg
- C. Mn,Cd
- D. Cu,Cr

1174. 48 The elements having partially filled d and f orbitals are called as ____?

- A. Transition elements
- B. d-Block elements
- C. f-block elements
- D. All of these

1180. 54 The central atom along with ligands is called

- A. Complex ion
- B. Coordination sphere
- C. Ligand
- D. Complex compound

1175. 49 Which one of the following has more unpaired electrons?

- A. Mn
- B. Cr
- C. Cu
- D. Zn

1181. 55 What is the coordination number of Pt in $[\text{PtCl}(\text{NO}_2)(\text{NH}_3)_4]$

- A. 2
- B. 4
- C. 6
- D. 7

1176. 50 Location of transition elements is in between?

- A. S and p block
- B. d and f block
- C. s and f block
- D. None

1182. 56 The melting points and boiling points up to the middle of 3d- series

- A. Increases
- B. Decreases
- C. Remain same
- D. No regular trend

1177. 51 Which of the following properties are associated with transition metals?

- A. Color
- B. Complex formation
- C. Use as catalyst
- D. All of these

1183. 57 The oxidation number in $[\text{MnO}_4]^-$ 2

- A. 7
- B. -7
- C. 6
- D. -6

1178. 52 Which of the following is a non-typical transition element?

- A. Mn
- B. Zn
- C. Cu
- D. Ag

1184. 58 Brass and bronze have one metal in common?

- A. Zn
- B. Hg
- C. Cu
- D. Fe

1179. 53 Which one of the following pair shows abnormal electronic configuration?

- A. Sc,Zn

1185. 59 Which of these are coinage metals?

- A. Au
- B. Ag
- C. Cu
- D. All of these

1186. 60 Geometry of the complex compounds usually depends upon

<p>A. type of ligands B. types of hybridization in the elements of ligands C. hybridization of central metal D. All of above</p>	<p>A. Complex formation B. Color C. Fixed valency D. d-orbital</p>
<p>1187. 61 The total number of transition elements are? A. 48 B. 32 C. 58 D. 28</p>	<p>1193. 67 $[\text{Fe}(\text{CN})_6]^{4-}$ is called as___? A. Complex compound B. Transition element ion C. Anion D. Complex anion</p>
<p>1188. 62 In complex compounds the oxidation number is written in A. English B. Greek C. Roman numeral D. Hebrew</p>	<p>1194. 68 The species which donates electrons to the central metal atom in the coordination sphere is called A. Anion B. Cation C. The ligand is positively charged D. Acid</p>
<p>1189. 63 Which one of the following has highest number of unpaired electrons? A. Fe^{2+} B. Mn^{2+} C. Cr^{5+} D. Zn^{2+}</p>	<p>1195. 69 Those elements in which d or f orbitals are in the process of completion are called A. Transition elements B. Typical transition elements C. Outer transition elements D. Inner transition elements</p>
<p>1190. 64 What is the coordination number of Cu metal in $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4$? A. 3 B. 4 C. 6 D. 1</p>	<p>1196. 70 Paramagnetic behavior of transition elements is due to presence of___? A.s electrons B.Unpaired electrons C.Paired electrons D.Outer d electrons</p>
<p>1191. 65 When the central atom of coordination compound is sp^3d^2 hybridization the expected geometry will be A. Tetrahedral B. Square planar C. Trigonal bipyramidal D. Octahedral</p>	<p>1197. 71 The compound or complex ion which has a ring in its structure A. Polydentate ligand B. Chelate C. Monodentate ligand D. Hydrate</p>
<p>1192. 66 Which of the following properties is not related to transition metals ____?</p>	<p>1198. 72 What is the coordination number of Cu metal in $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4$? A. 3 B. 4</p>

C. 6 D. 1	Cu metal in $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4$? A. 3 B. 4 C. 6 D. 1
1199. 73 Which of the following can form a chelate A. Ammine B. Oxalate C. Carbonyl D. Cyano	1205. 79 Which of the following is typical transition metal? A. Sc B. Y C. Cd D. Co
1200. 74 Why Cr shows $3d^5 4s^1$ configuration instead of $3d^4 4s^2$? A. Because it is transition element B. Because it shows different oxidation states C. Because of extra stability of half filled d^5 system D. Because it is typical transition element	1206. 80 In the production of wrought iron Mg Si and P are removed in the form of A. Oxides B. Silicates C. Slag D. Carbonates
1201. 75 When we dissolve a compound of transition element in a solution of salt then it will form A. Simple ions B. Strong anions C. Double salts D. Complex ions	1207. 81 Lanthanides and actinides are also called as ____? A. Rare earth elements B. Outer transition elements C. Non typical elements D. Typical transition elements
1202. 76 Which oxidation is possessed by all the elements of group III B? A. 2 B. 3 C. 5 D. 7	1208. 82 What is the coordination number of Pt in $[\text{PtCl}(\text{NO}_2)(\text{NH}_3)_4]$ A. 2 B. 4 C. 6 D. 7
1203. 77 Which element has completely filled d subshell in both atomic and ionic form? A. Cr B. Fe C. V D. Zn	1209. 83 An element becomes paramagnetic if it has ____? A. Electric field B. Paired valence electrons C. Magnetic moment D. None of these
1204. 78 What is the coordination number of	1210. 84 When light is exposed to transition element then electrons jump from

lower
orbital's to higher orbitals in

- A. Orbitals of f-subshell
- B. Orbital's of d-sub shell
- C. Orbitals of p-subshell
- D. Both A & B

D. Decreases upto middle than
increases

1211. 85 The species which donates electrons to the central metal atom in the coordination sphere is called

- A. Anion
- B. Cation
- C. The ligand is positively charged
- D. Acid

1216. 90 Which of the following element can form interstitial alloy with transition elements?

- A. Zn
- B. Mg
- C. H
- D. All of these

1212. 86 Which of the following properties is not related to transition metals ____?

- A. Complex formation
- B. Color
- C. Fixed valency
- D. d-orbital

1217. 91 Which metal is paramagnetic?

- A. Cr
- B. Mn
- C. Fe
- D. All of these

1213. 87 The total number of transition elements are?

- A. 48
- B. 32
- C. 58
- D. 28

1218. 92 In pig iron the concentration of C-atom is

- A. .12 — .25%
- B. 2.5 — 4.5%
- C. 2. — 4. %
- D. .25 — 2.5%

1214. 88 Why Cr shows $3d^5 4s^1$ configuration instead of $3d^4 4s^2$?

- A. Because it is transition element
- B. Because it shows different oxidation states
- C. Because of extra stability of half filled d^5 system
- D. Because it is typical transition element

1219. 93 Which one of the following has more unpaired electrons?

- A. Mn
- B. Cr
- C. Cu
- D. Zn

1215. 89 point of transition elements along period?

- A. Increases from left to right
- B. Decreases from left to right
- C. Increases upto middle than decreases

1220. 94 With impurities like P and S the open hearth furnace is lined with

- A. SiO_2
- B. Fe_2O_3
- C. FeO
- D. CaO, MgO

1221. 95 The Transition elements are located between

- A. D and F block elements
- B. Chalcogens and halogens
- C. lanthanides & actinides
- D. S and P block elements

1222. 96 Which of the following properties



are associated with transition metals ?

- A. Color
- B. Complex formation
- C. Use as catalyst
- D. All of these

C. Roman numeral

D. Hebrew

1223. 97 Which of the following is a non-typical transition element?

- A. Mn
- B. Zn
- C. Cu
- D. Ag

1229. 103 What is the coordination number of Cu metal in $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4$?

- A. 3
- B. 4
- C. 6
- D. 1

1224. 98 Which one of the following pair shows abnormal electronic configuration?

- A. Sc, Zn
- B. Ni, Hg
- C. Mn, Cd
- D. Cu, Cr

1230. 104 When the central atom of coordination compound is sp^3d^2 hybridization the expected geometry will be

- A. Tetrahedral
- B. Square planar
- C. Trigonal bipyramidal
- D. Octahedral

1225. 99 The central atom along with ligands is called

- A. Complex ion
- B. Coordination sphere
- C. Ligand
- D. Complex compound

1231. 105 Which of the following properties is not related to transition metals ____?

- A. Complex formation
- B. Color
- C. Fixed valency
- D. d-orbital

1226. 100 Brass and bronze have one metal in common?

- A. Zn
- B. Hg
- C. Cu
- D. Fe

1232. 106 How many d-block elements are present in the periodic table?

- A. 40
- B. 23
- C. 37
- D. 30

1227. 101 Which of these are coinage metals ?

- A. Au
- B. Ag
- C. Cu
- D. ALL

1233. 107 Why transition metals have strong metallic bonding?

- A. Because of high melting point
- B. Because d-electrons of outer shell take part in bonding
- C. Because s-electrons of outer shell take part in bonding
- D. Both s and d

1228. 102 In complex compounds the oxidation number is written in

- A. English
- B. Greek

1234. 108 Any process of chemical decay of metals due to the action of the surrounding medium is called



<p>A. Activation B. Enamelling C. Corrosion D. Coating</p>	<p>C. Polydentate ligand D. Bidentate ligand</p>
<p>1235. 109 K₂ (Cu(CN)₄) which one is correct A. Potassium tetra cyano recupearate B. Coordination number is 2 C. The ligand is positively charged D. Central atom is present in the avionic sphere</p>	<p>1241. 115 Which of the following element can form interstitial alloy with transition elements? A. Zn B. Mg C. H D. All of these</p>
<p>1236. 110 The correct electronic configuration of Cr is A. [Ar]4s²3d⁴ B. [Ar] 4s²3d⁴ C. [Ar]4s 3d⁵ D. [Ar]4s¹3d⁵</p>	<p>1242. 116 When light is exposed to transition element then electrons jump from lower orbital's to higher orbitals in A. Orbitals of f-subshell B. Orbital's of d-sub shell C. Orbitals of p-subshell D. Both A & B</p>
<p>1237. 111 Which one of the following is an example of transition element? A. Na B. Co C. Ba D. Ra</p>	<p>1243. 117 1st series of transition elements start from? A. Sc B. Y C. La D. Cd</p>
<p>1238. 112 Compounds attracted by applied strong magnetic field are called A. Diamagnetic B. Paramagnetic C. Good conductor D. Ferromagnetic</p>	<p>1244. 118 Which is sold as fertilizer A. CaSiO₃ B. Na₂SiO₃ C. Ca₃(PO₄)₂ D. MnSiO₃</p>
<p>1239. 113 Non-stoichiometric compounds of transition elements are called A. Hydrates B. Hydrides C. Interstitial compounds D. Binary compounds</p>	<p>1245. 119 Sc is mostly exist in which of the following oxidation state? A. 2 B. 1 C. 3 D. 0</p>
<p>1240. 114 The species which donate two electron pairs in a coordination compound is called A. Ligand B. Monodentate ligand</p>	<p>1246. 120 Those elements in which d or f orbitals are in the process of completion are called A. Transition elements B. Typical transition elements C. Outer transition elements</p>

D. Inner transition elements	B. Y
1247. 121 Which of the following can form a chelate A. Ammine B. Oxalate C. Carbonyl D. Cyano	C. Cd D. Co
1248. 122 Why Cr shows $3d^5 4s^1$ configuration instead of $3d^4 4s^2$? A. Because it is transition element B. Because it shows different oxidation states C. Because of extra stability of half filled d^5 system D. Because it is typical transition element	1253. 127 In the production of wrought iron Mg Si and P are removed in the form of A. Oxides B. Silicates C. Slag D. Carbonates
1249. 123 When we dissolve a compound of transition element in a solution of salt then it will form A. Simple ions B. Strong anions C. Double salts D. Complex i	1254. 128 What is the coordination number of Pt in $[PtCl(NO_2)(NH_3)_4]$ A. 2 B. 4 C. 6 D. 7
1250. 124 Lanthanides and actinides resemble in? A. ionization state B. Oxidation state C. electronic configuration D. Formation of complexes	1255. 129 An element becomes paramagnetic if it has ____? A. Electric field B. Paired valence electrons C. Magnetic moment D. None of these
1251. 125 Which element has completely filled d subshell in both atomic and ionic form? A. Cr B. Fe C. V D. Zn	1256. 130 Which of the following properties is not related to transition metals ____? A. Complex formation B. Color C. Fixed valency D. d-orbital
1252. 126 Which of the following is typical transition metal? A. Sc	1257. Fundamental Principles of Organic Chemistry The presence of double bond in a compound shows that the compound has ____? A. Saturation B. All single bonds C. Unsaturation D. Substitution

1258. 2 Cyclic compounds consist of except?

- A. Alicyclic
- B. Aromatic
- C. Acyclic compounds
- D. Carbocyclic compounds

1259. 3 How many hydrogen atoms are attached to tertiary carbon in tertiary butyl alcohol?

- A. 3
- B. 2
- C. 1
- D. 0

1260. 4 propene exhibit

- A. Cis-isomerism
- B. Trans-isomerism
- C. geometric isomerism
- D. none

1261. 5 Compounds having C and H atoms and their derivatives are called as ____?

- A. Inorganic compounds
- B. Organic compounds
- C. Biochemical compounds
- D. Carbohydrates

1262. 6 Which of the following conditions must be possessed by a compound to have geometrical isomerism?

- A. Double bond
- B. Different groups attach to same carbon of double bond and a double bond
- C. Terminal double bond
- D. Same groups attach to carbon atom of double bond

1263. 7 Which of the following compounds can show metamerism?

- A. Aldehydes
- B. Carboxylic acids
- C. Alcohols
- D. Ketones

1264. 8 Which of the following is correct about octane number?

- A. Higher the octane number, higher will be knocking
- B. Higher the octane number, efficiency of fuel will be lower
- C. Higher the octane number, lower the knocking
- D. Lower the octane number, lower the knocking

1265. 9 Alicyclic compounds are similar in properties to ____?

- A. Heterocyclic compounds
- B. Aliphatic compounds
- C. Acyclic compounds
- D. Aromatic compounds

1266. 10 which of the following is the heterocyclic compound

- A. thiophene
- B. phenol
- C. aniline
- D. touline

1267. 11 which of the following is the heterocyclic compound

- A. thiophene
- B. phenol
- C. aniline
- D. touline

1268. 12 According to vital force theory organic compounds were only produce in ____?

- A. Animals
- B. Plants
- C. Bacteria
- D. All of these

1269. 13 A structural formula shows ____?

- A. Arrangement of atoms in the compound
- B. Arrangement of electrons in the

compound	B. 3
C. Arrangement of Orbitals that involved in bonding	C. 2
D. Lewis structure of compounds	D. 1
1270. 14 which of the following has neither secondary nor tertiary hydrogen	1276. 20 Fuels with higher octane number can be produce by____?
A. isobutane	A. Cracking
B. pentane	B. Reforming
C. neo-pentane	C. Decomposition
D. isopentane	D. Isomerisation
1271. 15 The separation of components of liquid on the basis of their boiling points is called as?	1277. 21 The phenomenon in which compounds have same molecular formula but different structural formula is called as__?
A. Destructive distillation	A. Reforming
B. Fractional distillation	B. Isomerism
C. Vacuum distillation	C. Polymorphism
D. Partial distillation	D. Hybridization
1272. 16 Gasoline produced by the Fractional distillation is____?	1278. 22 An atom or group of atom that gives specific properties to the Compound is called as____?
A. 80%	A. Functional groups
B. 5%	B. Homologous series
C. 65%	C. Alkane
D. 20%	D. Atoms
1273. 17 Large hydrocarbons are converted into smaller hydrocarbons by a process called as?	1279. 23 Which of the following compound is an amide?
A. Reforming	A. NH_4CNO
B. Distillation	B. NH_2COCH_3
C. Cracking	C. NH_2CONH_2
D. Decomposition	D. $\text{NH}_2\text{COONH}_2$
1274. 18 Which of the following is not a mixture of hydrocarbons	1280. 24 How much amount of methane does Natural gas contains?
A. candle wax	A. 0.8
B. kerosine oil	B. 0.85
C. paraffin oil	C. 0.7
D. vegetable ghee	D. 0.98
1275. 19 How many isomers of C_4H_{10} are possible?	1281. 25 A double bond consist of
A. 4	A. one sigma one pie
	B. 2 sigma

- C. 2 pie
D. half pie half sigma
- 1282.** 26 Organic compounds are ____?
A. Inorganic
B. Polar
C. Ionic
D. Non-Polar
- 1283.** 27 Which one of the following is not a organic compound?
A. Urea
B. Methane
C. Carbon dioxide
D. Coal
- 1284.** 28 Organic compounds are
A. Ionic
B. Non ionic
C. Non covalent
D. Covalent
- 1285.** 29 Fossil fuels are produced due to ____?
A. Fast decomposition of organic matter
B. Decomposition of plants
C. Decomposition of animals
D. Biochemical decomposition of dead organic matter
- 1286.** 30 Which of the following compound is a Alcohol?
A. $\text{CH}_3\text{-O-CH}_3$
B. $\text{CH}_3\text{-OH}$
C. CH_3COOH
D. CH_3COCH_3
- 1287.** 31 Which of the following shows isomerism?
A. Methane
B. Ethane
C. Propane
D. Butane
- 1288.** 32 Organic compounds are
A. Volatile
B. Non-volatile
C. fissible
D. None
- 1289.** 33 Isopentane is an example of ____?
A. Aromatic compounds
B. Branched chain compound
C. Alicyclic compounds
D. None of these
- 1290.** 34 In a homologous series, adjacent members differ by a ____ unit?
A. CH_3
B. CH_2
C. CH
D. CH_4
- 1291.** 35 Which of the following Shows tautomerism?
A. Amino acids
B. Ketones
C. Carboxylic acids
D. All of these
- 1292.** 36 Which of the following process is used to improve the quality of Gasoline?
A. Steam cracking
B. Reforming
C. Catalytic cracking
D. Distillation
- 1293.** 37 Vital force theory proposed by
A. Wohler
B. Berzelius
C. lanthanides and actinides resemble in?
D. Lyll
- 1294.** 38 The compounds which belongs to same functional group forms a ____?
A. Class
B. Group
C. Homologous series
D. None of these
- 1295.** 39 Conversion of straight chain

hydrocarbons into branched chain is called as_____?

A. Reforming

B. Cracking

C. Isomers

D. Decomposition

A. Decrease boiling point

B. Prevent heating

C. Prevent freezing of fuel

D. Prevent knocking

1296 40 Octane number of n-heptane is_____?

A.0

B.100

C.40

D.98

1302. 46 number of isomers of C_4H_{10} is:

A. 2

B. 4

C. 6

D. 5

1297 41 The geometrical isomers in which similar groups on double bond carbon atoms are present on opposite sides are called as__?

A.Trans isomers

B.Alkanes

C.Cis isomer

D.Positional isomers

1303. 47The compounds in which similar groups are present on the same side of double bond are called as__?

A. Trans isomers

B. Positional isomers

C. Cis isomer

D. None of these

1298 42 In organic chemistry, we deal with

A. carbon

B. Hydrogen

C. Hydrocarbons

D. Potassium

1304. 48 Who proved that no Vital Force theory is involved in synthesis of organic compounds?

A. Lewis

B. Wohler

C. Greek Philosophers

D. Berzilius

1299 43 Acyclic hydrocarbons are also called as_____?

A. Closed chain hydrocarbons

B. Open chain hydrocarbons

C. Ring compounds

D. Alicyclic compounds

1305. 49 Which of the following has anti knocking properties?

A. Tetramethyl lead

B. Tetraethyl lead

C. Iso-octane

D. All of these

1300 44 Which one of the following is a Cyano group?

A. -SH

B. -COOH

C. -CN

D. -COOR

1306. 50 Tautomerism involves the transfer of_____?

A. Electron

B. Carbon atom

C. Functional group

D. H-atom

1301 45 Tetraethyl lead added to fuel to_____?

