

MEDICAL PAPER 2013

1. Seaginella is the living member of:
 - A) Psilopslda
 - B) Lycopsida
 - C) Sphenopsida
 - D) Pterosida
2. Which of the following misnamed?
 - A) Aniline
 - B) Methyl naphthalene
 - C) Carboxyl benzene
 - D) Benzene sulphonic acid
3. On the ground the gravitational force on a satellite is W. What is the gravitational force on the satellite when at a height R/50, where R is the radius of the earth?
 - A) 1.04W
 - B) 1.02W
 - C) 0.50W
 - D) 0.96W
4. Contraction can be sustained for a long period of time by:
 - A) Skeletalmuscles
 - B) Smoothmuscles
 - C) Cardiacmuscles
 - D) All of the above
5. Aromatic compounds generally burn with smoky llame because:
 - A) Skeletal muscles
 - B) Smooth muscles
 - C) Cardiac muscles
 - D) All of the above
6. If a wave can be polarized, it must be:
 - A) An electromagnetic wave
 - B) A stationary wave
 - C) Transverse wave
 - D) A longitudinal wave
7. Amount of DNA in bacterial cell is:
 - A) 1%
 - B) 2%
 - C) 3%
 - D) 4%
8. The smaller the value of P_{kg}:
 - A) The weaker the base
 - B) The stronger the base
 - C) The stronger the acid
 - D) None of the above
9. In the nuclear reaction shown below what is the value of coefficient 'γ'?

$${}_{92}\text{U}^{235+} + {}_0\text{n}^1 \rightarrow {}_{56}\text{Kr}^{89+} + {}_{\gamma 0}\text{n}^1 + 200\text{MeV}$$
 - A) 0
 - B) 1
 - C) 2
 - D) 3
10. Have you got a computer? She said.
Select the correct indirect speech:
 - A) She wanted to find whether I have a computer.
 - B) She wanted to know whether I had a computer.
 - C) She wanted to know if I could use computer.
 - D) She was interested to know about my computer.
11. Keratinized Epithelium is found in the:
 - A) Hair
 - B) Skin
 - C) Bone
 - D) Muscle
12. Why is the boiling point of n-Pentane about 28°C higher than that of its 2,2-Dimethylpropane isomer?
 - A) The area of contact between 2,2-Dimethylpropane is small which results in weak forces of attraction.
 - B) 2,2-dimethylpropane molecules repel each other
 - C) N-pentane molecules cannot come into closer contact with each other
 - D) Shapes of molecules have not effect on boiling point
13. The vectors A and B are such that $|A + B| = |A - B|$, then the angle between the two vectors is:
 - A) 0°
 - B) 60°
 - C) 90°
 - D) 180°
14. Mushrooms belong to:
 - C) Zygomycota
 - B) Ascomcota
 - D) Basidiomycota
 - D) Deuterozoicota
15. Which one of the following will not undergo dehydrogenation?
 - A) CH₃OH
 - B) (CH₃)₂CHOH
 - C) (CH₃)₃COH
 - D) CH₃CH₂OH
16. Which one is a polymer substance?
 - A) Glass
 - B) Iron
 - C) Plastic
 - D) copper
17. In chick development gives rise to:
 - B) Ectoderm & Endoderm
 - C) Ectoderm & Mesoderm
 - D) Mesoderm & Endoderm
 - E) Mesoderm only
18. The heat of combustion of hydrocarbon is very useful source of heat and power, Considering the combustion reaction given below.

$$\text{CH}_4^{(g)} + \text{O}_2^{(g)} \rightarrow \text{CO}_2^{(g)} + 2\text{H}_2\text{O}$$
 ΔH for the reaction is.
 - A) ΔH = 213 kcal/mole
 - B) ΔH = 213 kcal/mole
 - C) ΔH = 426 kcal/mole
 - D) ΔH = 312 kcal/mole
19. A zirconium nucleus, is a β-emitter. The product nucleus is also a β-emitter. What is the final resulting nucleus of these two decays?
 - A) ¹⁰⁰Sr₃₈
 - B) ¹⁰⁰Mo₄₁
 - C) ⁹⁸Zr₄₀
 - D) ¹⁰²Zr₄₀
20. Add some milk and sugar the tea.
 - A) To
 - B) At
 - C) In
 - D) On
21. Rain water becomes acidic, when the pH-value of rain water becomes.
 - A) Greater than 6
 - B) Greater than 6.5
 - C) Less than 5.6
 - D) Less than 5
22. Drinking water should be odorless, tasteless and live from turbidity and its pH should range between:
 - A) 6.0 to 7.0
 - B) 7.0 to 8.5
 - C) 4.5 to 6.0
 - D) 8.5 to 9.0
23. A raring car accelerates uniformly through three gear changes with the following average speeds:

20 ms⁻¹ for 2.0s; 40ms⁻¹ for 2.0 s and 60 ms⁻¹ for 6.0 s

 What is the overall average speed of the car:
 - A) 12 ms⁻¹
 - B) 13.3 ms⁻¹
 - C) 40 ms⁻¹
 - D) 48 ms⁻¹
24. Changes in gene frequencies in small population by chance is called:
 - A) Gene pool
 - B) Genetic drift
 - C) Gene mutation
 - D) Gene flow
25. N₂(g) + 3H₂(g) ⇌ 2NH₃(g), ΔH = 46.1 kJ/mole For the reaction above which statement is true about the equilibrium constant (K_{eq}):
 - A) K_{eq} increases with increase in temperature
 - B) K_{eq} decreases with increase in temperature
 - C) K_{eq} decreases with increase in pressure
 - D) K_{eq} increases with decrease in pressure

26. Which of the following lists contains scalar quantities only?
- A) Mass, acceleration, temperature, kinetic energy
 B) Mass, volume, electrical potential, kinetic energy
 C) Acceleration, temperature, volume, electric charge
 D) Momentum, electric intensity, density, magnetic flux.
27. Number of chromosomes in Tobacco is:
 A) 45 B) 48 C) 46 D) 47
28. How many molecules are present in 0.20 g of Hydrogen gas?
 A) $\frac{0.20}{1.008} \times 6.02 \times 10^{23}$ B) 0.20×2.016
 C) $\frac{0.20}{2.016} \times 6.02 \times 10^{23}$ D) $\frac{1.008}{0.70} \times 6.02 \times 10^{23}$
29. A generator produces 100 kW of power at a potential difference of 10KV. The power is transmitted through cables of total resistance 5Q. How much power is dissipated in the cables?
 A) 50 W B) 750 W C) 500 W D) 1000 W
30. I keep the butter in the fridge.
Select the correct passive voice:
 A) In the fridge the butter is kept by me.
 B) By me is the butter kept in the fridge.
 C) The butter is kept by me in the fridge.
 D) Kept in the fridge by me is the butter.
31. Appendix is vestigial in man but may play role in:
 A) Digestion B) Excretion
 C) Immunity D) Movement
32. In the nuclear reaction
 A) A neutron B) A proton
 C) An electron D) An alpha particle
33. A body of mass "m" moves at constant speed 'v' for a distance 's' against a constant force 'H' what is the power required to sustain this motion?
 A) r_v B) $\frac{1}{3}mv^2$ C) $\frac{1}{3}Fs$ D) Fs
34. A single molecule of haemoglobin is composed of:
 A) Three polypeptide chains
 B) Four polypeptide chains
 C) Five polypeptide chains
 D) Six polypeptide chains
35. Which of following functional groups are deactivating and not ortho, para directing?
 A) -R B) -COR C) -NH₂ D) NR₂
36. In which of the following pairs are both substances normally crystalline?
 A) Copper and diamond B) Copper and glass
 C) Copper and rubber D) Diamond and glass
37. Urea formation occurs in:
 A) Kidney B) Liver C) Spleen D) Lungs
38. Which one of the following is strongest acid?
 A) CH₃COOH B) CH₃CH₂COOH
 C) C⁶H⁵COOH D) FCH₂COOH
39. Ultraviolet rays differ from the X-rays in that ultraviolet rays:
 A) Cannot be diffracted
 B) Cannot be polarized
 C) Have a low frequency
 D) Do not affect a photographic plate
40. 'ALLUSION' means:
 A) An idea haunting one's mind
 B) A casual or indirect reference
 C) Have a low frequency
 D) Do not affect a photographic plate
41. Phagocytosis, pinocytosis and autophagy are the functions of:
 A) Golgi-Apparatus B) Lysosomes
 C) Peroxisomes D) Glyoxisomes
42. To distinguish among primary, secondary and tertiary alcohols which of the following tests is used?
 A) Benedicts reagent B) Tollen's reagent
 C) Lucas test D) None of the above
43. A student measures a current as 0.5A. which of the following correctly expresses this result?
 A) 50 mA B) 50 MA
 C) 500 mA D) 500 MA
44. Spiders belong to class:
 A) Crustacean B) Myriapoda
 C) Arachnida D) Hexapoda
45. Which one of the following compounds participates in hydrogen bonding?
 A) CH₃Cl B) CH₃OCH₃
 C) CH₃NH₂ D) C₆H₅OCH₃
46. If a body of mass 'm' is released in a vacuum just above the sun face of a planet of mass 'M' and
 A) $\frac{GMm}{R}$ B) $\frac{GMm}{R^2}$
 C) $\frac{GM}{R^2}$ D) $\frac{GM}{R}$
47. Polysaccharide cellulose is the building material of:
 A) Primary cell-wall B) Secondary cell-wall
 C) Middle lamella D) Plasma membrane
48. Which of the following structure has a bond formed by an overlap of SP² hybrid orbital with that of SP hybrid orbital?
 A) HC = CH B) H₂C = CH₂
 C) H₂C = C = CH₂ D) CH₂ = CHCH₃
49. The first law of thermodynamics is a statement which implies that:
 A) No heat enters or leaves the system
 B) The temperature remains constant
 C) All work is mechanical
 D) Energy is conserved
50. GET HOLD OF ONESELF Implies:
 A) To start running B) To catch a thief
 C) To become calm D) To feel exhausted
51. Lobsters belong to class:
 A) Myriapoda B) Arachnida
 C) Hexapoda D) Crustacean