1307. 51 urea belong to which class of compound

A. imides

B. amides

- C. amines
D. carboxylic acid
- 1308** 52 Isopentane is an example of _____?
A. Aromatic compounds
B. Branched chain compound
C. Alicyclic compounds
D. None of these
- 1309** 53 Which type of bonds are break during cracking?
A. C-C
B. C-H
C. Both C-C and C-H
D. C-O
- 1310** 54 What is the formula of ammonium cyanate?
A. $\text{CH}_3\text{CONCH}_3$
B. NH_2CONH_2
C. NH_4CNO
D. NH_4CHO
- 1311** 55 Carbon is
A. trivalent
B. Tetravalent
C. Monovalent
D. Pentavalent
- 1312** 56 Compounds having atoms of more than one kind are called as?
A. Homocyclic compounds
B. Alicyclic Compounds
C. Heterocyclic compounds
D. None of these
- 1313** 57 Fossil fuels are produced due to _____?
A. Fast decomposition of organic matter
B. Decomposition of plants
C. Decomposition of animals
D. Biochemical decomposition of deadorganic matter
- 1314** 58 Which of the following is not a fraction of refined oil?
A. Naphtha
B. Kerosene
C. Petroleum ether
D. Dioxal
- 1315** 59 Liquid hydrocarbons is converted into gaseous hydrocarbon by
A. cracking
B. hydrolysis
C. oxidation
D. distillation
- 1316** 60 Isopentane is an example of _____?
A. Aromatic compounds
B. Branched chain compound
C. Alicyclic compounds
D. None of these
- 1317** 61 If a double bond is present between two carbons then this class of compounds in called as _____?
A. Alkanes
B. Alkynes
C. Carbonyl
D. Alkenes
- 1318** 62 1-Chloropropane and 2-Chloropropane are _____?
A. Position isomers
B. Chain Isomers
C. Functional Group isomers
D. Metamers
- 1319** 63 Which type of bonds are break during cracking?
A. C-C
B. C-H
C. Both C-C and C-H
D. C-O
- 1320** 64 How many organic compounds are known _____?
A. 850000
B. Over 6 million
C. 6 million

D. 5 million	D. Motor bikes
1321. 65 Geometrical isomerism arises due to____?	1327. 71 Which of the following isomerism is shown by alkynes?
A. Rotation around a double bond	A. Positional isomerism
B. Restriction of rotation around a single bond	B. Geometrical isomerism
C. Restriction of rotation around a double bond	C. Cis-trans isomerism
D. Due to double bond	D. Functional group isomerism
1322. 66 The isomerism in which compounds have different number of carbon atoms on both sides of the functional group is called as?	1328. 72 which of the following does not have sp ² hybridized orbital
A. Tautomerism	A. acetone
B. Metamerism	B. acetonitrile
C. Geometrical Isomerism	C. acetic acid
D. Position isomerism	D. acetamide
1323. 67 Homocyclic compounds are also called as_____?	1329. 73 Which type of bonds are break during cracking?
A. Heterocyclic compounds	A. C-C
B. Alicyclic Compounds	B. C-H
C. Aliphatic compounds	C. Both C-C and C-H
D. Carbocyclic compounds	D. C-O
1324. 68 Which one of the following is called as marsh gas?	1330. 74 Which of the following is correct about octane number?
A. Methane	A. Higher the octane number, higher will be knocking
B. Ethane	B. Higher the octane number, efficiency of fuel will be lower
C. Propane	C. Higher the octane number, lower the knocking
D. Butane	D. Lower the octane number, lower the knocking
1325. 69 Which catalyst are used in catalytic cracking?	1331. 75 Which of the following process is used to improve the quality of Gasoline?
A. Silica, lime	A. Steam cracking
B. Silica, alumina	B. Reforming
C. Silica, Soda ash	C. Catalytic cracking
D. Alumina, Pt	D. Distillation
1326. 70 80% of the coal is used in_____?	1332. 76 Organic compounds obtained from
A. lime kiln	A. living things
B. Domestic purposes	B. Non living
C. Fuel	C. fossils

D. sea's water	B. Ketones
1333 77 How many isomers of C_4H_{10} are possible?	C. Alkanals
A. 4	D. Both a and c
B. 3	1340 84 Which is not a heterocyclic compound?
C. 2	A. Furan
D. 1	B. Pyrrole
1334 78 Which of the following is called as refined form of mineral oil?	C. Pyridine
A. Coal tar	D. Ethane
B. Petroleum	1341 85 Which of the following is not aromatic?
C. Crude oil	A. Anthracene
D. Kerosine oil	B. Naphthalene
1335 79 1-Chloropropane and 2-Chloropropane are_____?	C. Phenol
A. Position isomers	D. None of these
B. Chain Isomers	1342 86 Which of the following conditions must be possessed by a compound to have geometrical isomerism?
C. Functional Group isomers	A. Double bond
D. Metamers	B. Different groups attach to same carbon of double bond and a double bond
1336 80 Organic compounds are soluble in	C. Terminal double bond
A. polar solvents	D. Same groups attach to carbon atom of double bond
B. water	1343 87 How many hydrogen atoms are attached to tertiary carbon in tertiary butyl alcohol?
C. Ammonium cyanate	A. 3
D. Non-polar solvents	B. 2
1337 81 The organic compounds having all C-C single bonds are called as____?	C. 1
A. Alkanes	D. 0
B. Alkenes	1344 88 Organic compounds obtained from
C. Alkynes	A. living things
D. All of these	B. Non living
1338 82 Which of the following is not aromatic?	C. fossils
A. Anthracene	D. sea's water
B. Naphthalene	1345 89 Gasoline produced by the Fractional distillation is_____?
C. Phenol	
D. None of these	
1339 83 Formyl group belongs to which class of compounds ?	
A. Aldehydes	

- A. 80%
B. 5%
C. 65%
D. 20%

1346. 90 Fuels with higher octane number can be

produce by ____?

- A. Cracking
B. Reforming
C. Decomposition
D. Isomerisation

1347. 91 The phenomenon in which compounds have same molecular formula but different structural formula is called as ____?

- A. Reforming
B. Isomerism
C. Polymorphism
D. Hybridization

1348. 92 Alicyclic compounds are similar in properties to ____?

- A. Heterocyclic compounds
B. Aliphatic compounds
C. Acyclic compounds
D. Aromatic compounds

1349. 93 Which of the following isomerism is shown by alkynes?

- A. Positional isomerism
B. Geometrical isomerism
C. Cis-trans isomerism
D. Functional group isomerism

1350. 94 The phenomenon in which compounds have same molecular formula but different structural formula is called as ____?

- A. Reforming
B. Isomerism
C. Polymorphism
D. Hybridization

1351. 95 Alicyclic compounds are similar in properties to ____?

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B. Aliphatic compounds
C. Acyclic compounds
D. Aromatic compounds

1352. 96 Which of the following isomerism is shown by alkynes?

- A. Positional isomerism
B. Geometrical isomerism
C. Cis-trans isomerism
D. Functional group isomerism

1353. 97 Organic compounds are soluble in

- A. polar solvents
B. water
C. Ammonium cyanate
D. Non-polar solvents

1354. 98 Fossil fuels are produced due to ____?

- A. Fast decomposition of organic matter
B. Decomposition of plants
C. Decomposition of animals
D. Biochemical decomposition of dead organic matter

1355. 99 Friedrich prepared UREA from

- A. Amino Acids
B. Ammonium carbonate
C. Ammonium cyanate
D. Xanthin

1356. 100 The organic compounds having all C-C single bonds are called as ____?

- A. Alkanes
B. Alkenes
C. Alkynes
D. All of these

1357. 101 Which of the following compound is a Alcohol?

- A. $\text{CH}_3\text{-O-CH}_3$
B. $\text{CH}_3\text{-OH}$

- C. CH_3COOH
D. CH_3COCH_3

1358. 102 Which of the following process is used to improve the quality of Gasoline?

- A. Steam cracking
B. Reforming
C. Catalytic cracking
D. Distillation

1359. 103 Which of the following is correct about octane number?

- A. Higher the octane number, higher will be knocking
B. Higher the octane number, efficiency of fuel will be lower
C. Higher the octane number, lower the knocking
D. Lower the octane number, lower the knocking

1360. 104 Fossil fuels are produced due to _____?

- A. Fast decomposition of organic matter
B. Decomposition of plants
C. Decomposition of animals
D. Biochemical decomposition of dead organic matter

1361. 105 Which catalyst are used in catalytic cracking?

- A. Silica, lime
B. Silica, alumina
C. Silica, Soda ash
D. Alumina, Pt

1362. 106 The isomerism in which compounds have different number of carbon atoms on both sides of the functional group is called as?

- A. Tautomerism
B. Metamerism
C. Geometrical Isomerism
D. Position isomerism

1363. 107 Which type of bonds are break during cracking?

- A. C-C
B. C-H
C. Both C-C and C-H
D. C-O

1364. 108 What are the products of destructive distillation of coal?

- A. Coal tar
B. Coke
C. Coal gas
D. All of above

1365. 109 How many chain isomers of Pentane is possible?

- A. Two
B. Four
C. Three
D. Five

1366. 110 The self Linkage ability of Carbon is called as _____?

- A. Polymerization
B. Substitution
C. Sequential Carbonation
D. Catenation

1367. 111 Who rejected vital force theory

- A. Wohler
B. Berzelius
C. Wallis
D. Lyll

1368. 112 Wholar prepare urea from _____?

- A. Ammonium cyanate
B. Ammonium acetate
C. Ammonium urease
D. Ammonium Carbonate

1369. 113 Which of the following isomerism is present in $\text{CH}_3\text{CH}_2\text{OH}$ and CH_3OCH_3 ?

- A. Metamerism
B. Chain isomerism
C. Tautomerism

D. Functional group isomerism

1370. 114 Wholar first time prepare urea in laboratory in____?

- A. 1900
- B. 1829
- C. 1850
- D. 1828

1371. 115 Fractions of Crude petroleum can be obtained by using____?

- A. Destructive distillation
- B. Fractional distillation
- C. Vacuum distillation
- D. Distillation

1372. 116 Which type of organic compounds are present in natural gas?

- A. High molecular mass
- B. Low molecular mass
- C. Low boiling point
- D. Both b and c

1373. 117 Coal tar contains many organic compounds that can be separated by____?

- A. Destructive distillation
- B. Fractional distillation
- C. Vacuum distillation
- D. Partial distillation

1374. 118 What is the octane number of Iso-octane?

- A. 40
- B. 100
- C. 0
- D. 2

1375. 119 The presence of double bond in a compound shows that the compound has____?

- A. Saturation
- B. All single bonds
- C. Unsaturation
- D. Substitution

1376. 120 Cyclic compounds consist of except?

- A. Alicyclic
- B. Aromatic
- C. Acyclic compounds
- D. Carbocyclic compounds

1377. 121 How many hydrogen atoms are attached to tertiary carbon in tertiary butyl alcohol?

- A. 3
- B. 2
- C. 1
- D. 0

1378. 122 Compounds having C and H atoms and their derivatives are called as____?

- A. Inorganic compounds
- B. Organic compounds
- C. Biochemical compounds
- D. Carbohydrates

1379. 123 Which of the following compounds can show metamerism?

- A. Aldehydes
- B. Carboxylic acids
- C. Alcohols
- D. Ketones

1380. 124 Which of the following is correct about octane number?

- A. Higher the octane number, higher will be knocking
- B. Higher the octane number, efficiency of fuel will be lower
- C. Higher the octane number, lower the knocking
- D. Lower the octane number, lower the knocking

1381.

Hydrocarbons

What is the hybridization state of carbon in benzene?

- A. sp^2
- B. sp^3
- C. sp
- D. All of these

1382. 2 Ortho directing groups _____ on benzene ring?

- A. Increases electron density
- B. Decrease electron density on benzene
- C. Make benzene less reactive
- D. None of these

1383. 3 What is the name of this compound?

- A. Ethyl chloride
- B. Ethene chlorine
- C. Chloro ethane
- D. Vinyl chloride

1384. 4 Which of the following reactions are not given by benzene?

- A. Elimination
- B. Addition
- C. Substitution
- D. Dehydration

1385. 5 The reactivity of alkenes is due to the presence of?

- A. Sigma bond
- B. Two Pi bond
- C. One Pi bond
- D. Due to electrophilic nature

1386. 6 1,4-dimethyl benzene is called as _____?

- A. Ortho xylene
- B. Para-xylene
- C. Para-methyl toluene
- D. Meta-methyl toluene

1387. 7 The simplest hydrocarbon to have structural isomer is:

- A. Butane
- B. Butanone
- C. Butene
- D. Butyne

1388. 8 Which of the following product formed when ethyl chloride react with alcoholic KOH?

- A. C_2H_4
- B. C_2H_5OH
- C. C_2H_4ClOH
- D. C_2H_6

1389. 9 The simplest member of organic compounds is?

- A. Methanol
- B. Methane
- C. Formaldehyde
- D. Formic acid

1390. 10 Ethyne has which hybridization?

- A. sp^3
- B. sp^2
- C. sp
- D. sp^2d

1391. 11 Which of the following suffix is used for the common naming of alkene?

- A. -ene
- B. -ylene
- C. -yne
- D. -eylene

1392. 12 The addition of HBr to an unsymmetrical alkenes follows?

- A. Direct addition
- B. Markovnikov's addition
- C. Anti Markovnikov's addition
- D. Dehydration

1393. 13 First member of alkynes is called as _____?

- A. Ethylene
- B. Acetylene
- C. Acetone
- D. Ethene

1394. 14 Which of the following give free radical reaction when react with alkanes?

<p>A. Nitric acid B. Oxygen C. Halogen D. All of these</p>	<p>C. Give Substitution reaction D. Give elimination reaction</p>
<p>1395. 15 The group formed by removal of one H atom from the benzene ring is called as _____? A. Alkyl group B. Benzyl group C. Phenyl group D. Ethyl group</p>	<p>1401. 21 Which one of the following is most reactive ? A. Benzene B. Ethane C. Ethene D. Ethyne</p>
<p>1396. 16 Free radical reactions takes place in the presence of _____? A. Heat B. Sun light C. Catalyst D. Oxygen</p>	<p>1402. 22 How many resonance structures of benzene are possible? A. 2 B. 3 C. 6 D. 4</p>
<p>1397. 17 Which one of the following is used for the artificial ripening of fruits? A. Ethene B. Propene C. Ethane D. Ethyne</p>	<p>1403. 23 Ethane is obtained by electrolyzing _____ A. Potassium formate B. Potassium succinate C. Potassium acetate D. Potassium fumarate</p>
<p>1398. 18 What is the value of C-C bond length in benzene? A. 154 pm B. 120 pm C. 134 pm D. 139 pm</p>	<p>1404. 24 Which of the following is most reactive of all? A. Alkanes B. Alkenes C. Alkynes D. Benzene</p>
<p>1399. 19 Which of the following suffix is used for the common naming of alkene? A. -ene B. -ylene C. -yne D. yna</p>	<p>1405. 25 Alkanes are called as _____? A. Olefines B. Paraffins C. Reactive D. All of these</p>
<p>1400. 20 Kekule's formula shows benzene _____? A. Highly saturated B. Highly unsaturated</p>	<p>1406. 26 Cyclic bromonium ion is formed when ethene reacts with _____? A. HBr B. HCl C. Br₂ D. None of these</p> <p>1407. 27 Which of the following is Bayer's reagent ?</p>

<p>A. $\text{Br}_2/\text{H}_2\text{O}$ B. Dilute alkaline KMnO_4 C. ZnCl_2/HCl D. Br_2/CCl_4</p>	<p>B. Elimination reactions C. Reduction reactions D. Substitution reactions</p>
<p>1408 28 The unhybridized p orbitals of benzene are present in the form of ____? A. Between the C-C bonds of benzene B. Above and below the carbon bonds C. In the form of cloud above and below the benzene ring D. None of these</p>	<p>1414 34 Calcium carbide on reaction with water gives? A. Methane B. Ethane C. propane D. Acetylene</p>
<p>1409 29 Which of the following gives Markovnikov's product with Propene? A. HBr B. $\text{H}_2\text{SO}_4/\text{H}_2\text{O}$ C. HBr D. All of these</p>	<p>1415 35 How many unhybridized orbitals are there in ethyne molecule? A. 1 B. 2 C. 3 D. 4</p>
<p>1410 30 Aldehydes are converted into ____ when undergoes Wolff Kishner reduction? A. Alkenes B. Alkanes C. Alkynes D. Alcohols</p>	<p>1416 36 What is the color of silver acetylide, Ag_2C_2? A. Red B. White C. Brown D. Pinkish</p>
<p>1411 31 Benzene molecule contains: A. Three triple bonds B. Two double bonds C. Three double bonds D. No multiband</p>	<p>1417 37 Which of the following compound is formed as a result of polymerization of acetylene? A. Benzene B. 1,3,5-cyclohexatriene C. Hexene D. Butane</p>
<p>1412 32 Which of the following are product of following reaction in the presence of sunlight? $\text{CH}_4 + \text{Cl}_2 \rightarrow ?$ A. CHCl_3 B. CCl_4 C. $\text{CH}_2\text{Cl}_2, \text{CH}_3\text{Cl}$ D. All of these</p>	<p>1418 38 Benzene is extra stable because of ____? A. Cyclic structure B. Three alternating double and single bonds C. Delocalization of pi-electrons D. All of these</p>
<p>1413 33 Alkanes mostly give ____? A. Addition reactions</p>	<p>1419 39 What are Kekule structures? A. The two isomers of benzene B. The isomers of arenes C. The two-resonance structure of</p>

benzene	C. Alkane
D. The two-resonance structure of phenols	D. Cycloalkane
1420. 40 Which of the following Halogen react fast with alkanes in substitution reactions?	1426. 46 In sp^2 hybridization the orbital orientation is:
A. Cl_2	A. 109.5°
B. F_2	B. 180°
C. I_2	C. 90°
D. Br_2	D. 120°
1421. 41 Which of the following product is obtained from the Chlorination of acetylene?	1427. 47 Alkanes mostly give _____?
A. 1,2,3,4-tetrachloroethylene	A. Addition reactions
B. 1,1,2,2-tetrachloroethylene	B. Elimination reactions
C. 1,1,2,2-Tetrachloroethane	C. Reduction reactions
D. 1,2,3,4-Tetrachloroethylene	D. Substitution reaction
1422. 42 What is the Hybridization of carbon in ethene?	1428. 48 Which of the following reaction does acetylene give due to its acidic hydrogens?
A. sp^2	A. Ozonolysis
B. sp^3	B. Hydroxylation
C. sp	C. Acetylide formation
D. None of these	D. Kolbe's electrolysis
1423. 43 The geometry of butane is:	1429. 49 Which one of the following benzene molecule have?
A. octahedral	A. Two double bonds
B. Tetrahedral	B. Delocalized pi-electron charge
C. Trigonal planar	C. Three double bonds
D. Square planar	D. One sigma bond
1424. 44 Free radical reactions takes place in the presence of _____?	1430. 50 Which of the following give free radical reaction when react with alkanes?
A. Heat	A. Nitric acid
B. Sun light	B. Oxygen
C. Catalyst	C. Halogen
D. Oxygen	D. All of these
1425. 45 The hydrocarbon in which all the 4 valencies of carbon are fully occupied is called as _____	1431. 51 Alkenes have which type of hybridization?
A. Alkene	A. sp^2
B. Alkyne	B. sp^3
	C. sp^2d
	D. sp

1432. 52 Free radical reactions take place in the presence of ____?

- A. Heat
- B. Sun light
- C. Catalyst
- D. Oxygen

1433. 53 Which of the following method is used to prepare Ethylene glycol from ethene?

- A. Dehydration
- B. Hydroxylation
- C. Hydration
- D. Luca's test

1434. 54 Organic compounds in which tetravalency of carbon atom is satisfied are called as ____?

- A. Saturated
- B. Unsaturated
- C. Alkenes
- D. Alkynes

1435. 55 Which of the following is not a derivative of benzene

- A. Pyrrole
- B. Furan
- C. Thiophene
- D. All

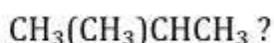
1436. 56 Which of the following is an example of free radical?

- A. Br^+
- B. Br^-
- C. Br
- D. Cl_2

1437. 57 Which of the following group is ortho-para directing group ____?

- A. $-\text{COOH}$
- B. $-\text{COR}$
- C. $-\text{CN}$
- D. $-\text{OH}$

1438. 58 What is the IUPAC name of



- A. 1-Methylpropane
- B. Isobutane
- C. 2-Methylpropane
- D. Isopropyl methane

1439. 59 Ethyne molecule is formed when:

- A. When two sp hybridized orbitals combine
- B. When two sp^2 hybridized orbitals combine
- C. When two sp^3 hybridized orbitals combine
- D. When two sp^2d hybridized orbitals combine

1440. 60 Which of the following catalyst is used in Friedel craft reaction?

- A. ZnCl_2
- B. KMnO_4
- C. AlCl_3
- D. V_2O_5

1441. 61 What is the formula of chloroform?

- A. CH_3Cl
- B. CH_2Cl_2
- C. CHCl_3
- D. CH_2Cl

1442. 62 The conversion of n-hexane to benzene by heating is called:

- A. Deformation
- B. Rearrangement
- C. Reformation
- D. Aromatization

1443. 63 The reaction in which one of the group of a compound is replaced by another group of atoms is called as ____?

- A. Substitution
- B. Elimination
- C. Addition
- D. Condensation



- 1444.** 64 How meta directing groups affect the Electrophilic substitution of benzene ring?
 A. Increase electron density at ortho,para position
 B. Decrease electron density at ortho and para positions
 C. Make benzene less reactive
 D. Both b and c
- 1445.** 65 When acetylene react with ammoniacal solution cuprous chloride which color of acetylide is formed ?
 A. White
 B. Red
 C. Brown
 D. Pink
- 1446.** 66 Alkanes are called as ____?
 A. Olefines
 B. Paraffins
 C. Reactive
 D. All of these
- 1447.** 67 Which of the following act as electrophile during nitration of benzene?
 A. NO^+
 B. NO_2^+
 C. NO_3^+
 D. HNO_2^+
- 1448.** 68 Which of the following gives Markovnikov's product with Propene?
 A. HBr
 B. $\text{H}_2\text{SO}_4/\text{H}_2\text{O}$
 C. HBr
 D. All of these
- 1449.** 69 Polymerization of ethene produces which of the following polymer?
 A. Polyvinyl
 B. Polyethyl
 C. Polyethylene
 D. Polyethoxy
- 1450.** 70 If two substituents are present at 1,4 positions then the isomer is called as ____?
 A. Ortho
 B. Meta
 C. Para
 D. None of these
- 1451.** 71 The two pi bonds in ethyne molecule are:
 A. Parallel to the sigma bond
 B. At 19.5° to the sigma bond
 C. At 45° to the sigma bond
 D. Perpendicular to the sigma bond
- 1452.** 72 The reaction in which benzene is reacted with alkyl or acyl halide in the presence of AlCl_3 is called as ____?
 A. Aldol condensation
 B. Wolf kishner reaction
 C. Wittig reaction
 D. Friedel and craft reaction
- 1453.** 73 Which one of the following is correct value of resonance energy of benzene?
 A. 155.5kJ/mol
 B. 150.5kJ/mol
 C. 170 kJ/mol
 D. 140.5kJ/mol
- 1454.** 74 Which of the following has one acidic hydrogen in it?
 A. Acetylene
 B. 2-propene
 C. 2-pentyne
 D. 1-pentyne
- 1455.** 75 How many molecules of H_2 adds in acetylene to form ethane?
 A. 1
 B. 3
 C. 4
 D. 2

- 1456.** 76 How carboxylic acid group attached to benzene ring affect its reactivity?
 A. Make it reactive
 B. Makes ortho position of benzene more reactive than others
 C. Makes meta position of benzene more reactive than others
 D. Makes para position of benzene more reactive than others
- 1457.** 77 Pentene has how many isomers?
 A. 2
 B. 1
 C. 5
 D. 3
- 1458.** 78 First member of alkynes is called as____?
 A. Ethylene
 B. Acetylene
 C. Acetone
 D. Ethene
- 1459.** 79 In which of the following reaction steps free radical is formed?
 A. Initiation,termination
 B. Termination,propagation
 C. Only initiation
 D. Initiation,propagation
- 1460.** 80 Which one is the major product when ethene react with Br₂ in H₂O?
 A. Dibromoethane
 B. Bromoethane
 C. Hydroxy Bromoethane
 D. Hydroxy Bromoethane
- 1461.** 81 In which of the following benzene is isolated?
 A. Naphthalene
 B. Diphenyl ethane
 C. Phenanthrene
 D. Anthracene
- 1462.** 82 First member of alkynes is called as____?
 A. Ethylene
 B. Acetylene
 C. Acetone
 D. Ethene
- 1463.** 83 In which of the following reaction steps free radical is formed?
 A. Initiation,termination
 B. Termination,propagation
 C. Only initiation
 D. Initiation,propagation
- 1464.** 84 Which one is the major product when ethene react with Br₂ in H₂O?
 A. Dibromoethane
 B. Bromoethane
 C. Hydroxy Bromoethane
 D. Hydroxy Bromoethane
- 1465.** 85 In which of the following benzene is isolated?
 A. Naphthalene
 B. Diphenyl ethane
 C. Phenanthrene
 D. Anthracene
- 1466.** 86 Addition of HCl to an propene forms____?
 A. 1-chloropropane
 B. 2-chloropropane
 C. 2-chloropropane
 D. 3-chloropropane
- 1467.** 87 The second bond in ethyne is:
 A. Pi bond between hybridized orbitals
 B. Sigma bond between hybridized orbitals
 C. Pi bond between unhybridized orbitals
 D. Sigma bond between unhybridized orbitals
- 1468.** 88 When are the prefixes ortho, para, and para used?

<p>A. In alkynes to identify the position of triple bond</p> <p>B. In arenes to identify the position first substitution</p> <p>C. In arenes to identify the position second substitution</p> <p>D. In all hydrocarbons to identify the position functional group</p>	<p>C. Hydrogenation</p> <p>D. Dehydrogenation</p>
<p>1469. 89 Ethene is prepared from alcohol by____?</p> <p>A. Decomposition</p> <p>B. Dehydration</p> <p>C. Dehydroxylation</p> <p>D. Dehalogenation</p>	<p>1474. 94 Hydrogenation of alkenes takes place in the presence of____?</p> <p>A. Nickel</p> <p>B. Gold</p> <p>C. Palladium</p> <p>D. Raney Nickel</p>
<p>1470. 90 When the two substitution are different in arenes, they are put in which of the following order?</p> <p>A. Numerically</p> <p>B. Alphabetically</p> <p>C. Alphanumerically</p> <p>D. None</p>	<p>1475. 95 Which of the following reaction can be used to prepare Symmetrical alkanes?</p> <p>A. Reduction reaction</p> <p>B. Kolb's reaction</p> <p>C. Clemmensen Reaction</p> <p>D. Hydrogenolysis</p>
<p>1471. 91 Which of the following reaction is used in the preparation of vegetable ghee from oil?</p> <p>A. Hydration</p> <p>B. Sulphonation</p> <p>C. Hydrogenation</p> <p>D. Dehydrogenation</p>	<p>1476. 96 Ethene react with Oxygen in the presence of Silver oxide to produce____?</p> <p>A. Ethylene oxide</p> <p>B. Ethylene epoxide</p> <p>C. Methylene oxide</p> <p>D. Both a and b</p>
<p>1472. 92 Hydrogenation of alkenes takes place in the presence of____?</p> <p>A. Nickel</p> <p>B. Gold</p> <p>C. Palladium</p> <p>D. Raney Nickel</p>	<p>1477. 97 Which of the following is true about arenes?</p> <p>A. Low melting, and low boiling points</p> <p>B. High melting, and high boiling points</p> <p>C. Low melting, and high boiling points</p> <p>D. High solubility in polar solvents</p>
<p>1473. 93 Which of the following reaction is used in the preparation of vegetable ghee from oil?</p> <p>A. Hydration</p> <p>B. Sulphonation</p>	<p>1478. 98 How many pi bonds are present in ethene?</p> <p>A. 3</p> <p>B. 2</p> <p>C. 1</p> <p>D. 0</p>
	<p>1479. 99 Hydrocarbons are organic compounds with element _____</p> <p>A. Hydrogen</p> <p>B. Oxygen</p> <p>C. Carbon</p>

D. Both hydrogen and carbon	D. Trigonal planar
1480. 100 Which of the following are the products of catalytic oxidation of methane? A. CO_2 , H_2O B. CO , H_2O C. CO_2 , H_2 D. CH_3OH	1486. 106 Which one of the following is a strong electrophile on which benzene electrons attack fastly? A. FeBr_3 B. FeCl_4^- C. Cl^+ D. Cl^-
1481. 101 Which of the following reactions are not given by benzene? A. Elimination B. Addition C. Substitution D. Dehydration	1487. 107 Shape of benzene molecule is: A. Hexagonal planar B. Square planar C. Trigonal planar D. Linear Chemistry >> S and
1482. 102 By which reaction benzene is prepared from cyclohexane? A. Hydrogenation B. Dehydrogenation C. Dehydration D. None of these	1488. 108 Which of the following suffix is used for the common naming of alkene? A. -ene B. -ylene C. -yne D. -eylene
1483. 103 Kekule structure of benzene failed to explain: A. Benzene reactivity B. That benzene has dual character C. That benzene has less heat of formation D. All	1489. 109 Which of the following oxidizing agents can oxidize benzene? A. KMnO_4 B. $\text{K}_2\text{Cr}_2\text{O}_7$ C. KHMnO_4 D. V_2O_5
1484. 104 Which of the following are product of following reaction in the presence of sunlight? $\text{CH}_4 + \text{Cl}_2 \rightarrow ?$ A. CHCl_3 B. CCl_4 C. CH_2Cl_2 , CH_3Cl D. All of these	1490. 110 Which of the following reaction is used to locate the position of double bond in the compound? A. Dehydration B. Ozonolysis C. Markovnikov's addition D. Oxidation with KMnO_4
1485. 105 Which one of the following is correct structure of benzene? A. Tetrahedral B. Hexagonal planar C. Hexagonal irregular	1491. 111 How many products of mono-substituted benzene are possible? A. Two B. One C. Three D. None of these

- 1492.** 112 What is the hybridization state of carbon in benzene?
A. sp^2
B. sp^3
C. sp
D. All of these
- 1493.** 113 Ortho directing groups _____ on benzene ring?
A. Increases electron density
B. Decrease electron density on benzene
C. Make benzene less reactive
D. None of these
- 1494.** 114 What is the name of this compound?
A. Ethyl chloride
B. Ethene chlorine
C. Chloro ethane
D. Vinyl chloride
- 1495.** 115 Which of the following reactions are not given by benzene?
A. Elimination
B. Addition
C. Substitution
D. Dehydration
- 1496.** 116 The reactivity of alkenes is due to the presence of?
A. Sigma bond
B. Two Pi bond
C. One Pi bond
D. Due to electrophilic nature
- 1497.** 117 1,4-dimethyl benzene is called as _____?
A. Ortho xylene
B. Para-xylene
C. Para-methyl toluene
D. Meta-methyl toluene
- 1498.** 118 The simplest hydrocarbon to have structural isomer is:
A. Butane
B. Butanone
C. Butene
D. Butyne
- 1499.** 119 Which of the following product formed when ethyl chloride react with alcoholic KOH?
A. C_2H_4
B. C_2H_5OH
C. C_2H_4ClOH
D. C_2H_6
- 1500.** 120 The simplest member of organic compounds is?
A. Methanol
B. Methane
C. Formaldehyde
D. Formic acid
- 1501.** 121 Ethyne has which hybridization?
A. sp^3
B. sp^2
C. sp
D. sp^2d
- 1502.** 122 Which of the following suffix is used for the common naming of alkene?
A. -ene
B. -ylene
C. -yne
D. -eylene
- 1503.** 123 The addition of HBr to an unsymmetrical alkenes follows?
A. Direct addition
B. Markovnikov's addition
C. Anti Markovnikov's addition
D. Dehydration
- 1504.** 124 First member of alkynes is called as _____?
A. Ethylene
B. Acetylene
C. Acetone
D. Ethene

1505.

Alkyl Halides

In S_N2 reaction, rate of reaction is directly proportional to concentration of ____?

- A. Substrate only
- B. Nucleophile
- C. Substrate and nucleophile
- D. All of these

- B. Lewis acid
- C. Nucleophile
- D. Strong acid

1506. 2 Which one of the following is the correct IUPAC name of 2-Chloro,3-methylpentane?

- A. $CH_3-CH_2-CH(Cl)-CH(CH_3)-CH_3$
- B. $CH_3-CH_2-CH(CH_3)-CH(Cl)-CH_3$
- C. $CH_3-CH_2-CH(Cl)-CH(Cl)-CH_3$
- D. $CH_3-CH_2-CH(Cl)-CH(CH_3)-CH_3$

1511. 7 What is the correct order of reactivity of alkyl halides?

- A. $R-Cl > R-Br > R-F > R-I$
- B. $R-I > R-Br > R-Cl > R-F$
- C. $R-I > R-Cl > R-Br > R-F$
- D. None of these

1507. 3 The group which leaves from the substrate in a nucleophilic substitution reaction is called as ____?

- A. Leaving group
- B. Electrophile
- C. Substrate
- D. Weak nucleophile

1512. 8 Which of the following reaction is concerted (single step)?

- A. $S_N1, E1$
- B. $S_N2, E1$
- C. $S_N2, E2$
- D. None of these

1508. 4 In S_N2 reaction, which of the following specie is formed?

- A. Transition state
- B. Intermediate
- C. Carbocation
- D. Carbanion

1513. 9 I^- is an example of ____?

- A. Electrophile
- B. Nucleophile
- C. Leaving group
- D. Both nucleophile and leaving group

1509. 5 Reduction of alkyl halides in the presence of Zn and mineral acid produces ____?

- A. Alkenes
- B. Alkanes
- C. Alkynes
- D. Alcohols

1514. 10 Which of the following is an example of good leaving group?

- A. Cl^-
- B. ^-OH
- C. ^-OR
- D. $^-NH_2$

1510. 6 There is one lone pair present in H_3O^+ , it cannot act as ____?

- A. Electrophile

1515. 11 S_N1 reactions have which of the following specie formed and consumed in the reaction?

- A. Transition state
- B. Intermediate
- C. Carbanion
- D. Carbene

1516. 12 There is one lone pair present in H_3O^+ , it cannot act as ____?

- A. Electrophile
- B. Lewis acid
- C. Nucleophile
- D. Strong acid

1517. 13 Which of the following is formed during SN_1 reactions?

- A. Secondary carbocation
- B. Primary carbocation
- C. Tertiary carbocation
- D. Methyl carbocation

1518. 14 The product in SN_2 reaction is formed with_____?

- A. Inversion in configuration
- B. Retention in configuration
- C. 50% retention in configuration
- D. 50% inversion in configuration

1519. 15 In a reaction having both alkyl halide and base, the base will attack on_____?

- A. Electrophilic carbon
- B. Nucleophilic carbon
- C. beta-hydrogen
- D. None of these

1520. 16 During the nomenclature of Alkyl halides, halogens are named as_____?

- A. Substituents
- B. Parent name
- C. Ligand
- D. Longest chain

1521. 17 In SN_2 reaction, rate of reaction is directly proportional to concentration of_____?

- A. Substrate only
- B. Nucleophile
- C. Substrate and nucleophile
- D. All of these

1522. 18 Which of the following bond has highest bond energy value ?

- A. C-I
- B. C-H
- C. C-Cl
- D. C-F

1523. 19 I^- is an example of_____?

- A. Electrophile

B. Nucleophile

C. Leaving group

D. Both nucleophile and leaving group

1524. 20 In a reaction having both alkyl halide and base, the base will attack on_____?

- A. Electrophilic carbon
- B. Nucleophilic carbon
- C. beta-hydrogen
- D. None of these

1525. 21 First step in the SN_1 reaction is_____?

- A. Dehydration
- B. Protonation
- C. Ionization
- D. Attack of nucleophile and departure of leaving group

1526. 22 What is the order of SN_2 reactions?

- A. 1st order
- B. zero order
- C. 2nd order
- D. 3rd order

1527. 23 What is the reason for the reactivity of Grignard reagent?

- A. Presence of Mg atom
- B. Polarity of C-H bond
- C. Polarity of C-Mg bond
- D. Presence of electrophilic carbon

1528. 24 In SN_2 reaction, rate of reaction is directly proportional to concentration of_____?

- A. Substrate only
- B. Nucleophile
- C. Substrate and nucleophile
- D. All of these

1529. 25 Which of the following is true about the kinetics of bimolecular elimination reactions?

- A. 1st order reaction
- B. 2nd order reaction
- C. Zero order reaction

D. 3rd order reaction	C. SN_1
1530. 26 Which of the following is an example of good leaving group? A. Cl^- B. ^-OH C. ^-OR D. $^-\text{NH}_2$	D. E_2
1531. 27 In a reaction having both alkyl halide and base, the base will attack on____? A. Electrophilic carbon B. Nucleophilic carbon C. beta-hydrogen D. None of these	1536. 32 In IUPAC nomenclature alkyl halides are named as____? A. Alkyl Halogens B. HalogenoAlkanes C. Haloalkanes D. Alkyl halides
1532. 28 Grignard reagent is produced by the reaction of Alkyl halides with____? A. Ca in anhydrous ether B. Mg in dry ether C. Mg in hydrous ether D. Ca in dry ether	1537. 33 When $\text{CH}_3\text{CH}_2\text{MgBr}$ reacts with CO_2 which of the following product is formed? A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$ B. $\text{CH}_3\text{CH}_2\text{CH}_2\text{OH}$ C. $\text{CH}_3\text{CH}_2\text{COOH}$ D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$
1533. 29 In SN_2 reaction, which of the following specie is formed? A. Transition state B. Intermediate C. Carbocation D. Carbanion	1538. 34 What is the value of molecularity and order of SN_1 reactions? A. 2,1 B. 1,1 C. 0,1 D. 0,2
1534. 30 In SN_2 reaction, Nucleophile attacks on the electrophilic carbon ? A. From the side of leaving group B. Opposite to leaving group C. In front of leaving group D. Below leaving group	1539. 35 During SN_1 mechanism, nucleophile can attack on the halogen carbon? A. From opposite side of leaving group B. From front of leaving group C. From both sides D. None of these
1535. 31 If in a solution of alkyl halide in a nonpolar solvent, base is added which of the following reaction takes place? A. SN_2 B. E_1	1540. 36 The reaction in which a nucleophile replaces another atom present in a compound is called as____? A. Nucleophilic elimination reaction B. Nucleophilic addition reaction C. Nucleophilic substitution reaction D. All of these
	1541. 37 During SN_1 mechanism, nucleophile can attack on the halogen carbon? A. From opposite side of leaving group B. From front of leaving group C. From both sides

D. None of these	B. Chloropentane
1542. 38 SN_2 reactions are _____?	C. n-Chloropentane
A. Nucleophilic unimolecular addition reactions	D. n-pentyl chloride
B. Nucleophilic bimolecular substitution reactions	E. 1-chloropentane
C. Nucleophilic bimolecular addition reactions	1548. 44 Which alkyl halide give SN_2 reactions?
D. Nucleophilic unimolecular substitution reactions	A. Secondary
1543. 39 Alkyl iodides can not be prepared directly by the halogenation of alkanes because ?	B. Primary
A. Iodine reacts slowly	C. Tertiary
B. Iodine reacts reversibly	D. All of these
C. HI formed reduces alkyl iodide again to starting material	1549. 45 What is the common name of the compound? $\text{CH}_3-(\text{CH}_2)_2-\text{CH}_2-\text{Cl}$
D. All of these	A. Chlorobutane
1544. 40 Alkyl halides generally give which type of elimination reactions?	B. Chloropentane
A. alpha-elimination	C. n-Chloropentane
B. gamma-elimination	D. n-pentyl chloride
C. beta-elimination	E. 1-chloropentane
D. syn-elimination	1550. 46 SN_1 reactions have which of the following specie formed and consumed in the reaction ?
1545. 41 In which phase SN_2 reactions are favored?	A. Transition state
A. Solid	B. Intermediate
B. Liquid	C. Carbanion
C. Gas	D. Carbene
D. All of these	1551. 47 Which of the following is a poor leaving group in nucleophilic substitution reactions?
1546. 42 Which one of the following is not a secondary alkyl halide?	A. Cl^-
A. 2-Chloropropane	B. Br^-
B. 3-Bromobutane	C. I^-
C. 2,3-dichloropentane	D. ^-OH
D. 2-chloro,2-methylpentane	1552. 48 Which of the following compete with each other?
1547. 43 What is the common name of the compound? $\text{CH}_3-(\text{CH}_2)_2-\text{CH}_2-\text{Cl}$	A. E_1, E_2
A. Chlorobutane	B. E_1, S_2
	C. E_2, S_1
	D. E_2, S_2
	1553. 49 In secondary alkyl halides how many H atoms are attached to Carbon atom

which is attached with halogen?

- A. 2
- B. 1
- C. 3
- D. 4

1554. 50 The specie which is in search of Positive charge is called as_____?

- A. Electrophile
- B. Nucleophilic
- C. Nucleophile
- D. Cation

1555. 51 The rate of SN_1 reaction become doubled if_____?

- A. Concentration of Nucleophile doubled
- B. Concentration of Substrate doubled
- C. Concentration of Substrate Tripled
- D. Concentration of substrate remain same

1556. 52 Which of the following product is formed when Alkyl halide reaction with KOH in the presence of alcohol?

- A. Alkane
- B. Alcohol
- C. Halohydrin
- D. Alkene

1557. 53 SN_1 reactions are favored by which of the following reactions?

- A. Water
- B. Benzene
- C. Carbon Tetrachloride
- D. Carbon disulphide

1558. 54 Which of the following is best method to prepare alkyl halides from alcohols?

- A. Reaction of alcohol with HX
- B. Reaction of alcohol with $SOCl_2$
- C. Reaction of Alcohol with PCl_3
- D. Reaction of Alcohol with PCl_5

1559. 55 In IUPAC nomenclature alkyl halides are named as_____?

- A. Alkyl Halogens
- B. HalogenoAlkanes
- C. Haloalkanes
- D. Alkyl halides

1560. 56 In SN_2 reaction, Nucleophile attacks on the electrophilic carbon ?

- A. From the side of leaving group
- B. Opposite to leaving group
- C. In front of leaving group
- D. Below leaving group

1561. 57 Which one of the following is not a secondary alkyl halide?

- A. 2-Chloropropane
- B. 3-Bromobutane
- C. 2,3,dichloropentane
- D. 2-chloro,2-methylpentane

1562. 58 With which of the following Grignard reagents react to form Alkanes ?

- A. Ammonia
- B. Water
- C. Methanol
- D. All of these

1563. 59 Which one of the following is not a secondary alkyl halide?

- A. 2-Chloropropane
- B. 3-Bromobutane
- C. 2,3,dichloropentane
- D. 2-chloro,2-methylpentane

1564. 60 With which of the following Grignard reagents react to form Alkanes ?

- A. Ammonia
- B. Water
- C. Methanol
- D. All of these

1565. 61 Alkyl halides generally give which type of elimination reactions?

- A. alpha-elimination

<p>B. gamma-elimination C. beta-elimination D. syn-elimination</p>	<p>C. Tertiary carbocation D. Methyl carbocation</p>
<p>1566. 62 In which phase S_N2 reactions are favored? A. Solid B. Liquid C. Gas D. All of these</p>	<p>1572. 68 Which of the following is true about the kinetics of bimolecular elimination reactions? A. 1st order reaction B. 2nd order reaction C. Zero order reaction D. 3rd order reaction</p>
<p>1567. 63 In a reaction having both alkyl halide and base, the base will attack on____? A. Electrophilic carbon B. Nucleophilic carbon C. beta-hydrogen D. None of these</p>	<p>1573. 69 Which of the following reactions have first step similar with each other? A. E_1, S_2 B. E_2, S_1 C. E_2, S_2 D. E_1, S_1</p>
<p>1568. 64 What is the correct order of reactivity of alkyl halides ? A. $R-Cl > R-Br > R-F > R-I$ B. $R-I > R-Br > R-Cl > R-F$ C. $R-I > R-Cl > R-Br > R-F$ D. None of these</p>	<p>1574. 70 Any specie which carry a positive charge and can accept electrons is called as____? A. Electrophile B. Anion C. Nucleophile D. Electrophobic</p>
<p>1569. 65 Which one of the following is an electrophile? A. Br^+ B. CH_4 C. NH_3 D. H_2O</p>	<p>1575. 71 The reaction in which a nucleophile replaces another atom present in a compound is called as____? A. Nucleophilic elimination reaction B. Nucleophilic addition reaction C. Nucleophilic substitution reaction D. All of these</p>
<p>1570. 66 The rate of S_N1 reaction become doubled if____ ? A. Concentration of Nucleophile doubled B. Concentration of Substrate doubled C. Concentration of Substrate Tripled D. Concentration of substrate remain same</p>	<p>1576. 72 First step in the S_N1 reaction is____? A. Dehydration B. Protonation C. Ionization D. Attack of nucleophile and departure of leaving group</p>
<p>1571. 67 Which of the following is formed during S_N1 reactions? A. Secondary carbocation B. Primary carbocation</p>	<p>1577. 73 Any specie which carry a positive charge and can accept electrons is called as____? A. Electrophile</p>

- B. Anion
C. Nucleophile
D. Electrophobic

- A. Ca in anhydrous ether
B. Mg in dry ether
C. Mg in hydrous ether
D. Ca in dry ether

1578. 74 The reaction in which a nucleophile replaces another atom present in a compound is called as ____?