52. The bond angle between H - C - C bond in ethane is:
 A) 109.5 B) 120
 C) 90 D) 107.5
53. the function of a main transformer is to convert:
 A) one direct voltage to another direct voltage of different magnitude.
 B) one alternating voltage to another alternating voltage of different magnitude.
 C) a high value alternating voltage to low value direct voltage.
 D) A high value alternating current to low value direct voltage.
54. Pigeon odour is released from the water bloom of:
 A) Slime mold B) Water mold
 C) Cyanobacteria D) Cyanobacteria Algae ponds
55. What will be the product when PCT_3 reacts with acetic acid?
 A) CH_3Cl B) CH_3COCl
 C) CH_3COCl_2 D) CH_3CH_2COCl
56. When monochromatic light of wavelength 5.0×10^{-7} m is incident normally on a plane diffraction grating, the second order diffraction lines are formed at angles of 30° to the normal to the grating. What is the number of lines per millimeter of the grating?
 A) 250 B) 500 C) 1000 D) 4000
57. Brunner's glands are found in:
 A) Stomach B) Duodenum
 C) Ileum D) Colon
58. Which type of isomerism is being exhibited by $FCH = CHF$?
 A) Chain isomerism B) Structural isomerism
 C) Geometrical isomerism D) Position isomerism
59. During the experiment one measured the mass of mosquito and found it 1.20×10^{-5} kg. the number of significant figures in this case is:
 A) B) C) D)
60. Select the correct sentence:
 A) My feet seemed hardly to touch the earth.
 B) My feet hardly seemed to touch the earth.
 C) Hardly my feet seemed to touch the earth.
 D) My feet seemed to touch the earth hardly.
61. An organism that adopts saprophytic mode of nutrition during part of its life is called:
 A) Facultative saprophyte B) Facultative parasite
 C) Obligate saprophyte D) Obligate parasite
62. Which is the correct product formed when monohydric alcohol reacts with sodium metal?
 A) Alkene B) Sodium alkoxide
 C) Alkane D) Ether
63. If a hole is bored through the center of the earth and a pebble is dropped in it, then it will:
 A) Stop at the center of the earth
 B) Drop to the other side.
 C) Execute SHM
 D) None of the above.
64. Erepisin acts upon:
 A) Polypeptides B) Carbohydrates
 C) Dipeptides D) Fats
65. Coal, Natural gas and petroleum are generally called:
 A) Node B) Anti-node
 C) Crest D) Trough
66. in vibrating cord the point where the particles are stationary is called:
 A) node B) anti-node
 C) crest D) trough
67. microsporium furfur causes:
 A) athlete's foot B) ring wormergot
 C) dandruff
68. benzene reacts with acetyl chloride in the presence of lewis acid forming:
 A) Chlorobazcre B) Acotophenone
 C) Benzolc acid D) benzophenone
69. the minimum frequency of incident light required to emit photoelectrons from the metal surface is called:
 A) critical frequency B) threshold frequency
 C) work function D) none of he above
70. in a composition writing exercise, 'PRECISE' means:
 A) A synopsis for writing an essay in a degree level examination
 B) A critique highlighting the weak point of a feature film story
 C) A resume of the commercial achievements spread over a year
 D) A short summary of the crucial ideas of a longer composition.
71. The gills are covered by operculum in
 A) Bony fishes B) Cartllaginous fishes
 C) Lung fishes D) Jawless fishes
72. When 2-Bromo-2-methyl propane undergoes unimolecular elimination reaction, the product obtained will be:
 A) 2-Methyl propane: B) 2-Methyl propane:
 C) 2-Methyl-1 propanol: D) 2-pentanol
73. When lead, $_{81}Pb^{214}$, emits a β - particle, the resultant nutleus will be:
 A) $_{83}Bi^{214}$ B) $_{84}Po^{214}$ C) $_{82}Pb^{213}$ D) $_{41}TI^{214}$
74. A sporophyle that depends on gametophytes is:
 A) Adlantum B) Pinus
 C) Marchantia D) Mustard-plant
75. Which is not correct about polyvinyl chloride?
 A) It is used in large scale production of cable insulator
 B) It is a copolymer
 C) It is a homopolymer
 D) It is used in the manufacturing of pipes
76. If two cars are moving with velocity 10 m/s and 5m/s in opposite direction to each other, then their relative velocity with respect to one another will be:
 A) 5m/s B) 10m/s C) -5m/s D) 15m/s