- A. Nucleophilic elimination reaction
B. Nucleophilic addition reaction
C. Nucleophilic substitution reaction
D. All of these

1584. 80 S_N2 reactions are ____?

- A. Nucleophilic unimolecular addition reactions
B. Nucleophilic bimolecular substitution reactions
C. Nucleophilic bimolecular addition reactions
D. Nucleophilic unimolecular substitution reactions

1579. 75 First step in the S_N1 reaction is ____?

- A. Dehydration
B. Protonation
C. Ionization
D. Attack of nucleophile and departure of leaving group

1585. 81 What is the correct general formula of Grignard reagent?

- A. RMX
B. R_2MgX
C. $RMgX_2$
D. $RMgX$

1580. 76 In S_N2 reaction, which of the following specie is formed?

- A. Transition state
B. Intermediate
C. Carbocation
D. Carbanion

1586. 82 S_N1 reaction is a ____?

- A. Multistep reaction
B. Two step reaction
C. Concerted reaction
D. 3 step reaction

1581. 77 Which of the following compounds can be prepared by using grignard reagents?

- A. Alkanes
B. Alcohols
C. Carboxylic acids
D. All of these

1587. 83 Which of the following bond has highest bond energy value?

- A. C-I
B. C-H
C. C-Cl
D. C-F

1582. 78 In Which of the following reaction rate of reaction is not affected by increasing concentration of nucleophile?

- A. S_N2
B. E_2
C. S_N1
D. None of these

1588. 84 S_N2 reactions are ____?

- A. 2 step reactions
B. Multistep reactions
C. Single step reactions
D. None of these

1583. 79 Grignard reagent is produced by the reaction of Alkyl halides with ____?

- A. Cl^-
B. OH^-

C. ^-OR D. $^-NH_2$	C. Alkyl chloride D. Alkyl iodide
1590 86 During SN_1 mechanism, nucleophile can attack on the halogen carbon? A. From opposite side of leaving group B. From front of leaving group C. From both sides D. None of these	1596 92 What is the value of molecularity and order of SN_1 reactions? A. 2,1 B. 1,1 C. 0,1 D. 0,2
1591 87 of Grignard reagent from alkyl halide and Mg metal takes place in ____? A. Water B. Alcohol C. Anhydrous ether D. Carbon tetrachloride	1597 93 Alkyl iodides can not be prepared directly by the halogenation of alkanes because ? A. Iodine reacts slowly B. Iodine reacts reversibly C. HI formed reduces alkyl iodide again to starting material D. All of these
1592 88 In tertiary alkyl halides, carbon atoms is attached to how many carbon atoms? A. 2 B. 3 C. 4 D. 1	1598 94 SN_1 reactions have which of the following specie formed and consumed in the reaction ? A. Transition state B. Intermediate C. Carbanion D. Carbene
1593 89 Which of the following is an example of Nucleophile? A. Br^+ B. CH_3^+ C. NH_3 D. CH_4	1599 95 The compounds which are formed by the replacement of a hydrogen atom by a halogen is called as ____? A. Alcohol B. Alkyl halide C. Carbonyl halide D. Ethers
1594 90 The products of SN_1 reactions are formed with ____? A. Retention in configuration B. Inversion in Configuration C. 50% retention and 50% inversion in configuration D. All of these	1600 96 Which of the following reaction is used to produce symmetrical alkanes from alkyl halides? A. Wittig reaction B. Kolbe's electrolysis C. Reduction of alkyl halide D. Wurtz reaction
1595 91 Which of the following alkyl halide is most reactive towards Mg atom? A. Alkyl bromide B. Alkyl fluoride	1601 97 In Which of the following reaction rate of reaction is not affected by

- increasing concentration of nucleophile ?
 A. SN_2
 B. E_2
 C. SN_1
 D. None of these
- 1602** 98 Which of the following is slow step in SN_1 reactions?
 A. Ionization
 B. Formation of carbocation
 C. Formation of Double bond
 D. Formation of Alkyl halide from Carbocation
- 1603** 99 SN_1 reaction is a _____?
 A. Multistep reaction
 B. Two step reaction
 C. Concerted reaction
 D. 3 step reaction
- 1604** 100 When CH_3CH_2MgBr reacts with CO_2 which of the following product is formed?
 A. $CH_3CH_2CH_2CH_2OH$
 B. $CH_3CH_2CH_2OH$
 C. CH_3CH_2COOH
 D. $CH_3CH_2CH_2Br$
- 1605** 101 The products of SN_1 reactions are formed with _____?
 A. Retention in configuration
 B. Inversion in Configuration
 C. 50% retention and 50% inversion in configuration
 D. All of these
- 1606** 102 I^- is an example of _____?
 A. Electrophile
 B. Nucleophile
 C. Leaving group
 D. Both nucleophile and leaving group
- 1607** 103 Which one of the following is not a alkyl halide?
 A. 2-chloropropane
 B. 1-chlorobutane
 C. 2-butene
 D. 4-chlorohexane
- 1608** 104 Which of the following solvent favor SN_2 reactions?
 A. Water
 B. Ammonia
 C. Carbon tetrachloride
 D. Acetic acid
- 1609** 105 Which one of the following is the correct IUPAC name of 2-Chloro,3-methylpentane ?
 A. $CH_3-CH_2-CH(Cl)-CH(CH_3)-CH_3$
 B. $CH_3-CH_2-CH(CH_3)-CH(Cl)-CH_3$
 C. $CH_3-CH_2-CH(Cl)-CH(Cl)-CH_3$
 D. $CH_3-CH_2-CH(Cl)-CH(CH_3)-CH_3$
- 1610** 106 Which of the following gives primary alcohol with Grignard reagent ?
 A. Acetaldehyde
 B. Epoxide
 C. Acetone
 D. Carbon dioxide
- 1611** 107 What is the reason for the reactivity of Grignard reagent?
 A. Presence of Mg atom
 B. Polarity of C-H bond
 C. Polarity of C-Mg bond
 D. Presence of electrophilic carbon
- 1612** 108 Which of the following is formed during SN_1 reactions?
 A. Secondary carbocation
 B. Primary carbocation
 C. Tertiary carbocation
 D. Methyl carbocation
- 1613** 109 In SN_2 reactions, the hybridization of carbon in moving from substart to transition state changes from ?

<p>A. sp^2 to sp^3 B. sp to sp^2 C. sp^3 to sp^2 D. sp to sp^3</p>	<p>B. E_2, S_1 C. E_2, S_2 D. E_1, S_1</p>
<p>1614 110 Alkyl halide react with Sodium lead alloy, which of the following is correct formula of tetramethyl lead? A. $(C_2H_5)_4Pb$ B. $(CH_3)_4Pb$ C. $(CH_4)_4Pb$ D. $(CH_3)_4Pd$</p>	<p>1620. 116 Which of the following alkyl halide give SN_1 reactions? A. 1-chloropropane B. 2-chloropropane C. n-butyl chloride D. 2-methyl,2-chloropropane</p>
<p>1615 111 Which of the following reactions have first step similar with each other? A. E_1, S_2 B. E_2, S_1 C. E_2, S_2 D. E_1, S_1</p>	<p>1621. 117 During the nomenclature of Alkyl halides, halogens are named as ____? A. Substituents B. Parent name C. Ligand D. Longest chain</p>
<p>1616 112 What is the common name of 2-methyl-2-chloropropane ? A. secondary propyl chloride B. Tertiary butyl chloride C. Secondary butyl chloride D. Isobutyl Chloride</p>	<p>1622. 118 During SN_1 mechanism, nucleophile can attack on the halogen carbon? A. From opposite side of leaving group B. From front of leaving group C. From both sides D. None of these</p>
<p>1617 113 SN_1 reactions are favored by which of the following reactions? A. Water B. Benzene C. Carbon Tetrachloride D. Carbon disulphide</p>	<p>1623. 119 First step in the SN_1 reaction is ____? A. Dehydration B. Protonation C. Ionization D. Attack of nucleophile and departure of leaving group</p>
<p>1618 114 The reaction in which a molecules is removed from a compound but no addition takes place is called as ____? A. Substitution reaction B. Elimination reaction C. Addition reaction D. Replacement reaction</p>	<p>1624. 120 In which phase SN_2 reactions are favored? A. Solid B. Liquid C. Gas D. All of these Chemistry >> Carboxylic</p>
<p>1619 115 Which of the following reactions have first step similar with each other? A. E_1, S_2</p>	<p>1625. 121 Which of the following reaction takes place when alkyl halide react with KOH in water ?</p>

<p>A. Substitution reaction B. Elimination reaction C. Addition reaction D. None of these</p>	<p>following specie is formed? A. Transition state B. Intermediate C. Carbocation D. Carbanion</p>
<p>1626. 122 Which of the following alkyl halide is most reactive towards Mg atom? A. Alkyl bromide B. Alkyl fluoride C. Alkyl chloride D. Alkyl iodide</p>	<p>1632. 128 Reduction of alkyl halides in the presence of Zn and mineral acid produces____? A. Alkenes B. Alkanes C. Alkynes D. Alcohols</p>
<p>1627. 123 The product in S_N2 reaction is formed with____? A. Inversion in configuration B. Retention in configuration C. 50% retention in configuration D. 50% inversion in configuration</p>	<p>1633. 129 There is one lone pair present in H_3O^+, it cannot act as____? A. Electrophile B. Lewis acid C. Nucleophile D. Strong acid</p>
<p>1628. 124 In S_N2 reaction, rate of reaction is directly proportional to concentration of____? A. Substrate only B. Nucleophile C. Substrate and nucleophile D. All of these</p>	<p>1634. 130 What is the correct order of reactivity of alkyl halides ? A. $R-Cl > R-Br > R-F > R-I$ B. $R-I > R-Br > R-Cl > R-F$ C. $R-I > R-Cl > R-Br > R-F$ D. None of these</p>
<p>1629. 125 Which one of the following is the correct IUPAC name of 2-Chloro,3-methylpentane ? A. $CH_3-CH_2-CH(Cl)-CH(CH_3)-CH_3$ B. $CH_3-CH_2-CH(CH_3)-CH(Cl)-CH_3$ C. $CH_3-CH_2-CH(Cl)-CH(Cl)-CH_3$ D. $CH_3-CH_2-CH(Cl)-CH(CH_3)-CH_3$</p>	<p>1635. 131 Which of the following reaction is concerted(single step) ? A. $S_N1, E1$ B. $S_N2, E1$ C. $S_N2, E2$ D. None of these</p>
<p>1630. 126 The group which leaves from the substrate in a nucleophilic substitution reaction is called as____? A. Leaving group B. Electrophile C. Substrate D. Weak nucleophile</p>	<p>1636. 132 I^- is an example of____? A. Electrophile B. Nucleophile C. Leaving group D. Both nucleophile and leaving group</p>
<p>1631. 127 In S_N2 reaction, which of the</p>	<p>1637. 133 Which of the following is an example of good leaving group? A. Cl^- B. OH^-</p>

- C. OR
D. NH_2
- 1638.** 134 SN_1 reactions have which of the following specie formed and consumed in the reaction ?
A. Transition state
B. Intermediate
C. Carbanion
D. Carbene
- 1639.** 135 There is one lone pair present in H_3O^+ , it cannot act as ____?
A. Electrophile
B. Lewis acid
C. Nucleophile
D. Strong acid
- 1640.** 136 Which of the following is formed during SN_1 reactions?
A. Secondary carbocation
B. Primary carbocation
C. Tertiary carbocation
D. Methyl carbocation
- 1641.** 137 The product in SN_2 reaction is formed with ____?
A. Inversion in configuration
B. Retention in configuration
C. 50% retention in configuration
D. 50% inversion in configuration
- 1642.** 138 In a reaction having both alkyl halide and base, the base will attack on ____?
A. Electrophilic carbon
B. Nucleophilic carbon
C. beta-hydrogen
D. None of these
- 1643.** 139 During the nomenclature of Alkyl halides, halogens are named as ____?
A. Substituents
B. Parent name
C. Ligand
D. Longest chain
- 1644.** 140 Which of the following bond has highest bond energy value ?
A. C-I
B. C-H
C. C-Cl
D. C-F
- 1645.** 141 In a reaction having both alkyl halide and base, the base will attack on ____?
A. Electrophilic carbon
B. Nucleophilic carbon
C. beta-hydrogen
D. None of these
- 1646.** 142 First step in the SN_1 reaction is ____?
A. Dehydration
B. Protonation
C. Ionization
D. Attack of nucleophile and departure of leaving group
- 1647.** 143 What is the order of SN_2 reactions?
A. 1st order
B. zero order
C. 2nd order
D. 3rd order
- 1648.** 144 What is the reason for the reactivity of Grignard reagent?
A. Presence of Mg atom
B. Polarity of C-H bond
C. Polarity of C-Mg bond
D. Presence of electrophilic carbon
- 1649.** **Alcohols and Phenols**
Phenol react with calcium carbonation and evolve ____?
A. H_2 gas
B. CO_2 gas
C. O_2

- D. None of these
- 1650.** 2 Which of following is an example of electrophilic attack on alcohols
 A. $\text{C}_2\text{H}_5\text{OH} + \text{CH}_3\text{COOH} \rightarrow \text{H}_2\text{SiI}_4$
 B. $2\text{C}_2\text{H}_5\text{OH} + 2\text{Na} \rightarrow 2\text{C}_2\text{H}_5\text{ONa} + \text{H}_2$
 C. $\text{C}_2\text{S}_5\text{OH} + \text{HCl} \xrightarrow{\text{ZnCl}_2} \text{C}_2\text{H}_5\text{Cl} + \text{H}_2\text{O}$
 D. both a and b
- 1651.** 3 What is the other name of 2,4,6-trinitrophenol?
 A. Picric acid
 B. Nitrophenol
 C. TNT
 D. Benzophenone
- 1652.** 4 What is the other name of 2,4,6-trinitrophenol?
 A. Picric acid
 B. Nitrophenol
 C. TNT
 D. Benzophenone
- 1653.** 5 Tertiary alcohols upon reaction with oxidizing agents give _____ as major product?
 A. Carboxylic acids
 B. Alkene
 C. Alkyne
 D. Ester
- 1654.** 6 Alcohol is dehydrated by the following reaction
 A. elimination reaction
 B. oxidation reaction
 C. combustion
 D. decomposition
- 1655.** 7 Which of the following give methanol upon hydrogenation/reduction?
 A. HCHO
 B. CH_3CHO
 C. CH_3CN
 D. $\text{CH}_3\text{CH}_2\text{CHO}$
- 1656.** 8 Iodoform test is performed to distinguish between
 A. alcohols and phenols
 B. methanol and ethanol
 C. primary and secondary alcohols
 D. phenols and ethers
- 1657.** 9 Ethanol having 10% methanol in it is called as _____?
 A. Absolute alcohol
 B. Methylated alcohol
 C. Rectified spirit
 D. Pure alcohol
- 1658.** 10 Which isomer of hydroxy benzene sulphonic acid is formed in greater ratio when phenol reacts with sulphuric acid at 20°C ?
 A. Ortho
 B. Para
 C. Both ortho and para in equal ratio
 D. ortho-para product
- 1659.** 11 Which of the following is a dihydric alcohol?
 A. Ethanol
 B. Methanol
 C. Glycerol
 D. Glycol
- 1660.** 12 The compounds which are formed by the replacement of one of the H of water by a alkyl group are called as _____?
 A. Ethers
 B. Phenols
 C. Alcohols
 D. Carboxylic acids
- 1661.** 13 Dehydration of alcohols at low temperature and high acid concentration results in?
 A. Alkene
 B. Ether
 C. Carboxylic acid

D. Aldehydes

1662. 14 Optimum temperature range for the process of fermentation is

- A. 2 - 3 °C
- B. 25 - 35 °C
- C. 27 - 33 °C
- D. 4 - 45 °C

1663. 15 Which of the following does not react with bases?

- A. Carboxylic acids
- B. Phenol
- C. Ethanol
- D. HCl

1664. 16 Phenol is _____ liquid ?

- A. Dense
- B. Hard
- C. Deliquescent
- D. Intermittent

1665. 17 An aromatic compound that can be obtained from coal tar is

- A. benzene
- B. toluene
- C. phenol
- D. diphenylmethane

1666. 18 How phenol is produced from the Chlorobenzene ?

- A. Using Kolb's method
- B. Using Dow's method
- C. Using Zn dust
- D. All of these

1667. 19 Reaction of ethylmagnesium bromide with acetone produces?

- A. Primary alcohol
- B. Secondary alcohol
- C. Tertiary alcohol
- D. Methyl alcohol

1668. 20 Who first extracted phenol?

- A. Wohler
- B. Runge

C. Wittig

D. Wurtz

1669. 21 The alcohols having one hydroxyl group attached to the alkyl group are called as ____?

- A. Monohydric alcohols
- B. Dihydric alcohols
- C. Trihydric alcohols
- D. Polyhydric alcohols

1670. 22 Which of the following compound shows strong H-Bonding with water?

- A. C_2H_6
- B. CH_3Br
- C. CH_3OCH_3
- D. C_2H_5OH

1671. 23 Ethanol forms yellow crystal with iodine in the presence of

- A. $ZnCl_2$
- B. Conc. H_2SO_4 at 14 °C
- C. NaOH
- D. KOH

1672. 24 The solution of phenol in water has a pH of about?

- A. 4-5
- B. 3-5
- C. 2-4
- D. 5-6

1673. 25 The method used for preparation of phenol is

- A. Kolbe's method
- B. Dow's method
- C. Nitration
- D. Williamson's synthesis

1674. 26 Which catalyst is used when ethanol reacts with ammonia to produce ethyl amine?

- A. $ZnCl_2$
- B. C_6H_5N
- C. Al_2O_3

D. ThO_2	A. Primary alcohols
1675. 27 Give IUPAC name of following compound Tert-Butanol	B. Secondary alcohols
A. 3 - methyl-2-propanol	C. Tertiary alcohols
B. 3-methyl-1-propanol	D. None of these
C. 2-hydroxy-1-propanol	1681. 33 Methylated spirit is formed by the addition of
D. 2-methyl-2-propanol	A. acetone
1676. 28 The alcohols in which the carbon which is attach to the OH group is further attach with two carbon atoms is called as?	B. pyridine
A. Primary alcohols	C. 1 % methanol
B. Secondary alcohols	D. all of above
C. Tertiary alcohols	1682. 34 Alcohol having 5% water is called as _____?
D. None of these	A. Absolute alcohol
1677. 29 Methylated spirit is formed by the addition of	B. Methylated alcohol
A. acetone	C. Rectified spirit
B. pyridine	D. Pure spirit
C. 1 % methanol	1683. 35 Which phenol is most acidic in nature
D. all of abov	A. salicylic acid
D. all of above	B. picric acid
1678. 30 Phenol was obtained from _____ first time?	C. cresol
A. Coke	D. O- nitrophenol
B. Pitch	D. Acetic acid
C. Aromatic compounds	1684. 36 Following is termed as hydroxyl derivative of alkanes
D. Coal tar	A. carboxylic
1679. 31 Give IUPAC name of following compound Tert-Butanol	B. Aldehydes
A. 3 - methyl-2-propanol	C. Phenols and ethers
B. 3-methyl-1-propanol	D. Alcohols
C. 2-hydroxy-1-propanol	1685. 37 Which of the following product is formed when phenol reacts with sulphuric acid 100 °C?
D. 2-methyl-2-propanol	A. ortho-hydroxy benzene sulphonic acid
1680. 32 The alcohols in which the carbon which is attach to the OH group is further attach with two carbon atoms is called as?	B. Para-hydroxy benzene sulphonic acid
	C. O and p- benzene sulphonic acid
	D. Both a and b
	1686. 38 The method which is used on industrial scale for production of

alcohol from alkene ? A. Hydrohalogenation of alkenes B. Dehydration of alkenes C. Hydration of alkenes D. Hydroxylation of alkenes	B. Due to absence of resonance of in alcohol C. Both a and b D. Because in phenol H is attach to O
1687. 39 Ethanol is used as A. a drink B. a fuel C. a preservative D. all of above	1693. 45 Which of the following is a strong acid? A. Ethane B. Ethyl Chloride C. Ethanol D. Phenol
1688. 40 Ethanol react which of the following reagent to form ethyl alcohol? A. $\text{H}_2\text{SO}_4/\text{H}_2\text{O}$ B. NaOH C. PCl_3 D. All of these	1694. 46 Phenol is also called as? A. Carbonic acid B. Carbolic acid C. Acetic acid D. Hydroxy acid
1689. 41 The strongest acid among the following is A. carbolic acid B. H_2O C. Methanol D. Butanoic acid	1695. 47 Which of the following compound shows more H-Bonding? A. CH_3OH B. $\text{CH}_3\text{CH}_2\text{OH}$ C. $\text{C}_6\text{H}_5\text{OH}$ D. $\text{C}_6\text{H}_{11}\text{OH}$
1690. 42 The alcohols which are resistant to oxidation reactions are A. primary alcohols B. secondary alcohol C. tertiary alcohol D. all of above	1696. 48 Methanol is also called as A. liquor B. grain alcohol C. wood spirit D. fuel
1691. 43 The strength of an acid depends on _____? A. Ease of removal of Proton B. Stability of the anion formed C. Stability of the cation form D. Depends on both ease of removal of proton and stability of anion	1697. 49 Which is un1 for phenols A. a colourless crystalline solid B. more reactive to electrophilic attack C. form pink solution at room temperature D. dissolves readily in acids
1692. 44 Why phenol is more acidic than Alcohol? A. Due to presence of resonance in phenol	1698. 50 Which of the following compounds are added to ethanol to make it unfit for drinking? A. Pyridine B. Methanol C. Acetone

D.All of these	B. distillation of wood
1699 51 The solubility of alcohols is due to	C. fermentation
A. dipole moment	D. williamson's synthesis
B. covalent bonds	1706 58 Which of the following alcohol is
C. hydrogen bonding	most reactive in the reaction where O-H
D. electronegativity	bon breaks?
1700 52 Which of the following catalyst is	A. Primary alcohol
used in the industrial preparation of	B. Tertiary alcohol
methanol?	C. Methyl alcohol
A. Zinc oxide and alumina	D. Secondary alcohol
B. Alumina and silica	1707 59 In cannizzaro's reaction, Benzyl
C. Silica and Chromium oxide	alcohol is obtained from
D. Zinc oxide and Chromium oxide	A. benzaldehyde
1701 53 Phenol is stronger acid then?	B. benzene
A. Carboxylic acids	C. picric acid
B. Water	D. benzyl chloride
C. Acetic acid	1708 60 In which of the following reaction C-
D. None of these	O bond of alcohol breaks?
1702 54 What is the color of iodoform	A. Reaction with SOCl_2
precipitates?	B. Dehydration
A. White	C. Esterification
B. Black	D. All of these
C. Reddish	1709 61 The biochemical process used in the
D. Yellow	synthesis of alcohol in the presence of
1703 55 Which of following has higher	yeast is called as_____?
boiling and melting point	A. Respiration
A. acetone	B. Photosynthesis
B. 2 - butanol	C. Fermentation
C. propane	D. Aerobic respiration
D. 2 - methylpropene	1710 62 In Lucas test, tertiary alcohols form
1704 56 Which of the following is an example	oily layer of alkyl halid_____?
of Tertiary alcohols?	A. On heating
A. 2 methyl-3-ethylpentane	B. Immediately
B. 3-ethyl-3-hexanol	C. After 5-10 minutes
C. 2-methyl-4-hexanol	D. After 20 minutes
D. isopropyl alcohol	1711 63 Which of the following is used as
1705 57 Ethanol is prepared on a large scale	disinfectant?
by	A. Phenylhydrazone
A. hydration of alkanes	B. Phenol

C. Acetic acid D. Vinegar	by the reaction of Grignard reagent with aldehydes A. Ketones B. hydrocarbons C. alcohols D. ethers
1712. 64 Formation of picric acid by phenols is called A. Decomposition B. Halogenation C. Sulphonation D. Nitration	1719. 71 Which of the following is formed when phenol reacts with acetyl chloride? A. Alcohol B. Carboxylic acids C. Ester D. Amines
1713. 65 The catalyst used for ether formation by dehydration of alcohols A. Cons HN3 at 14 C B. Cons H2SO4 at 14 C C. Hot H3PO4 at 18 C D. ZnCl2 at 45 C	1720. 72 A naphthol has A. Alcoholic OH B. -CHO C. -COOH D. Phenolic - OH
1714. 66 In order to get absolute alcohol following is added to absorb moisture A. MgO B. CaO C. Co2 D. Cl2	1721. 73 Tertiary alcohols can change into alkenes by A. combustion reaction B. oxidation C. elimination reaction D. addition reaction
1715. 67 What is IUPAC name of isopropyl alcohol A. 2 - propanol B. 1 - propanol C. 2 - ethanol D. 2 - propane-1-ol	1722. 74 Which of the following ion is stable ? A. Ethoxide ion B. Tertiary Alkoxide ion C. Secondary anion D. Phenoxide ion
1716. 68 Which of following shows maximum boiling point A. primary alcohol B. secondary alcohol C. tertiary alcohol D. all of above	1723. 75 The alkenes can be formed by alcohols in the presence of A. acidified KMnO4 B. acidified K2Cr2O7 C. acidified CuCl2 D. pyridine
1717. 69 Which of the following is more soluble in water _____? A. Ethanol B. Phenol C. Hexanol D. Dimethyl ether	1724. 76 In industries, methanol is prepared from? A. Marsh gas B. Carbon dioxide and water
1718. 70 Which at following can be prepared	

<p>C. Water gas D. Methane + H₂</p>	<p>D. Reaction of alkene with Ni</p>
<p>1725. 77 A substance formed by reduction of phenol with Zn is A. picric acid B. benzene C. cresol D. carboic acid</p>	<p>1731. 82 Aldehydes and ketones can be obtained by the A. reduction of alcohol B. oxidation of alcohol C. dehydration of alcohol D. hydrolysis of alcohol</p>
<p>1726. 78 Phenol is changed into cyclohexanol by the following method A. Hydrogenation B. Reaction with formaldehyde C. Nitration D. Halogenation</p>	<p>1732. 83 When O-H bond breaks in alcohol is the order of reactivity A. Primary alcohol) secondary alcohol) tertiary alcohol B. methyl alcohol) primary alcohol) secondary alcohol) tertiary alcohol C. Primary alcohol (secondary alcohol (tertiary alcohol D. ethanol) primary alcohol) secondary alcohol) tertiary alcohol</p>
<p>1727. 79 When C -O bond breaks in alcohol, the most reactive is A. Primary alcohol) secondary alcohol) tertiary alcohol B. secondary alcohol C. tertiary alcohol D. methanol</p>	<p>1733. 84 What is optimum temperature for the process of fermentation? A. 10-15 degrees B. 25-30 degrees C. 25-35 degrees D. 25-40 degrees</p>
<p>1728. 70 Which of the following enzymes present in yeast helps out in fermentation A. Diastase B. Maltase C. Zymase D. all of above</p>	<p>1734. 85 Glycerol can also be termed as A. 1 - butanol B. 1, 2, 3 - propanetriol C. 2 - methyl - propanol D. ISObutyl alcohol</p>
<p>1729. 80 Rectified spirit is converted into the absolute alcohol by ____? A. Crystallization B. Distillation C. Re-distillation D. Fractional distillation</p>	<p>1735. 86 A polymer called Bakelite is formed by reaction of phenol with A. hydrogen B. ethers C. carboxylic acid D. formaldehyde</p>
<p>1730. 81 Which of the following method is used to prepare alcohols from alkenes? A. Reaction of alkenes with X₂/water B. Reaction of alkene with water C. Reaction of alkene with H₂SO₄/water</p>	<p>1736. 87 Which of the following alcohol give iodoform test? A. Propanol B. Methanol C. Ethanol</p>

D. Butanol

1737 88 Which organic compound will form yellow crystals during iodoform test

- A. phenols
- B. acetone
- C. ethanol
- D. methanol

1738 89 Ethanol forms yellow crystal with iodine in the presence of

- A. $ZnCl_2$
- B. Cons H_2SO_4 at $14^\circ C$
- C. $NaOH$
- D. KOH

1739 90 Which of following is trihydric alcohol

- A. Glycol and cyclohexanol
- B. glycerol
- C. ethylene glycol
- D. resorcinol

1740 91 Alcohol is dehydrated by the following reaction

- A. elimination reaction
- B. oxidation reaction
- C. combustion
- D. decomposition

1741 92 Ethanol obtained by the process of fermentation never exceeds to _____?

- A. 0.12
- B. 0.14
- C. 0.2
- D. 0.32

1742 93 When O-H bond breaks in alcohol is the order of reactivity

- A. Primary alcohol) secondary alcohol) tertiary alcohol
- B. methyl alcohol) primary alcohol) secondary alcohol) tertiary alcohol

C. Primary alcohol (secondary alcohol (tertiary alcohol
D. ethanol) primary alcohol) secondary alcohol) tertiary alcohol

1743 94 The solution of phenol in water has a pH of about?

- A. 4-5
- B. 3-5
- C. 2-4
- D. 5-6

1744 95 Alcohol is dehydrated by the following reaction

- A. elimination reaction
- B. oxidation reaction
- C. combustion
- D. decomposition

1745 96 The organic compounds having close resemblance in structure as well properties are

- A. Glycol and cyclohexanol
- B. Formaldehyde and benzol
- C. Diethyl ether and ethyl alcohol
- D. methanal and acetone

1746 97 Phenol react with calcium carbonation and evolve _____?

- A. H_2 gas
- B. CO_2 gas
- C. O_2
- D. None of these

1747 98 Phenol was obtained from _____ first time?

- A. Coke
- B. Pitch
- C. Aromatic compounds
- D. Coal tar

1748 99 Which of following is an example of electrophilic attack on alcohols

- A. $C_2H_5OH + CH_3COOH \xrightarrow{H_2SO_4}$
- B. $2C_2H_5OH + 2Na \rightarrow 2C_2H_5ONa + H_2$

C. $\text{C}_2\text{S}_5\text{OH} + \text{HCL ZnCl}_2 \text{C}_2\text{H}_5\text{CL} + \text{H}_2\text{O}$
 D. both a and b

1749. 100 What is optimum temperature for the process of fermentation?

- A. 10-15 degrees
- B. 25-30 degrees
- C. 25-35 degrees
- D. 25-40 degrees

1750. 101 Which of the following catalyst is used in the industrial preparation of methanol?

- A. Zinc oxide and alumina
- B. Alumina and silica
- C. Silica and Chromium oxide
- D. Zinc oxide and Chromium oxide

1751. 102 Organic compounds that are considered as derivatives of water are

- A. Aldehydes & ketones
- B. Alcohols and phenols
- C. Phenols and ethers
- D. Carboxylic acids

1752. 103 A substance formed by reduction of phenol with Zn is

- A. picric acid
- B. benzene
- C. cresol
- D. carbolic acid

1753. 104 What is IUPAC name of isopropyl alcohol

- A. 2 - propanol
- B. 1 - propanol
- C. 2 - ethanol
- D. 2 - propane-1-ol

1754. 105 What is the other name of 2,4,6-trinitrophenol?

- A. Picric acid
- B. Nitrophenol
- C. TNT
- D. Benzophenone

1755. 106 When an electrophilic reagent attack on alcohol

- A. O- H bond formed
- B. O- H bond breaks
- C. C- O bond breaks
- D. rise in boiling point

1756. 107 Alcohol is dehydrated by the following reaction

- A. elimination reaction
- B. oxidation reaction
- C. combustion
- D. decomposition

1757. 108 Which of the following give methanol upon hydrogenation/reduction?

- A. HCHO
- B. CH_3CHO
- C. CH_3CN
- D. $\text{CH}_3\text{CH}_2\text{CHO}$

1758. 109 Iodoform test is performed to distinguish between

- A. alcohols and phenols
- B. methanol and ethanol
- C. primary and secondary alcohols
- D. phenols and ethers

1759.

Aldehydes and Ketones

In the reaction of NaBH_4 with aldehyde and ketones, which of the following act as Nucleophile ?

- A. B^-
- B. H^-
- C. BH_2^-
- D. NaBH_3^-

1760. 2 Why aldehydes are more reactive than ketones?

- A. Electronic reasons
- B. Steric hindrance

- C. Both a and b
D. None of these

1761. 3 Which of the following reaction takes place when acetone reacts with HCN ?

- A. Electrophilic addition
B. Nucleophilic elimination
C. Nucleophilic addition
D. Electrophilic addition

1762. 5 Which color of precipitates are formed when carbonyl compounds react with 1,2-dinitrophenylhydrazine?

- A. Yellow or red
B. Orange or blue
C. Green or red
D. Yellow or orange

1763. 6 During catalytic reduction of carbonyl compounds, hydrogen adds across?

- A. C=C
B. C-H
C. C=O
D. All of these

1764. 7 Carbonyl system having no alpha hydrogen undergoes _____?

- A. Aldol condensation
B. Cannizzaro reaction
C. Haloform reaction
D. Oxidation reaction

1765. 8 Which of the following test is not given by Aldehyde ?

- A. Benedict test
B. Tollen's test
C. Nitroprusside test
D. Fehling's test

1766. 9 Bulky ketones do not react with

- A. Sodium bisulphite
B. HCl
C. Grignard reagent
D. HCN

Chemistry >> I

1767. 10 Before giving condensation product, ammonia and its derivatives produces _____ when react with carbonyls?

- A. Alcohols
B. Carboxyl alcohol
C. Amino alcohol
D. None of these

1768. 11 Acetaldehyde undergoes polymerization with conc. H_2SO_4 and form _____?

- A. Acetylides
B. Paraldehyde
C. Bakelite
D. Meta Acetaldehyde

1769. 12 NaBH_4 causes reduction of aldehyde and ketones into _____?

- A. Alcohols
B. Alkenes
C. Phenols
D. Alkanes

1770. 13 Aldehydes and ketones react with hydroxyl amine and produce?

- A. Imine
B. Oxime
C. Aldole
D. Nitrile

1771. 14 In IUPAC nomenclature, aldehydes are named as _____?

- A. Alkanol
B. Alkanal
C. Alkanone
D. Alkaldehyde

1772. 15 From which of the following ketone can be prepared?

- A. Propyne
B. Secondary alcohol
C. Ca Acetate
D. All of these

16

- 1773.** 16 Which of the following product is formed when aldol product is heated?
 A. Rearrangement
 B. Dehydration
 C. Decomposition
 D. All of these
- 1774.** 17 Which one of the following shows that iodoform test for a compound is positive?
 A. Formation of carboxylate salt
 B. Brick red precipitate formation
 C. Yellow crystals
 D. Formation of water
- 1775.** 18 Benzophenone is also known as :
 A. Diphenyl ketone
 B. Ethyl Phenyl ketone
 C. Tri Phenyl ketone
 D. None of these
- 1776.** 19 If both alkyl groups attached to carbonyl in ketone are same then it is called as ____?
 A. Mixed
 B. Unsymmetrical
 C. Symmetrical
 D. None of these
- 1777.** 20 Distillation of calcium acetate and calcium formate produces ?
 A. Formaldehyde
 B. Acetaldehyde
 C. Acetone
 D. None of these
- 1778.** 21 If both alkyl groups attached to carbonyl in ketone are same then it is called as ____?
 A. Mixed
 B. Unsymmetrical
 C. Symmetrical
 D. All of these
- 1779.** 22 Which of the following give silver mirror test ?
 A. Butanal
 B. Methanal
 C. Ethanal
 D. All of these
- 1780.** 23 Why oxidation of ketones is not easy ____?
 A. Because they involve breaking of C-O bond
 B. Because it involve breaking of C-C bond
 C. Because it involve breaking of C-H bond
 D. Because it involve breaking of C=C bond
- 1781.** 24 Addition of ammonia and its derivative catalyze by ____?
 A. Acid
 B. Base
 C. Oxidizing agents
 D. Pd/C
- 1782.** 25 Aldehydes and ketones are ____?
 A. Aromatic compounds
 B. Acidic compounds
 C. Carbonyl compounds
 D. Electrophiles
- 1783.** 26 What is the general formula of Aldehyde?
 A. RCOR
 B. RCOOR
 C. RCHO
 D. RCOOH
- 1784.** 27 On industrial scale which catalyst is used for the preparation of methanol?
 A. $K_2Cr_2O_7$
 B. $PdCl_2$
 C. FeO, Mo_2O_3
 D. $CuCl_2$
- 1785.** 27 Formaldehyde polymerizes to form ?

- A. Bakelite
- B. Paraldehyde
- C. Metaformaldehyde
- D. All of these

- A. Nucleophilic
- B. Electrophilic
- C. Neutral
- D. all of these

1786. 28 In which of the following reagent Cupric citrate complex is formed?

- A. Fehling's solution test
- B. Benedict's solution test
- C. Silver mirror test
- D. sodium nitroprusside test

1792. 34 In acid catalyzed nucleophilic addition reactions, which of the following property of carbonyl system enhance ?

- A. Electrophilicity
- B. Nucleophilicity
- C. Basicity
- D. Acidity

1787. 29 Which one of the following does not give iodoform test ?

- A. Acetaldehyde
- B. 3-hexanone
- C. Butanone
- D. Acetone

1793. 35 What is the Hybridization of carbon atom in Aldehyde group?

- A. sp^2
- B. sp^3
- C. sp
- D. dsp^2

1788.

ALDHIDE and ketone

Which of the following is the function of formalin?

- A. Antiseptic
- B. Disinfectant
- C. Germicide
- D. All of these

Chemistry >> Solids

1794. 36 In nomenclature, aldehyde group in all aldehydes are given position 1 and its position is not mentioned in the name because?

- A. Aldehyde is given priority
- B. Aldehyde is parent
- C. Aldehyde group is present at terminal
- D. None of these

1789. 31 Aldehyde react with Ammonia and form _____?

- A. Amine
- B. Imine
- C. Nitrile
- D. Hydrazones

1795. 37 Which of the following compound is present in camphor and menthone?

- A. Aldehyde
- B. Alcohol
- C. Esters
- D. Ketones

1790. 32 Bisulfite addition product when heated with mineral acid yield?

- A. Carboxylic acid
- B. Alpha hydroxy acid
- C. Starting material from which it is formed
- D. Alpha beta unsaturated compound

1796. 38 Which of the following is used in silvering of mirror in industries _____?

- A. Acetone
- B. Propanol
- C. Ethanal
- D. Butanone

1791. 33 What is the nature of Carbon present in Aldehyde is?



<p>1797. 39 Cyanohydrins when reacted with mineral acid produces ____?</p> <p>A. Beta Hydroxy carboxylic acids B. Alpha hydroxy carboxylic acids C. Carboxylic acids D. Unsaturated acids</p>	<p>which property of nucleophile increases?</p> <p>A. Basicity B. Nucleophilicity C. Electrophilicity D. Both b and c</p>
<p>1798. 40 Formaldehyde is used in vat dyeing as?</p> <p>A. Coloring agent B. Dehydrating agents C. Decolorizing agent D. Solubilizing agent</p>	<p>1804. 46 Acetaldehyde in the presence of Con. H_2SO_4 undergoes ____?</p> <p>A. Dehydration B. Polymerization C. Condensation D. Oxidation reaction</p>
<p>1799. 41 Base catalyzed reaction of carbonyl group takes place in presence of :</p> <p>A. Weak electrophile B. Strong nucleophile C. Weak nucleophile D. Strong electrophile</p>	<p>1805. 47 In the addition of sodium bisulfite to carbonyl system, which of the following is nucleophile?</p> <p>A. Sulphide ion B. Sulfite ion C. Hydride ion D. Sodium ion</p>
<p>1800. 42 Self-oxidation reduction reaction is also called as ____?</p> <p>A. Dehydration B. Condensation reaction C. Disproportionation reaction D. Proportionation reaction</p>	<p>1806. 48 The reaction of two similar carbonyl compounds to give aldol product is called as ____?</p> <p>A. Condensation reaction B. Dehydration reaction C. Disproportionation reaction D. All of these</p>
<p>1801. 43 Nucleophilic addition reactions of carbonyl compounds can be catalyzed by ____?</p> <p>A. Acid B. Base C. Water D. Both acid and base</p> <p>Chemistry >> Reaction Kineti</p>	<p>1807. 49 For aldol condensation, carbonyl system must have ____?</p> <p>A. Beta hydrogen B. Beta carbon C. Alpha carbon D. Alpha hydrogen</p>
<p>1802. 44 Which of the following undergoes cannizzaro reaction ____?</p> <p>A. Benzaldehyde B. Acetone C. Benzophenone D. Benzyl alcohol</p>	<p>1808. 50 Which of the following compound does not give cannizzaro reaction?</p> <p>A. Benzaldehyde B. Trimethyl acetaldehyde C. Formaldehyde D. Acetaldehyde</p>
<p>1803. 45 During base catalyzed reactions,</p>	<p>1809. 51 Bulky ketones do not react with</p>