77. Replication progresses at a rate of about 50 base pairs per second in:
 A) Bacteria B) Virus
 C) Eukaryote D) All of the above
78. Vinylacetate monomer is prepared lby the reaction of acetaldehyde and acetic-anhydride. The catalyt employed is:
 A) FeCl_3 B) Al_2O_3 C) V_2O_5 D) Cr_2O_3
79. When released from a height a ball falls 5m in 1s. in 4s after release it will fall.
 A) 40m B) 80m C) 20m D) 100m
80. "I saw him yesterday" she said.
Select the correct indirect speech:
 A) She told that she had seen him yesterday.
 B) She said that she had seen him the day before.
 C) She told that she could see him the previous day.
 D) She said that she would see him the day before.
81. The pigments of chlorophyll a,b, and carotenoids are present in:
 A) Stroma B) Grana
 C) Thalakoid membrane D) Crista
82. Thermal processing of industrial waste material aims at:
 A) Burning of waste material in pits
 B) Converting the solid waste into useful products by thermal treatment.
 C) Energy recovery from organic matter prior to its final disposal
 D) Size reduction and compaction by thermal process
83. If the momentum of a body decreases by 20% the percentage decrease in K.E will be:
 A) 44% B) 36% C) 28% D) 20%
84. Which one of the following animals is filter feeder?
 A) Teeth B) Sycon
 C) Fresh water muscle D) Jelly fish
85. Which one is not a nitrogenous fertillzer?
 A) Ammonium nitrate B) Triple phosphate
 C) Urea D) Nitro phosphate
86. The antimatter of election is:
 A) Photon B) Roton
 C) Positron D) Antineutrino
87. In chlorophyllII-b, the porphyrine ring is attached to the:
 A) Methyl group B) Carboxyl group
 C) Aldehyde group D) Hydroxyle group
88. Which of the following titrants would most likely be used as ths' own indicator in acid medium?
 A) $\text{K}_2\text{Cr}_2\text{O}_3$ B) Iodine
 C) KMnO_4 D) H_2O_2
89. An organ pipe is open at both ends at its fundamental frequency. Neglecting any end effects, what wavelength is formed by this pipe in this mode of vibration, if the pipe is two meter long?
 A) 2m B) 4m C) 6m D) 8m
90. Fire destroyed the top floor of the building:
 A) The top floor of the building got destroyed by fire
 B) By fire was destroyed the top floor of the building.
 C) Destroyed by fire was the top floor of the building.
 D) The top floor of the building was destroyed by fire.
91. Myoglobin is found in:
 A) Bone B) Connective tissue
 C) Muscles D) Cartilage
92. The atomic number of scandium is 21. What is its ground state electronic configuration?
 A) $1s^2 2N^2 2p^6 3N^2 3p^6 3d^3$
 B) $1s^2 2N^2 2p^6 3N^2 3p^6 3d^3 4s^1$
 C) $1s^2 2N^2 2p^6 3N^2 3p^6 3d^3 4s^2$
 D) $1s^2 2N^2 2p^6 3N^2 3p^6 3d^3 4p^1$
93. A body in equilibrium must not have:
 A) Kinetic energy B) Velocity
 C) Momentum D) Acceleration
94. The centre of porphrine ring of haemoglobin is occupied by:
 A) Magnesium B) Sodium
 C) Iron D) Potassium
95. The differences in energy between dchllerent states of bond vibrations in a molecule correspond to which electromagnetic region?
 A) Microwave B) Intared
 C) Visible D) X-rays
96. Three equivalent resistors connected in parallel have equivalent resistance R/3. When they are connected in series then the equivalent resistance is:
 A) 3R B) R/3 C) R D) 2R
97. Thalassaemia major is also known as:
 A) Sickle cell anemia B) Cooley's anemia
 C) Mycocystic anemia D) Nutritional anemia
98. 40.0 dm^3 of an ideal gas at 25°C and 750 mm Hg is expanded to 50.0 dm^3 . The pressure of the gas changed to 765 mm Hg. What is the temperature of the gas?
 A) $\frac{(2912)(750)(50)}{(40)(765)}$ B) $\frac{(298)(750)(40)}{(50)(765)}$
 C) $\frac{(2912)(765)(50)}{(750)(40)}$ D) $\frac{(750)(40)}{(298)(765)(50)}$
99. Ohm's law is valid only for:
 A) Thermistor B) Bulb lilament
 C) Metals D) Semionductots
100. 'APPRAISE' means:
 A) Tell a story at bed time
 B) Evaluate the quality of
 C) Do shopping in a bazaar
 D) Praise a man out of place
101. Premature death of paints is caused by the deficiency of:
 A) Magnesium B) Iron
 C) Phosphorus D) potassium