<p>A. Sodium bisulphite B. HCl C. Grignard reagent D. HCN</p>	<p>B. Acetone C. Carboxylic acid D. Alkene</p>
<p>1810. 52 Reaction of Aldehydes with Tollen's reagent results in formation of ____? A. Red precipitate B. Yellow precipitate C. Silver mirror D. Brick red precipitate</p>	<p>1816. 58 Which is an aromatic Aldehyde? A. Propanone B. Pentanol C. Benzaldehyde D. Hexanol</p>
<p>1811. 53 The Addition of Hydrogen cyanide in Formaldehydes give which product? A. 2- Hydroxypropanoic acid B. 2- methylpropanenitrile C. Hydroxyacetoneitrile D. 2- Hydroxypropanenitrile</p>	<p>1817. 59 Aldehydes can be oxidized by ____? A. $K_2Cr_2O_7$ B. HNO_3 C. Tollen's reagent D. All of these</p>
<p>1812. 54 In IUPAC nomenclature , ketones are named as ____? A. Alkanol B. Alkanal C. Alkanone D. Alkyl halides</p>	<p>1818. 60 Aldehydes are obtained by the oxidation of which of the following ? A. Secondary alcohols B. Tertiary alcohols C. Dihydric alcohol D. Primary alcohols</p>
<p>1813. 55 In case of oxidation of symmetrical ketone, which of the following products are formed ? A. One Carboxylic acid B. Mixture of different carboxylic acids C. Same type of carboxylic acids D. None of these</p>	<p>1819. 61 During reduction of aldehydes with $NaBH_4$, which of the following intermediate is formed ? A. Carbanion B. Carbocation C. Carbene D. Alkoxide ion</p>
<p>1814. 56 The carbonyl compound which is attached with at least one H atom at one side is called as ____? A. Ketones B. Aldehydes C. Ethers D. Alkyl halides</p>	<p>1820. 62 Which of the following centers are present in the carbonyl compounds? A. Electrophilic B. Nucleophilic C. Electron deficient D. All of these</p>
<p>1815. 57 Which of the following Compound is not reduced by $NaBH_4$? A. Acetaldehyde</p>	<p>1821. 63 During benedict's solution test Brick red precipitates are formed due to formation of ____? A. CuO B. $RCOONa$ C. Cu_2O D. $Cu(OH)_2$</p>

- 1822.** 64 What one is the correct geometry of acetal?
 A. Trigonal
 B. Linear
 C. Tetrahedral
 D. Square planer
- 1823.** 65 Which of the following test can detect presence of both Aldehydes and ketones ?
 A. Tollen's test
 B. Reaction with hydrazine
 C. Reaction with 2,4-dinitrophenylhydrazine
 D. Reaction with Ammonia
- 1824.** 66 Aldehydes and ketones are _____?
 A. Aromatic compounds
 B. Acidic compounds
 C. Carbonyl compounds
 D. Electrophiles
- 1825.** 67 In aldol condensation, nucleophile is _____?
 A. Hydroxyl ion
 B. Carbocation
 C. Carbanion
 D. Water
- 1826.** 68 During preparation of Acetaldehyde from ethanol in laboratory, why acetaldehyde is distilled off quickly after formation?
 A. To avoid decomposition of product
 B. To avoid reduction
 C. To avoid further oxidation to acetic acid
 D. None of these
- 1827.** 69 Reduction of ketones produce _____?
 A. Aldehydes
 B. Methanol
 C. Primary alcohols
 D. Secondary alcohols
- 1828.** 70 Which of the following product is formed when Alcohol is added to acetaldehyde ?
 A. Acetal
 B. Ketal
 C. Carboxylic acid
 D. Alcohol
- 1829.** 71 Condensation involve which of the following reactions?
 A. Elimination + addition
 B. Elimination + Substitution
 C. Addition + substitution
 D. None of these
- 1830.** 72 Nucleophilic addition reactions of carbonyl compounds can be catalyzed by _____?
 A. Acid
 B. Base
 C. Water
 D. Both acid and base
- 1831.** 73 Which of the following is the correct IUPAC name of acetone?
 A. Propanone
 B. 3-Propanone
 C. 2-Butanone
 D. 2-Propanone
- 1832.** 74 40% aqueous solution of formaldehyde is called as _____?
 A. Pharmalin
 B. Paraldehyde
 C. Formamint
 D. Formalin
- 1833.** 75 Formaldehyde is used in vat dyeing as?
 A. Coloring agent
 B. Dehydrating agents
 C. Decolorizing agent
 D. Solubilizing agent
- 1834.** 76 During oxidation of unsymmetrical

ketones which atom is oxidized?

- A. Carbonyl carbon
- B. Carbon attach to smaller number of hydrogen atom
- C. Carbon attach to larger number of Hydrogen atoms
- D. Hydrogen

formalin?

- A. Antiseptic
- B. Disinfectant
- C. Germicide
- D. All of these

1835. 77 Both ketones and aldehyde are present in ____?

- A. Sugars
- B. Menthone
- C. Camphor
- D. Formamint

1841. 83 In nomenclature, aldehyde group in all

aldehydes are given position 1 and its position is

not mentioned in the name because?

- A. Aldehyde is given priority
- B. Aldehyde is parent
- C. Aldehyde group is present at terminal
- D. None of these

1836. 78 Condensation involve which of the following reactions?

- A. Elimination + addition
- B. Elimination + Substitution
- C. Addition + substitution
- D. None of these

1842. 84 Formaldehyde polymerizes to form ?

- A. Bakelite
- B. Paraldehyde
- C. Metaformaldehyde
- D. All of these

1837. 79 Aldol condensation takes place in the presence of ____?

- A. H_2SO_4
- B. $\text{K}_2\text{Cr}_2\text{O}_7$
- C. NaOH
- D. $\text{H}_2\text{O}/\text{H}^+$

1843. 85 What is the general formula of Aldehyde?

- A. RCOR
- B. RCOOR
- C. RCHO
- D. RCOOH

1838. 80 Aldole consist of which functional group?

- A. Aldehyde
- B. Alcohol
- C. Both a and b
- D. Ketone

1844. 86 If both alkyl groups attached to carbonyl in ketone are same then it is called as ____?

- A. Mixed
 - B. Unsymmetrical
 - C. Symmetrical
 - D. None of these
- Chemistry

1839. 81 Which of the following products are formed from cannizzaro reaction?

- A. Aldol product
- B. Alcohol and carboxylate salt
- C. Alcohol and carboxylic acid
- D. Unsaturated reaction

1845. 87 Which of the following product is formed when aldol product is heated?

- A. Rearrangement
- B. Dehydration
- C. Decomposition

1840. 82 Which of the following is the function of



D. All of these	D. Alkyl halides
1846. 88 In case of oxidation of symmetrical ketone, which of the following products are formed ? A. One Carboxylic acid B. Mixture of different carboxylic acids C. Same type of carboxylic acids D. None of these	1852. 94 Phenolic resins are produced by____? A. Formaldehyde B. Acetaldehyde C. Acetone D. Butyraldehyde
1847. 89 Which of the following compound is present in camphor and menthone? A. Aldehyde B. Alcohol C. Esters D. Ketones	1853. 95 Which product is obtained by Distillation of calcium acetate ? A. Acetone B. Acetaldehyde C. Formaldehyde D. Carboxylic acid
1848. 90 In the addition of sodium bisulfite to carbonyl system, which of the following is nucleophile? A. Sulphide ion B. Sulfite ion C. Hydride ion D. Sodium ion	1854. 96 Formalin solution contains how much water? A. 52% B. 8% C. 40% D. 30%
1849. 91 Which of the following Compound is not reduced by NaBH_4 ? A. Acetaldehyde B. Acetone C. Carboxylic acid D. Alkene	1855. 97 The product of the nucleophilic addition of aldehyde and ketones is called as____? A. Alkanolone B. Adduct C. Cyanohydrin D. Nucleophilic product
1850. 92 Distillation of calcium acetate and calcium formate produces ? A. Formaldehyde B. Acetaldehyde C. Acetone D. None of these	1856. 98 Tollen's reagent is ammoniacal solution of____? A. Silver nitrate B. Silver acetate C. Cupric tartrate D. Cupric citrate
1851. 93 The carbonyl compound which is attached with at least one H atom at one side is called as____? A. Ketones B. Aldehydes C. Ethers	1857. 99 Aldol condensation takes place in the presence of ____? A. H_2SO_4 B. $\text{K}_2\text{Cr}_2\text{O}_7$ C. NaOH D. $\text{H}_2\text{O}/\text{H}^+$
	1858. 100 In the reaction of NaBH_4 with

aldehyde and ketones, which of the following act as Nucleophile ?

- A. B^-
- B. H^-
- C. BH_2^-
- D. $NaBH_3^-$

1859 101 Why aldehydes are more reactive than ketones?

- A. Electronic reasons
- B. Steric hindrance
- C. Both a and b
- D. None of these

1860 102 Which of the following reaction takes place when acetone reacts with HCN ?

- A. Electrophilic addition
- B. Nucleophilic elimination
- C. Nucleophilic addition
- D. Electrophilic addition

1861 103 Which color of precipitates are formed when carbonyl compounds react with 1,2-dinitrophenylhydrazine?

- A. Yellow or red
- B. Orange or blue
- C. Green or red
- D. Yellow or orange

1862 104 During catalytic reduction of carbonyl compounds, hydrogen adds across?

- A. $C=C$
- B. $C-H$
- C. $C=O$
- D. All of these

1863 105 Carbonyl system having no alpha hydrogen undergoes _____?

- A. Aldol condensation
- B. Cannizzaro reaction
- C. Haloform reaction
- D. Oxidation reaction

1864 106 Which of the following test is not given by Aldehyde ?

- A. Benedict test
- B. Tollen's test
- C. Nitroprusside test
- D. Fehling's test

1865 107 Bulky ketones do not react with

- A. Sodium bisulphite
- B. HCl
- C. Grignard reagent
- D. HCN

1866 108 Before giving condensation product, ammonia and its derivatives produces _____ when react with carbonyls?

- A. Alcohols
- B. Carboxyl alcohol
- C. Amino alcohol
- D. None of these

1867 109 Acetaldehyde undergoes polymerization with conc. H_2SO_4 and form _____?

- A. Acetylides
- B. Paraldehyde
- C. Bakelite
- D. Meta Acetaldehyde

1868

Carboxylic Acids

How carboxylic acid are formed from alcohol?

- A. Hydrolysis
- B. Reduction
- C. Oxidation
- D. Protonation

1869 2 The reactions of carboxylic acids which involve H atom removal of OH group form _____ as major products in all reactions?

- A. Esters

- B. Nitriles
C. Ketones
D. Salts

- A. CO
B. $\text{CH}_3\text{COOCH}_3$
C. $\text{CH}_3\text{CH}_2\text{COOH}$
D. $\text{CH}_3\text{COOCH}_2\text{CH}_3$

1870. 3 Which of the following is most soluble in water ?

- A. Ethanoic acid
B. Pentanoic acid
C. Hexanoic acid
D. Butanoic acid

1876. 9 Carboxylic acids having long aliphatic chain are called as _____?

- A. Long carboxylic acids
B. Higher carboxylic acids
C. Fatty acids
D. Glycerols

1871. 4 The formation of acid anhydride from carboxylic acid is a _____?

- A. Dehydration reaction
B. Condensation reaction
C. Both a and b
D. None of these

1877. 10 Nucleophilic reactions of carboxylic acids are due to _____?

- A. Presence of OH bond
B. Presence of C-O single bond
C. Presence of C-O double bond
D. None of these

1872. 5 Which of the following properties belong to acetic acid?

- A. colourless liquid, odourless, sour taste
B. bright colour bitter taste
C. colourless solid, sour taste, pungent smell
D. all are incorrect

1878. 11 In Which of the following reaction of carboxylic acids only C=O group involved in bonding and OH group is replaced ?

- A. Reaction of carboxylic acid with NaOH
B. Reaction of carboxylic acids with Carbonate
C. Formation of anhydride
D. Reaction of carboxylic acids with SOCl_2

1873. 6 Which of the following carboxylic acid is used as solvent in the labs ?

- A. Butanoic acid
B. Hexanedioic acid
C. Phthalic acid
D. Acetic acid

1879. 12 Fruity smell of organic compounds is because of _____?

- A. Alcohols
B. Carboxylic acid
C. Ester
D. Acidhalids

1874. 7 Which of the following is a Unsaturated fatty acid?

- A. Palmitic acid
B. Stearic acid
C. Oleic acid
D. Ethanoic acid

1880. 13 Formic acid is obtained from _____?

- A. Apples
B. Butter
C. Ant's sting
D. Foam

1875. 8 Which one of the product is obtained when acetic acid reacts with Ethyl alcohol in the presence of mineral acid ?

1881. 14 When two carboxylic acids are

strongly heated in the presence of P_2O_5 , which product is formed ? A. Acid halides B. Dimer C. Acid anhydride D. None of these	Carbon Dioxide with sodium bicarbonate? A. CH_3COOCH_3 B. CH_3CH_2OH C. CH_3CH_2COOH D. $CH_3COOOCH_3$
1882 15 From which of the following sources acetic acid was first isolated ? A. Butter B. Milk C. Cheese D. Vinegar	1888 21 Carboxylic acids are produced by the oxidation of ____ ? A. Alcohol B. Aldehyde C. Ketone D. All of these
1883 16 How carboxylic acid are formed from alcohol? A. Hydrolysis B. Reduction C. Oxidation D. Protonation	1889 22 Which of the following is correct general formula of aliphatic carboxylic acid ? A. $RCOOH$ B. $ArCOOH$ C. $PhCOOH$ D. None of these
1884 17 The reactions of carboxylic acids which involve H atom removal of OH group form ____ as major products in all reactions? A. Esters B. Nitriles C. Ketones D. Salts	1890 23 What is the boiling point of acetic acid ? A. $120^\circ C$ B. $118^\circ C$ C. $110^\circ C$ D. $87^\circ C$
1885 18 Which of the following is most soluble in water ? A. Ethanoic acid B. Pentanoic acid C. Hexanoic acid D. Butanoic acid	1891 24 Which of the following derivative of carboxylic acid is used as flavoring agent ? A. Acid halides B. Acid carbonyls C. Esters D. Acid amides
1886 19 The formation of acid anhydride from carboxylic acid is a ____ ? A. Dehydration reaction B. Condensation reaction C. Both a and b D. None of these	1892 26 Carboxylic acids are formed by the hydrolysis of ____ ? A. Ester, Nitriles B. Nitriles, amines C. Alkenes, Alkynes D. Esters, Alcohols
1887 20 Which of the following evolve	

1893. 27 Freezing point of acetic acid;

- A. 16.6°C
- B. 18°C
- C. -20°C
- D. 10°C

1894. 28 Polyvinyl acetate is polymer of ____?

- A. Acetyl acetate
- B. Vinyl acetate
- C. Chloro acetate
- D. Benzyl acetate

1895. 29 Nucleophilic reactions of carboxylic acids are due to ____?

- A. Presence of OH bond
- B. Presence of C-O single bond
- C. Presence of C-O double bond
- D. None of these

1896. 30 Which functional group does amino acid contains;

- A. carbonyl group
- B. ester and alkyl halide
- C. carboxylic acid
- D. carboxylic acid and amine functionality

1897. 31 Which of the following is an example of aromatic carboxylic acid?

- A. Ethanoic acid
- B. Butanoic acid
- C. Adipic acid
- D. Phthalic acid

1898. 32 Which one of the following is the formula of stearic acid?

- A. $C_{17}H_{33}COOH$
- B. $C_{17}H_{35}COOH$
- C. C_7H_3COOH
- D. $C_{15}H_{30}COOH$

1899. 33 Formic acid is obtained from ____?

- A. Apples
- B. Butter
- C. Ant's sting

D. Foam

1900. 34 Which of the following is correct general formula of aliphatic carboxylic acid ?

- A. $RCOOH$
- B. $ArCOOH$
- C. $PhCOOH$
- D. None of these

1901. 35 Which of the following acid is used a coagulant for latex in the rubber industry ?

- A. Acetic acid
- B. Butyric acid
- C. Propanoic acid
- D. All of these

1902. 36 Which of the following is weaker acid?

- A. HCl
- B. H_2SO_4
- C. CH_3COOH
- D. H_3PO_4

1903. 37 Which of the following is not a derivative of carboxylic acid?

- A. Alkyl Halide
- B. Acetamide
- C. Ester
- D. Anhydride

1904. 38 Which of the following is an example of Tricarboxylic acids ?

- A. Maleic acid
- B. Citric acid
- C. Butyric acid
- D. None of these

1905. 39 Which of the carboxylic acid is used in medicine as local irritant;

- A. formic acid
- B. acetic acid
- C. benzoic acid
- D. amino acid

- | | |
|--|---|
| <p>1906 40 Which of the carboxylic acid in diluted form is used as vinegar?</p> <p>A. Formic acid
B. acetic acid
C. benzoic acid
D. amino acid</p> | <p>from alcohol?</p> <p>A. Hydrolysis
B. Reduction
C. Oxidation
D. Protonation</p> |
| <p>1907 41 Which of the following does not contain COOH group?</p> <p>A. Acetone
B. Propanoic acid
C. Formic acid
D. Picric acid</p> | <p>1913 48 Which of the following acid is used a coagulant for latex in the rubber industry ?</p> <p>A. Acetic acid
B. Butyric acid
C. Propanoic acid
D. All of these</p> |
| <p>1908 42 Acetaldehyde oxidation will lead to formation of</p> <p>A. Acetic acid
B. Butanoic acid
C. Propanoic acid
D. Ester</p> | <p>1914 49 Flavour of Orange is due to the presence of _____ ester?</p> <p>A. Benzyl acetate
B. Octyl Acetate
C. Amyl Butyrate
D. Ethyl butyrate</p> |
| <p>1909 43 Which of the carboxylic acid in diluted form is used as vinegar?</p> <p>A. Formic acid
B. acetic acid
C. benzoic acid
D. amino acid</p> | <p>1915 50 ethanenitrile gives acetic acid through;</p> <p>A. Formamide
B. Acetamide
C. Benzoic acid
D. Acetaldehyde</p> |
| <p>1910 45 On reacting with which of the following carboxylic acids produce CO₂?</p> <p>A. Carbonate
B. Bicarbonate
C. Bisulphites
D. Both a and b</p> | <p>1916 51 Reduction of ethanoic acid with LiAlH₄ produces _____?</p> <p>A. Propanol
B. Ethanal
C. Ethanol
D. Ethane</p> |
| <p>1911 46 The reactions of carboxylic acids which involve H atom removal of OH group form _____ as major products in all reactions?</p> <p>A. Esters
B. Nitriles
C. Ketones
D. Salts</p> | <p>1917 52 Which of the following group is present in carboxylic acids?</p> <p>A. a carboxyl group
B. a hydroxyl group
C. a hydroxyl and carboxyl group
D. a carbonyl and aldehyde group</p> |
| <p>1912 47 How carboxylic acid are formed</p> | <p>1918 53 2-hydroxy propanoic acid is also called as _____?</p> <p>A. Stearic acid</p> |

- B. Butyric acid
C. Maleic acid
D. Lactic acid

presence of _____ ester?

- A. Benzyl acetate

- C. Amyl Butyrate

- D. Ethyl butyrate

1919. 54 In IUPAC nomenclature, Carboxylic acids are named as _____?

- A. Alkoxy acid
B. Alkanoic acid
C. Alkyl carboxylic acid
D. Alkoxylate acid

1926. 61 Boiling point of carboxylic acids are high due to?

- A. Polarity of carbonyl group
B. Due to methyl group
C. Due to H-Bonding
D. Due London forces

1920. 55 Which of the following does not contain COOH group?

- A. Acetone
B. Propanoic acid
C. Formic acid
D. Picric acid

1927. 62 Butyric acid is derived from the word butyrum which means _____?

- A. Milk
B. Butter
C. Cheese
D. None of these

1921. 56 Acetic acid is also named as _____?

- A. Propanoic acid
B. Butanoic acid
C. Ethanoic acid
D. Methanoic acid

1928. 63 Which type of carboxylic acid is produced from the hydrolysis of nitriles?

- A. Beta-hydroxy carboxylic acids
B. Acids having one carbon more than the starting material
C. Acids having one carbon less than the starting material
D. Alpha-hydroxy acids

1922. 57 On reacting with which of the following carboxylic acids produce CO₂?

- A. Carbonate
B. Bicarbonate
C. Bisulphites
D. Both a and b

1929. 64 Solubility of carboxylic acids _____?

- A. Decreases with increase of volume
B. Decreases with increase in molecular mass
C. Increases with increase in molecular mass
D. None of these

1923. 58 Which of the following group is present in carboxylic acids?

- A. a carboxyl group
B. a hydroxyl group
C. a hydroxyl and carboxyl group
D. a carbonyl and aldehyde group

1930. 65 How acetic acid is commercially synthesized;

- A. from acetylene hydrogenation
B. from oxidation of ethyl alcohol
C. from oxidation of benzaldehyde
D. all of these

1924. 59 Acetic acid is soluble in;

- A. Water, Alcohol, Ether
B. HCl, HBr, HI
C. Bromine water
D. All of these

1925. 60 Flavour of Orange is due to the



- 1931.** 66 Which of the following is correct general formula of aliphatic carboxylic acid ?
 A. RCOOH
 B. ArCOOH
 C. PhCOOH
 D. None of these
- 1932.** 67 Which of the following derivative of carboxylic acid is used as flavoring agent ?
 A. Acid halides
 B. Acid carbonyls
 C. Esters
- 1933.** 68 Acetic acid can be used in _____ ?
 A. In synthesizing pickles
 B. In paints
 C. In pesticides
 D. all of these
- 1934.** 69 Which of the carboxylic acid is used in medicine as local irritant;
 A. formic acid
 B. acetic acid
 C. benzoic acid
 D. amino acid
- 1935.** 70 Reagent like $\text{K}_2\text{Cr}_2\text{O}_7$ and H_2SO_4 lead to _____ ?
 A. Reduction
 B. Hydrolysis
 C. Dehydration
 D. Oxidation
- 1936.** 71 Acetic acid is used in making _____ ?
 A. Neoprene
 B. Chloroprene
 C. Silk
 D. Polystyrene
- 1937.** 72 Carboxylic acid reduction to alcohol can be achieved by using?
 A. H_2/Ni
 B. Pd/C
 C. NaBH_4
 D. LiAlH_4
- 1938.** D. Both a and c
 73 What is the boiling point of acetic acid ?
 A. 120°C
 B. 118°C
 C. 110°C
 D. 87°C
- 1939.** 74 Which of the following acid is used a coagulant for latex in the rubber industry ?
 A. Acetic acid
 B. Butyric acid
 C. Propanoic acid
 D. All of these
- 1940.** 75 Reduction of carboxylic acids into alkanes in the presence of HI/P , COOH is reduced to _____ ?
 A. CH_4
 B. C_2H_6
 C. CH_2
 D. None of these
- 1941.** 76 Alcohol oxidation gives carboxylic acid through
 A. Amide
 B. Carbonic acid
 C. Ketone
 D. Aldehyde
- 1942.** 77 Which of the following can not be prepared directly from acetic acid ?
 A. Ethyl acetate
 B. Acetamide
 C. Acetyl Halide
 D. Acetic anhydride
- 1943.** 78 On reacting with metals carboxylic acid produces which of the following products ?
 A. Salt + water

- B. Salt
C. Salt + H₂ gas
D. Salt + Alcohol
- 1944.** 79 Reaction of carboxylic acids with base is a _____ reaction ?
A. Neutralization
B. Esterification
C. Oxidation
D. All of these
- 1945.** 80 Which of the following flavour is due to Amyl acetate ?
A. Jasmine
B. Pineapple
C. Banana
D. Orange
- 1946.** 81 Propanoic acid is produced when _____?
A. Methyl MgBr react with CO₂
B. Isopropyl MgBr react with CO₂
C. Ethyl MgBr react with CO₂
D. Propyl MgBr react with CO₂
- 1947.** 82 Freezing point of acetic acid;
A. 16.6°C
B. 18°C
C. -20°C
D. 10°C
- 1948.** 83 Which of the following is not a derivative of carboxylic acid?
A. Alkyl Halide
B. Acetamide
C. Ester
D. Anhydride
- 1949.** 84 Carboxylic acids are produced by the oxidation of _____?
A. Alcohol
B. Aldehyde
C. Ketone
D. All of these
- 1950.** 85 Carboxylic acids form dimer due to _____?
A. Small sizes
B. Polarity of C-O bond
C. H-bonding
D. Dipole-Dipole interactions
- 1951.** 86 Carboxylic acids are formed by the hydrolysis of _____?
A. Ester, Nitriles
B. Nitriles, amines
C. Alkenes, Alkynes
D. Esters, Alcohols
- 1952.** 87 What is the hybridization of carbon in -COOH group?
A. sp²
B. sp³
C. sp
D. None of these
- 1953.** 88 Which of the following evolve Carbon Dioxide with sodium bicarbonate?
A. CH₃COOCH₃
B. CH₃CH₂OH
C. CH₃CH₂COOH
D. CH₃COOCH₃
- 1954.** 89 Which of the following is an example of Tricarboxylic acids ?
A. Maleic acid
B. Citric acid
C. Butyric acid
D. None of these
- 1955.** 90 On Hydrolysis with dilute HCl, ethanenitrile gives acetic acid through;
A. Formamide
B. Acetamide
C. Benzoic acid
D. Acetaldehyde
- 1956.** 91 Which one of the following is common name of Butanoic acid ?
A. Butyric acid

- B. Barbaric acid
C. Iso-butyric acid
D. Iso-Barbaric acid

D. One

1957. 92 Oxidative cleavage of alkenes takes place in the presence of ____?

- A. Acidic cold KMnO_4
B. Warm Acidic KMnO_4
C. Warm alkaline KMnO_4
D. Alkaline cold KMnO_4

1963. 98 Polyvinyl acetate is polymer of ____?

- A. Acetyl acetate
B. Vinyl acetate
C. Chloro acetate
D. Benzyl acetate

1958. 93 Which one of the following is the formula of stearic acid?

- A. $\text{C}_{17}\text{H}_{33}\text{COOH}$
B. $\text{C}_{17}\text{H}_{35}\text{COOH}$
C. $\text{C}_7\text{H}_3\text{COOH}$
D. $\text{C}_{15}\text{H}_{30}\text{COOH}$

1964. 99 Which of the following acid solution is used for the seasoning of food?

- A. Butyric acid
B. Phthalic acid
C. Lactic acid
D. Acetic acid

1959. 94 Acetaldehyde oxidation will lead to formation of

- A. Acetic acid
B. Butanoic acid
C. Propanoic acid
D. Ester

1965. 100 In aromatic carboxylic acids $-\text{COOH}$ group is named as ____?

- A. Substituent
B. Parent
C. Benzoic acid
D. Both b and c

1960. 95 What is the IUPAC name of; $\text{ClCH}_2\text{CH}_2\text{COOH}$?

- A. 3-Chloropropanoic acid
B. 2-Chloropropanoic acid
C. 2-Chloro-1-propanoic acid
D. Propyl carboxylic acid chloride

1966. 101 Rayon is ____?

- A. Acetyl chloride
B. Alkene
C. Alkyne
D. Acetic acid

1961. 96 The compounds having $-\text{COOH}$ group are called as ____?

- A. Aldehydes
B. Ketones
C. Carboxylic acids
D. Alcohols

1967. 102 When ethyl alcohol is oxidized with potassium dichromate, which product is formed?

- A. Acetic acid
B. Butanoic acid
C. Benzoic acid
D. No reaction takes place

1962. 97 In a carboxylic acid dimer how many H-bonds are present?

- A. Three
B. Two
C. Five

1968. 103 Which of the following is an example of Monocarboxylic acid?

- A. Oxalic acid
B. Methanoic acid
C. Glutaric acid
D. Adipic acid

1969. 104 Which of the carboxylic acid in diluted form is used as vinegar?

- A. Formic acid

B. acetic acid C. benzoic acid D. amino acid	A. Red litmus blue B. Blue litmus red C. Neutral to litmus D. No effect
1970. 105 Which of the following ester give Jasmine Flavour ? A. Ethyl acetate B. Octyl Acetate C. Amyl Butyrate D. Benzyl Acetate	1977. 112 Which one of the following is not an example of fatty acid? A. Palmitic acid B. Stearic acid C. Acetic acid D. Linolenic acid
1971. 106 Carboxylic acids turn ? A. Red litmus blue B. Blue litmus red C. Neutral to litmus D. No effect	1978. 113 Acetic acid derived from the word 'Acetum' which means _____ ? A. Acetic acid B. Bitter C. Citric D. Vinegar
1972. 107 Which one of the following is not an example of fatty acid? A. Palmitic acid B. Stearic acid C. Acetic acid D. Linolenic acid	1979. 114 Which of the following causes complete reduction of carboxylic acid into alkanes? A. H_2/Ni B. Pd/C C. HI/P D. $LiAlH_4$
1973. 108 Acetic acid derived from the word 'Acetum' which means _____ ? A. Acetic acid B. Bitter C. Citric D. Vinegar	1980. 115 By which of the following way acetamide can be prepared? A. Hydrolysis of ethyl chloride B. Heating methyl cyanide C. Heating ammonium acetate D. Heating ethyl acetate
1974. 109 Which of the following are soluble in water? A. Small alcohols B. Small carboxylic acids C. Acetone D. Butane	1981. 116 In a carboxylic acid dimer, how many oxygens are present in the ring? A. 4 B. 2 C. 3 D. 5
1975. 110 Which of the following ester give Jasmine Flavour ? A. Ethyl acetate B. Octyl Acetate C. Amyl Butyrate D. Benzyl Acetate	1982. 117 Which of the following method is used to prepare acetic acid ? A. Distillation B. Fermentation
1976. 111 Carboxylic acids turn ?	

C. Dehydration D. Ozonolysis	A. Gelatine B. Cheese C. Albumin D. Gelly
1983 118 In benzene, carboxylic acids exist as ____? A. Polymers B. Dimers C. Individually D. Trimers	1989 3 Urease is present in: A. Yeast B. Grapes C. Soya sauce D. Soya bean
1984 119 Which of the following catalyst is used for the preparation of acidic anhydrides? A. $K_2Cr_2O_7$ B. P_2O_5 C. H^+/H_2O D. H_2SO_4	1990 4 Casein is used in manufacturing of ____. A. Buttons & buckles B. Tanning of leather C. Gelatin D. Bakery goods
1985 120 Which of the following is a carboxylic acid derivative? A. Alcohol B. Acetic acid C. Acyl halide D. Methyl halide	1991 5 Albumin is present in ____? A. Milk B. Eggs C. Beans D. Muscles
1986 121 When two carboxylic acids are strongly heated in the presence of P_2O_5 , which product is formed? A. Acid halides B. Dimer C. Acid anhydride D. None of these	1992 6 Proteins are _____ in structure? A. Two dimensional B. Three dimensional C. Uni-dimensional D. None of these
1987 Macromolecules The substance that is attached to the enzyme at specific place and converted into product is called as? A. Co-factor B. Iso-zyme C. Active site D. Substrate	1993 7 Carboxylase are example of which type of enzyme: A. Hydrolases B. Lyases C. Transferases D. Ligases
1988 2 Which of the following is produced by heating of bones?	1994 8 Enzymes that catalyze hydrolysis: A. Oxidoreductase B. Hydrolases C. Ligases D. Transferases
	1995 9 Lactoglobulin a simple protein is found in muscles as well as in ____

too.

- A. Fish
- B. Liver
- C. Brain
- D. Plants

1996. 10 On heating egg albumin____?

- A. Solubilize
- B. Decompose
- C. Over cook
- D. Coagulate

1997. 11 Enzymes are ____?

- A. Non-specific in action
- B. Very reactive
- C. Highly specific
- D. Volatile

1998. 12 NAD contains which vitamin as cofactor.

- A. B1
- B. B2
- C. C
- D. B3

1999. 13 After digestion proteins change into:

- A. Amino acids
- B. Starch
- C. Glycogen
- D. Lipids

2000. 14 In which of the following body part protein is not present ?

- A. Skin
- B. Hair
- C. Nails
- D. Bones

2001. 15 Nucleoprotein are____ proteins which transfer heredity information from one generation to other.

- A. Transport proteins
- B. Structural proteins
- C. Genetic proteins
- D. Regulatory proteins

2002. 16 Protein is a polymer of____?

- A. Nitrogen atoms
- B. Amino acids
- C. Glucose
- D. Nitrogenous base

2003. 17 Tetra ethyl addition to petrol is example of:

- A. Positive catalysis
- B. Negative catalysis
- C. Both a & b
- D. None

2004. 18 Globulins protein upon hydrolysis yield amino acids or their derivatives, so they belong to which type of protein

- A. Derived proteins
- B. Compound proteins
- C. Conjugated proteins
- D. Simple proteins

2005. 19 Regular coiling & twisting of polypeptide chain caused by H-bonding in between NH & CO occurs in ____.

- A. Primary structure
- B. Secondary structure
- C. Tertiary structure
- D. Quaternary structure

2006. 20 The substances which reduces the activity of enzyme action are called as____?

- A. Reducers
- B. Activators
- C. Promoters
- D. Inhibitors

2007. 21 Which enzyme is raised in rickets:

- A. Alkaline phosphatase
- B. LDH-1
- C. Acidic phosphatase
- D. None

2008. 22 The specific site at which substrate is attached on the enzyme and

converted into product is called as__?

- A. Reaction site
- B. Active site
- C. Binding site
- D. None of these

- C. Beta radiation
- D. Optimum pH

2009. 23 _____ enzyme catalyses the conversion of hexoses to 6- phosphate derivatives.

- A. Hexokinase
- B. Glucokinase
- C. Fructokinase
- D. Malonic acid

2015. 29 The enzyme which is used in treatment of cancer in children?

- A. Thrombin
- B. L- asparaginase
- C. Both
- D. None of these

2010. 24 Three dimensional folding of polypeptide chain results in formation of_____.

- A. Primary structure
- B. Secondary structure
- C. Tertiary structure
- D. Quaternary structure

2016. 30 Which enzyme causes the hydrolysis of fats ?

- A. Urease
- B. Lipase
- C. Maltase
- D. Protease

2011. 25 Optimum pH of salivary amylase is:

- A. 7-7.5
- B. 6-6.5
- C. 6.4-6.9
- D. 6.3-6.7

2017. 31 Hemoglobin is example of which protein.

- A. Transport proteins
- B. Structural proteins
- C. Genetic proteins
- D. Regulatory proteins

2012. 26 Albumin is water _____?

- A. Soluble
- B. Insoluble
- C. Slightly soluble
- D. Highly insoluble

2018. 32 Non protein part which is conjugated with protein is called_____.

- A. Coenzyme
- B. Co-factor
- C. Prosthetic group
- D. None

2013. 27 What is the Optimum temperature for working of enzyme in human body?

- A. 40°C
- B. 35°C
- C. 37°C
- D. 32°C

2019. 33 LDH-1 is raised in which disease:

- A. Rickets
- B. Anemia
- C. Heart disorders
- D. Stroke

2014. 28 Which of the following causes the inactivation of enzymes _____?

- A. Concentration of substrate
- B. Optimum temperature

2020. 34 Amino acids in proteins are held together by:

- A. Peptide bond
- B. Phosphodiester linkage
- C. H-bonding
- D. Ether linkage

2021. 35 In nature fatty acids occur as _____ of glycerol?

<p>A. Acid halides B. Binary compounds C. Esters D. Alkanes</p>	<p>B. DNA C. Coenzyme D. None</p>
<p>2022 36 Proteases enzyme & peptones belong to which type of protein? A. Simple protein B. Derived proteins C. Conjugated proteins D. All of these</p>	<p>2028 42 Activator of phosphatase enzyme is _____. A. Mn^{2+} B. Mg^{2+} C. Zn^{2+} D. None of these</p>
<p>2023 37 Enzymes that catalyze the addition of ammonia, water or carbon dioxide to double bond or their removal are called _____. A. Lyases B. Hydrolases C. Ligases D. Transferases</p>	<p>2029 43 Enzymes speed up the reaction upto: A. 10^{10} B. 20^{10} C. 10^{20} D. 15^{10}</p>
<p>2024 38 Globulin proteins are found in: A. Animals B. Plants C. Human beings D. None</p>	<p>2030 44 Which enzyme is used for diagnosis of jaundice? A. LDH-1 B. Protease C. Alkaline phosphatase D. None of these</p>
<p>2025 39 Left handed helix in proteins secondary structure is called as ____? A. Alpha helix B. Beta helix C. Spiral D. Concentrate</p>	<p>2031 45 High molecular mass organic compounds, upon hydrolysis yield amino acids are called _____. A. Carbohydrates B. Lipids C. Proteins D. DNA</p>
<p>2026 40 Enzymes which bring about exchange of functional group is called _____. A. Oxidoreductase B. Hydrolases C. Ligases D. Transferases</p>	<p>2032 46 Disruption of the protein structure by heating, changing and by chemicals is called as ____? A. Coagulation B. Dehydration C. Denaturation D. None of these</p>
<p>2027 41 metallic organic molecule & sometimes _____. A. Vitamins</p>	<p>2033 47 Isoenzymes comes from ____? A. Same sources B. Different organisms C. Same organisms D. None of these</p>

2034. 48 Which of the following element is not usually present in all proteins?

- A. Carbon
- B. Hydrogen
- C. Nitrogen
- D. Sulphur

2035. 49 Proteases enzyme are example of:

- A. Lyases
- B. Hydrolases
- C. Ligases
- D. Transferases

2036. 50 The sequence of amino acids combined in a peptide chain is called_____.

- A. Primary structure
- B. Secondary structure
- C. Tertiary structure
- D. Quaternary structure

2037. 51 On which of the following factors rate of enzyme action is directly proportional ?

- A. Concentration of products
- B. Time
- C. Concentration of substrate
- D. Concentration of solvent

2038. 52 Phospho-glyceromutases are example of:

- A. Lyases
- B. Hydrolases
- C. Ligases
- D. Transferases

2039. 53 Which of the following element is present in all proteins ?

- A. S
- B. C
- C. N
- D. O

2040. 54 Enzymes are ____ in nature.

- A. Proteins

B. Carbohydrates

C. Lipids

D. Nucleic acid

2041. 55 A peptide having up to 10000 amino acids is called as_____?

- A. Dipeptide
- B. Protein
- C. Polypeptide
- D. Peptide

2042. 56 The temperature at which enzyme activity is maximum is called as____?

- A. Maximum temperature
- B. Absolute temperature
- C. Critical temperature
- D. Optimum temperature

2043. 57 Enzymes are also called as____?

- A. Catalyst
- B. Lipoproteins
- C. Conjugated molecules
- D. Biocatalyst

2044. 58 Dehydrogenase is example of which class of enzyme.

- A. Oxidoreductase
- B. Hydrolases
- C. Ligases
- D. Transferases

2045. 59 The specific site at which substrate is attached on the enzyme and converted into product is called as____?

- A. Reaction site
- B. Active site
- C. Binding site
- D. None of these

2046. 60 Protein component of enzyme is called_____.

- A. Coenzyme
- B. Cofactor
- C. Apo-enzyme
- D. Prosthetic group

<p>2047. 61 Catalytic activity of enzyme is enhanced by:</p> <p>A. Activator B. Coenzyme C. Co-factor D. Both A and B</p>	<p>A. Runge B. MaxWell C. Staudinger D. None of these</p>
<p>2048. 62 Which of the following element is present in all proteins ?</p> <p>A. S B. C C. N D. O</p>	<p>2054. 68 Most of the enzyme reactions are____?</p> <p>A. Reversible B. Irreversible C. Condensation D. Oxidation</p>
<p>2049. 63 Most abundant protein in animals forming 25%-35% of body protein is which type of protein?</p> <p>A. Simple proteins B. Conjugated proteins C. Derived proteins D. None</p>	<p>2055. 69 If temperature of reaction medium increases above optimum temperature then____?</p> <p>A. It increases the enzyme activity B. Stops the reaction C. Decreases the enzyme activity D. Both b and c</p>
<p>2050. 64 Isoenzymes catalyze____?</p> <p>A. Catalyze different reaction B. Catalyze same reaction C. Catalyze any reaction D. Catalyze reactions that are from different reactions</p>	<p>2056. 70 _____ enzyme catalyses the conversion of hexoses to 6- phosphate derivatives.</p> <p>A. Hexokinase B. Glucokinase C. Fructokinase D. Malonic acid</p>
<p>2051. 65 Activator of carbonic anhydrase enzyme is_____.</p> <p>A. Mn^{2+} B. Mg^{2+} C. Zn^{2+} D. None of these</p>	<p>2057. 71 The temperature at which enzyme activity is maximum is called as____?</p> <p>A. Maximum temperature B. Absolute temperature C. Critical temperature D. Optimum temperature</p>
<p>2052. 66 The hydrolysis of urea is catalyzed by:</p> <p>A. Amylase B. Urease C. Pectin D. None</p>	<p>2058. 72 Masses of enzymes is between____?</p> <p>A. Thousands B. Millions C. Hundreds D. Billions</p>
<p>2053. 67 Who introduce the concept of macromolecules?</p>	<p>2059. 73 The substance that is attached to the enzyme at specific place and converted into product is called as?</p> <p>A. Co-factor</p>

- B. Iso-zyme
- C. Active site
- D. Substrate

2060. 74 When product formed act as a catalyst phenomena is called:

- A. Biocatalyst
- B. Autocatalysis
- C. Heterocatalysis
- D. Homocatalysis

2061. 75 Dehydrogenase is example of which class of enzyme.

- A. Oxidoreductase
- B. Hydrolases
- C. Ligases
- D. Transferases

2062. 76 Which enzyme causes the hydrolysis of fats ?

- A. Urease
- B. Lipase
- C. Maltase
- D. Protease

2063. 77 Sucrose is converted into glucose & fructose by:

- A. Invertase
- B. Urease
- C. Glycolysis
- D. None

2064. 78 Which one of the following in correct molecular mass of protein ?

- A. 9000
- B. Less than 10000
- C. 10000
- D. More than 10000

2065. 79 Left handed helix in proteins secondary structure is called as ____?

- A. Alpha helix
- B. Beta helix
- C. Spiral
- D. Concentrate

2066. 80 Phospho-glyceromutases are example of:

- A. Lyases
- B. Hydrolases
- C. Ligases
- D. Transferases

2067. 81 The name protein is derived from _____ word proteios meaning _____.

- A. Greek, Important.
- B. French, Prime Importance
- C. Greek, Functional
- D. Greek, Prime Importance

2068. 82 Which enzyme is used for diagnosis of Jaundice ?

- A. LDH-1
- B. Protease
- C. Alkaline phosphatase
- D. None of these

2069. 83 Protein is a polymer of _____?

- A. Nitrogen atoms
- B. Amino acids
- C. Glucose
- D. Nitrogenous base

2070. 84 The enzyme which is used in treatment of cancer in children?

- A. Thrombin
- B. L- asparaginase
- C. Both
- D. None of these

2071. 85 The temperature at which enzyme activity is maximum is called as ____?

- A. Maximum temperature
- B. Absolute temperature
- C. Critical temperature
- D. Optimum temperature

2072. 86 Three dimensional folding of polypeptide chain results in formation of ____.