129. An object travels at constant speed around a circle of radius 1.0 m in 1.0 s. what is the magnitude of its acceleration?
 A) Zero B) 1.0 ms^{-2}
 C) $2\pi \text{ ms}^{-1}$ D) $4\pi^2 \text{ ms}^{-2}$
130. Select the correct sentence:
 A) Farid and javed both are good swimmers.
 B) Both farid and javed are good swimmers.
 C) Good swimmers are Farid and faved both.
 D) Swimmers are good both Farid and faved.
131. Which one of the following animals is viviparous?
 A) Rat B) Kangaroo
 C) Duckbilled platypus D) Spiny ant eater
132. According to molecular orbital theory which one of the following will indicate tow unpaired electrons?
 A) N_2 B) O_2 C) F_2 D) Hc_2^{+2}
133. An alternating current '1/A' varies with time 't/s' according to the equation $I = s \sin(100\pi t)$. What is the meaq power developed by the current in a resistive load of resistance 100?
 A) 125 W B) 160 W C) 250 W D) 500 W
134. Cristea of mitochondria re the sites of:
 A) Electron transport chains
 B) Photophosphorylation
 C) Krebs cycle
 D) Glycolysis
135. Which one of the following compounds will show covalent bonding?
 A) CaF_2 B) MgO C) KCl D) SiI_4
136. The rate of change of momentum of a body falling freely under gravity is equal to its:
 A) Impulse B) Kinetic energy
 C) Power D) weight
137. muscles develop from:
 A) ectoderm B) mesoderm
 C) endoderm D) all of the above
138. which one of the following has a covalent bonding by the overlap of sp hybridized orbital with p or bitaly
 A) BF_3 B) H_2O C) HeCl_4 D) NH_3
139. Radioactive activity is affected by:
 A) Temperature B) Pressure
 C) Humidity level D) None of the above
140. An 'ELEGY' is a poem written:
 E) In the memory of a little child
 F) On the sighting of an old tutor
 G) In the love of dear sweetheart
 H) On the death of someone dear
141. Bacteria maintain their survival by the formation of:
 A) Hormogonia B) Akinetes
 C) Endospores D) Zygosporos
142. The change in enthalpy at constant pressure, ΔH is equal to:
 A) $\Delta H = q + P\Delta V$ B) $\Delta H = \Delta E - P\Delta V$
 C) $\Delta H = \Delta E + P\Delta V$ D) $\Delta H = q - P\Delta V$
143. Four gas molecules have the speed 8.0 ms^{-1} , 6.0 ms^{-1} , 6.0 ms^{-1} and $\sqrt{8} \text{ ms}^{-1}$. What is their root-mean-square speed?
 A) 8.0 ms^{-1} B) 6.0 ms^{-1}
 C) 5.0 ms^{-1} D) 7.0 ms^{-1}
144. Avery, Macleod and McCarty repeated the Griffith experiment in the year:
 A) 1869 B) 1928 C) 1944 D) 1952
145. Considering the standard reduction chart, the strong reducing agent value is:
 A) Small negative values
 B) Large negative values
 C) Small positive values
 D) Large positive values