- A. Primary structure

B. Secondary structure C. Tertiary structure D. Quaternary structure	C. Apo-enzyme D. Prosthetic group
2073. 87 NAD contains which vitamin as cofactor. A. B1 B. B2 C. C D. B3	2079. 93 Enzymes that catalyze hydrolysis: A. Oxidoreductase B. Hydrolases C. Ligases D. Transferases
2074. 88 The specific site at which substrate is attached on the enzyme and converted into product is called as___? A. Reaction site B. Active site C. Binding site D. None of these	2080. 94 In nature fatty acids occur as ____ of glycerol? A. Acid halides B. Binary compounds C. Esters D. Alkanes
2075. 89 Non- protein part co- factor includes organic & metallic organic molecule & sometimes____. A. Vitamins B. DNA C. Coenzyme D. None	2081. 95 The specific site at which substrate is attached on the enzyme and converted into product is called as___? A. Reaction site B. Active site C. Binding site D. None of these
2076. 90 In a reaction having both alkyl halide and base, the base will attack on____? A. Electrophilic carbon B. Nucleophilic carbon C. beta-hydrogen D. None of these	2082. 96 Masses of enzymes is between____? A. Thousands B. Millions C. Hundreds D. Billions
2077. 91 When a molten salt is electrolyzed the products are A. Complex B. Predictable C. Unpredictable D. All of these	2083. 97 The name protein is derived from _____ word proteios meaning____. A. Greek, Important. B. French, Prime Importance C. Greek, Functional D. Greek, Prime Importance
2078. 92 Protein component of enzyme is called____. A. Coenzyme B. Cofactor	2084. 98 Which of the following element is not usually present in all proteins? A. Carbon B. Hydrogen C. Nitrogen D. Sulphur
	2085. 99 Non- protein part co- factor includes organic & metallic organic molecule &

sometimes_____.

- A. Vitamins
- B. DNA
- C. Coenzyme
- D. None

- A. Coagulation
- B. Dehydration
- C. Denaturation
- D. None of these

2086. 100 If temperature of reaction medium increases above optimum temperature then_____?

- A. It increases the enzyme activity
- B. Stops the reaction
- C. Decreases the enzyme activity
- D. Both b and c

2092. 106 A peptide having up to 10000 amino acids is called as_____?

- A. Dipeptide
- B. Protein
- C. Polypeptide
- D. Peptide

2087. 101 Enzymes which bring about exchange of functional group is called_____.

- A. Oxidoreductase
- B. Hydrolases
- C. Ligases
- D. Transferases

2093. 107 Nucleoprotein are_____ proteins which transfer heredity information from one generation to other.

- A. Transport proteins
- B. Structural proteins
- C. Genetic proteins
- D. Regulatory proteins

2088. 102 Glucose is converted into ethanol by the _____ enzyme present in yeast.

- A. Invertase
- B. Urease
- C. Glycolysis
- D. Zymase

2094. 108 The substance that is attached to the enzyme at specific place and converted into product is called as?

- A. Co-factor
- B. Iso-zyme
- C. Active site
- D. Substrate

2089. 103 Hemoglobin is example of which protein.

- A. Transport proteins
- B. Structural proteins
- C. Genetic proteins
- D. Regulatory proteins

2095. 109 Which of the following is produced by heating of bones?

- A. Gelatine
- B. Cheese
- C. Albumin
- D. Gelly

2090. 104 Which enzyme is raised in rickets:

- A. Alkaline phosphatase
- B. LDH-1
- C. Acidic phosphatase
- D. None

2096. 110 Urease is present in:

- A. Yeast
- B. Grapes
- C. Soya sauce
- D. Soya bean

2091. 105 Disruption of the protein structure by heating, changing and by chemicals is called as_____?

2097. 111 Casein is used in manufacturing of _____.

- A. Buttons & buckles
- B. Tanning of leather

C. Gelatin D. Bakery goods	C. Five D. Two
2098. 112 Protein part attached with non-protein part in enzymes belongs to which class of proteins? A. Simple B. Conjugated/compound C. Derived D. All of these	2103. 117 Proteins are _____ in structure ? A. Two dimensional B. Three dimensional C. Uni-dimensional D. None of these
2099. 113 Glucose is converted into ethanol by the _____ enzyme present in yeast. A. Invertase B. Urease C. Glycolysis D. Zymase	2104. 118 Carboxylase are example of which type of enzyme: A. Hydrolases B. Lyases C. Transferases D. Ligases
2100. 114 Fumaric acid is converted into _____ in the presence of fumarase enzyme. A. Oxalic acid B. Phthalic acid C. Maleic acid D. Malonic acid	2105. 119 Enzymes that catalyze hydrolysis: A. Oxidoreductase B. Hydrolases C. Ligases D. Transferases
2101. 115 Denaturing of protein is _____ process. A. Reversible B. Irreversible C. Equilibrium D. all of these	2106. 120 On heating egg albumin _____? A. Solubilize B. Decompose C. Over cook D. Coagulate
2102. 116 How many classes of enzymes are there according to International union of Biochemistry ? A. Four B. Six	

Solution

1.	D	39.	C	77.	B	115.	d	153.	D	191.	C	229.	C	267.	D
2.	D	40.	C	78.	A	116.	b	154.	C	192.	B	230.	B	268.	C
3.	C	41.	D	79.	A	117.	C	155.	B	193.	A	231.	B	269.	C
4.	D	42.	D	80.	D	118.	D	156.	B	194.	D	232.	A	270.	A
5.	C	43.	B	81.	C	119.	C	157.	A	195.	C	233.	B	271.	A
6.	D	44.	B	82.	C	120.	D	158.	C	196.	C	234.	C	272.	C
7.	B	45.	b	83.	B	121.	B	159.	A	197.	B	235.	C	273.	C
8.	D	46.	C	84.	C	122.	C	160.	b	198.	D	236.	B	274.	A
9.	C	47.	D	85.	B	123.	D	161.	C	199.	B	237.	B	275.	A
10.	C	48.	B	86.	D	124.	C	162.	B	200.	B	238.	C	276.	A
11.	D	49.	A	87.	B	125.	C	163.	B	201.	C	239.	B	277.	B
12.	B	50.	A	88.	B	126.	B	164.	C	202.	C	240.	C	278.	B
13.	D	51.	C	89.	C	127.	D	165.	D	203.	B	241.	A	279.	C
14.	D	52.	B	90.	C	128.	D	166.	D	204.	B	242.	A	280.	B
15.	D	53.	B	91.	d	129.	C	167.	B	205.	A	243.	A	281.	C
16.	B	54.	c	92.	D	130.	B	168.	B	206.	D	244.	B	282.	D
17.	A	55.	B	93.	D	131.	C	169.	B	207.	B	245.	B	283.	B
18.	D	56.	B	94.	A	132.	C	170.	C	208.	C	246.	B	284.	B
19.	C	57.	D	95.	B	133.	C	171.	D	209.	D	247.	A	285.	B
20.	B	58.	C	96.	B	134.	D	172.	C	210.	D	248.	D	286.	C
21.	D	59.	B	97.	B	135.	C	173.	D	211.	D	249.	D	287.	C
22.	B	60.	D	98.	C	136.	D	174.	A	212.	B	250.	C	288.	B
23.	C	61.	C	99.	C	137.	D	175.	C	213.	C	251.	B	289.	C
24.	D	62.	D	100.	D	138.	C	176.	A	214.	B	252.	C	290.	c
25.	C	63.	c	101.	C	139.	C	177.	D	215.	A	253.	B	291.	b
26.	D	64.	B	102.	C	140.		178.	C	216.	C	254.	A	292.	b
27.	c	65.	B	103.	D	141.	B	179.	A	217.	a	255.	C	293.	b
28.	D	66.	C	104.	C	142.	C	180.	D	218.	C	256.	C	294.	b
29.	C	67.	C	105.	A	143.	A	181.	B	219.	B	257.	A	295.	d
30.	C	68.	B	106.	C	144.	B	182.	D	220.	C	258.	B	296.	d
31.	B	69.	B	107.	C	145.	C	183.	A	221.	B	259.	C	297.	c
32.	C	70.	B	108.	B	146.	A	184.	C	222.	B	260.	B	298.	a
33.	B	71.	B	109.	D	147.	D	185.	A	223.	B	261.	C	299.	c
34.	A	72.	C	110.	C	148.	C	186.	D	224.	C	262.	B	300.	c
35.	B	73.	a	111.	A	149.	C	187.	C	225.	A	263.	B	301.	c
36.	c	74.	C	112.	C	150.	C	188.	A	226.	B	264.	B	302.	b
37.	D	75.	C	113.	D	151.	d	189.	D	227.	B	265.	C	303.	a
38.	B	76.	C	114.	B	152.	C	190.	B	228.	B	266.	B	304.	b

305.	C	344.	A	383.	D	422.	C	461.	C	500.	b	539.	c	578.	b
306.	d	345.	B	384.	C	423.	d	462.	B	501.	c	540.	b	579.	c
307.	b	346.	B	385.	A	424.	b	463.	C	502.	c	541.	c	580.	d
308.	b	347.	A	386.	C	425.	c	464.	A	503.	d	542.	c	581.	C
309.	c	348.	B	387.	D	426.	b	465.	B	504.	a	543.	a	582.	c
310.	a	349.	B	388.	C	427.	a	466.	A	505.	c	544.	b	583.	c
311.	d	350.	A	389.	D	428.	c	467.	C	506.	c	545.	c	584.	b
312.	c	351.	B	390.	B	429.	b	468.	D	507.	b	546.	d	585.	b
313.	b	352.	D	391.	C	430.	c	469.	C	508.	a	547.	c	586.	d
314.	c	353.	A	392.	B	431.	a	470.	B	509.	c	548.	c	587.	d
315.	b	354.	D	393.	B	432.	c	471.	C	510.	a	549.	c	588.	c
316.	a	355.	B	394.	B	433.	c	472.	C	511.	c	550.	c	589.	b
317.	c	356.	D	395.	d	434.	d	473.	C	512.	b	551.	c	590.	b
318.	b	357.	B	396.	D	435.	a	474.	D	513.	c	552.	b	591.	c
319.	b	358.	B	397.	A	436.	c	475.	D	514.	a	553.	c	592.	c
320.	b	359.	B	398.	C	437.	b	476.	C	515.	a	554.	b	593.	c
321.	c	360.	C	399.	C	438.	d	477.	A	516.	d	555.	d	594.	c
322.	b	361.	A	400.	D	439.	a	478.	C	517.	b	556.	d	595.	c
323.	a	362.	A	401.	B	440.	c	479.	D	518.	a	557.	c	596.	c
324.	a	363.	B	402.	C	441.	c	480.	C	519.	c	558.	c	597.	c
325.	c	364.	A	403.	B	442.	b	481.	C	520.	a	559.	d	598.	c
326.	a	365.	B	404.	B	443.	c	482.	C	521.	d	560.	b	599.	c
327.	a	366.	B	405.	C	444.	c	483.	D	522.	c	561.	d	600.	b
328.	B	367.	B	406.	B	445.	a	484.	C	523.	b	562.	b	601.	b
329.	C	368.	b	407.	A	446.	c	485.	C	524.	c	563.	c	602.	b
330.	C	369.	C	408.	C	447.	c	486.	C	525.		564.	c	603.	b
331.	C	370.	C	409.	C	448.	a	487.	D	526.	d	565.	a	604.	c
332.	A	371.	B	410.	B	449.	B	488.	B	527.	d	566.	c	605.	d
333.	C	372.	D	411.	B	450.	D	489.	B	528.	c	567.	c	606.	c
334.	c	373.	B	412.	A	451.	C	490.	C	529.	a	568.	c	607.	b
335.	b	374.	B	413.	C	452.	C	491.	B	530.	b	569.	b	608.	b
336.	b	375.	C	414.	d	453.	C	492.	c	531.	c	570.	c	609.	c
337.	c	376.	C	415.	c	454.	C	493.	a	532.	c	571.	c	610.	c
338.	d	377.	D	416.	b	455.	B	494.	c	533.	a	572.	d	611.	c
339.	b	378.	A	417.	d	456.	B	495.	b	534.	c	573.	d	612.	c
340.	d	379.	B	418.	c	457.	C	496.	b	535.	d	574.	a	613.	d
341.	b	380.	C	419.	b	458.	B	497.	c	536.	b	575.	c	614.	d
342.	C	381.	D	420.	b	459.	C	498.	c	537.	c	576.	b	615.	b
343.	D	382.	B	421.	d	460.	B	499.	c	538.	b	577.	b	616.	c

617.	d	656.	c	695.	C	734.	C	772.	B	811.	B	850.	D	889.	B
618.	a	657.	d	696.	c	735.	C	773.	C	812.	C	851.	C	890.	C
619.	c	658.	c	697.	c	736.	D	774.	C	813.	D	852.	D	891.	D
620.	b	659.	c	698.	d	737.	D	775.	A	814.	C	853.	B	892.	B
621.	d	660.	c	699.	d	738.	B	776.	C	815.	C	854.	B	893.	C
622.	d	661.	b	700.	b	739.	D	777.	C	816.	D	855.	C	894.	C
623.	a	662.	c	701.	b	740.	C	778.	B	817.	D	856.	B	895.	C
624.	d	663.		702.	d	741.	B	779.	A	818.	D	857.	C	896.	D
625.	d	664.	c	703.	c	742.	B	780.	B	819.	d	858.	B	897.	C
626.	c	665.	a	704.	B	743.	A	781.	C	820.	D	859.	B	898.	B
627.	b	666.	b	705.	b	744.	C	782.	D	821.	B	860.	D	899.	A
628.	c	667.	c	706.	a	745.	C	783.	B	822.	A	861.	B	900.	C
629.	d	668.	b	707.	C	746.	A	784.	C	823.	B	862.	C	901.	D
630.	D	669.	b	708.	C	747.	A	785.	B	824.	C	863.	C	902.	B
631.	C	670.	c	709.	A	748.	D	786.	D	825.	A	864.	D	903.	B
632.	C	671.	b	710.	A	749.	D	787.	C	826.	B	865.	C	904.	D
633.	D	672.	c	711.	D	750.	C	788.	C	827.	A	866.	B	905.	B
634.	B	673.	b	712.	D	751.	C	789.	D	828.	D	867.	C	906.	A
635.	A	674.	d	713.	C	752.	B	790.	D	829.	B	868.	C	907.	B
636.	C	675.	a	714.	c	753.	D	791.	B	830.	b	869.	C	908.	C
637.	A	676.	a	715.	C	754.	A	792.	B	831.	b	870.	D	909.	C
638.	A	677.	c	716.	B	755.		793.	D	832.	b	871.	A	910.	B
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640.	C	679.	d	718.	C	756.	D	795.	C	834.	c	873.	C	912.	D
641.	D	680.	d	719.	A	757.	B	796.	B	835.	b	874.	B	913.	B
642.	B	681.	b	720.	D	758.	C	797.	B	836.	b	875.	C	914.	B
643.	B	682.	a	721.	B	759.	A	798.	A	837.	c	876.	A	915.	D
644.	C	683.	c	722.	C	760.	A	799.	C	838.	d	877.	B	916.	B
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646.	c	685.	a	724.	A	762.	A	801.	B	840.	c	879.	A	918.	A
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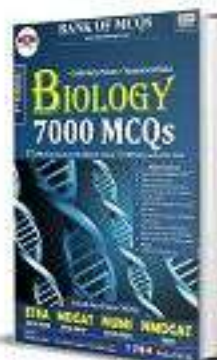
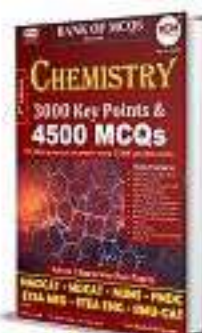
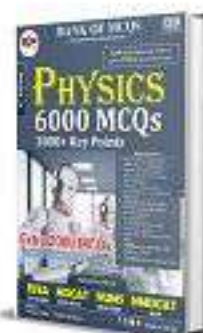
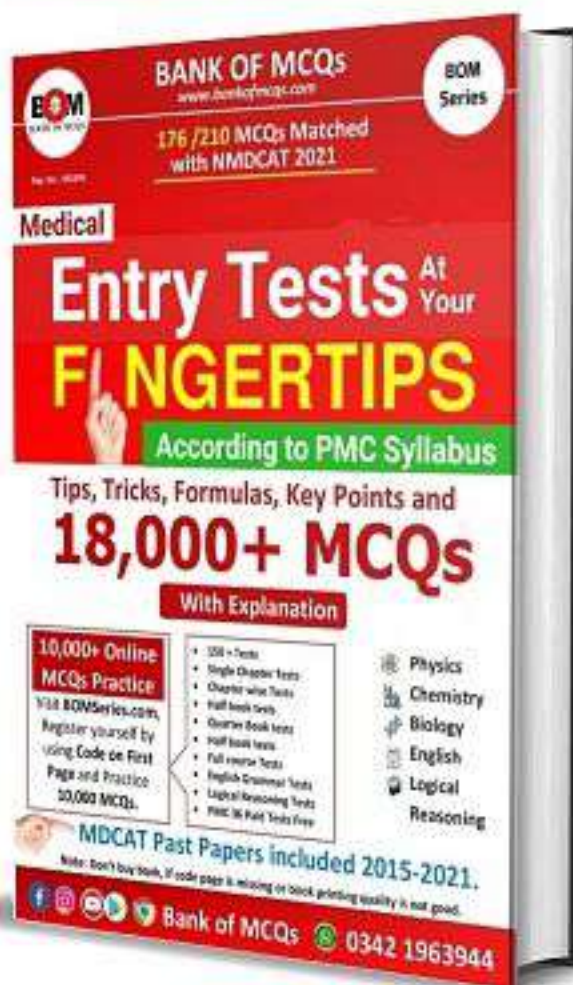
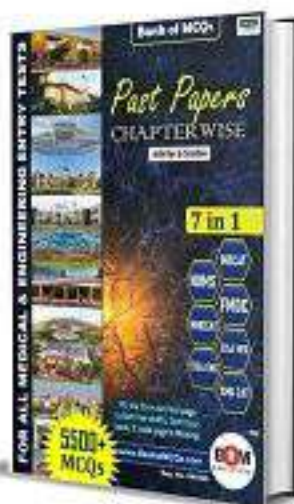
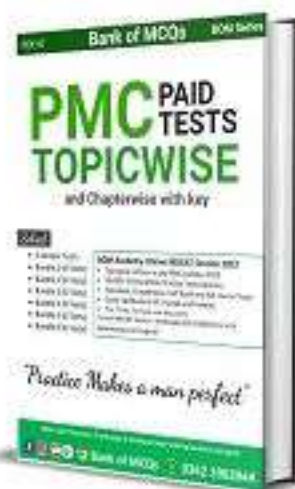
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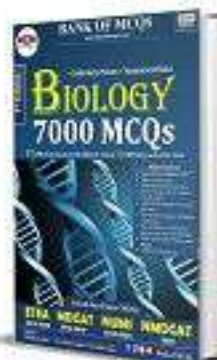
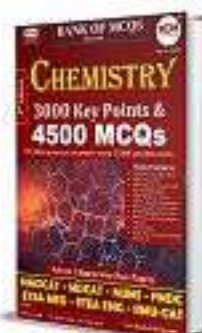
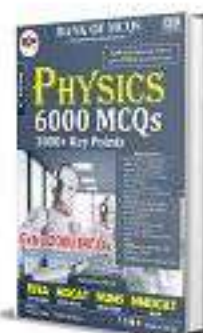
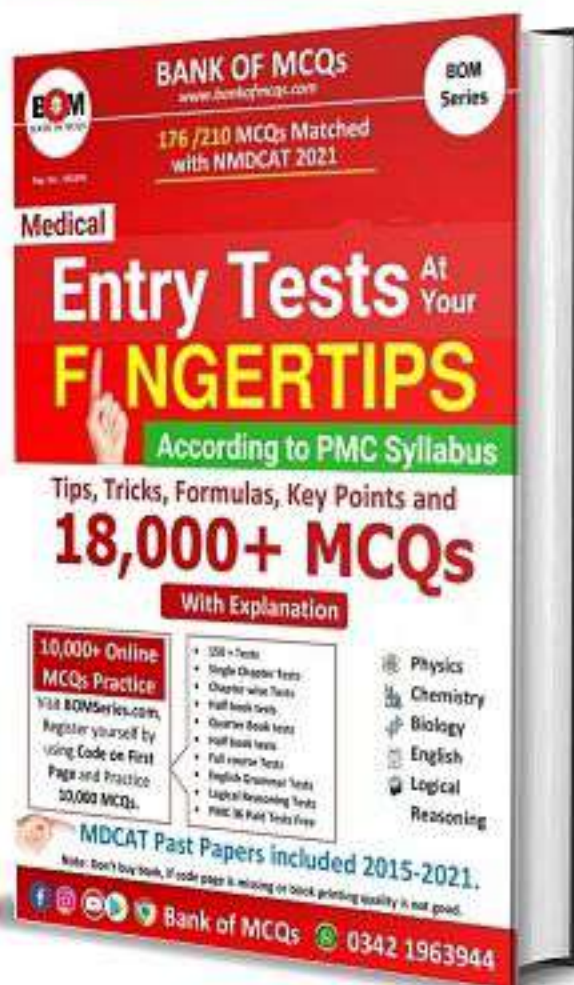
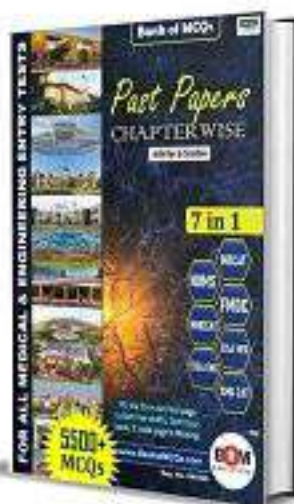
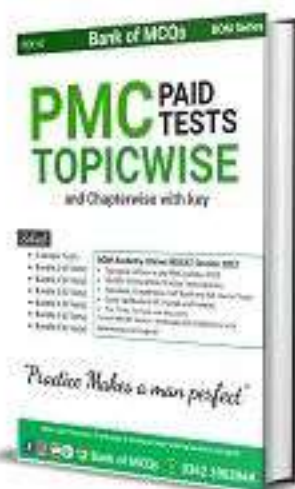
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