146. An organ pipe of length T has one end closed but the other end open. What is the wavelength of the fundamental node emitted?
 E) Slightly smaller than $4l$.
 F) Slightly larger than $4l$.
 G) Roughly equal to $3/2$.
 H) Slightly larger than $2l$.
147. Microvillae are also called:
 A) Leaf veins B) Cristae
 C) Capillaries D) Leaf midribs
148. Which statement is correct while recharging the automobile battery?
 A) Pb is converted to PbO_2 .
 B) PbSO_4 is converted to Pb.
 C) Pb is converted to PbSO_4 .
 D) None of the above
149. A vertical steel wire X of circular cross-section is used to suspend a load. A second wire Y, made of the same material but having twice the length and twice the diameter is used to suspend an equal load. What is the value of the ratio $\frac{\text{extension of wire X}}{\text{extension of wire Y}}$?
 A) 1/1 B) 1 C) 2 D) 4
150. My children don't approve..... my smoking.
 A) I B) Of C) On D) at
151. cell death due to tissue damage is called:
 A) Cancer B) Apoptosis
 C) Necrosis D) Metastasis
152. You are required to test the presence of NH_4^+ Ion in water. Which of the following reagent will solve your problem?
 A) Imethylglyoxime B) Tollen's reagent
 C) Nessler's reagent D) Magneson reagent
153. Drops X and Y, of the same oil, remained stationary in air in the same electric field. After the field was switched off, X fell more quickly than Y. which deduction can be made?
 A) X had a greater charge than Y
 B) Y ha a greater chrg than X
 C) Parallel but opposite
 D) Parallel, opposite and folded spirally.

154. The two chains of DNA occur side by side in a:
 A) Straight direction
 B) Parallel but straight
 C) Parallel but opposite
 D) Parallel, opposite and folded spirally
155. Which of the following furnaces is used for the production of wrought iron?
 A) Open hearth furnace
 B) Reverberatory furnace
 C) Bessemer converter
 D) Blast furnace
156. A mass accelerates uniformly when the resultant force acting on it:
 A) Is zero.
 B) Is constant but not zero.
 C) Increases uniformly with respect to time.
 D) Is proportional to the displacement of the mass from a fixed point.
157. In which of the following the phenotypic and genotypic ratio is the same?
 A) Co-dominance
 B) Over dominance
 C) Epitasis
 D) Incomplete dominance
158. The variable oxidation states of transition elements is attributed to the involvement of s as well as:
 A) Unpaired *d* Electrons B) Unpaired *p* electrons
 C) Unpaired *f* electrons D) Paired up *d* electrons
159. A sample of carbon-12 has a mass of 3.0 g. which expression gives the number of atoms in the sample? (N_A is the symbol for the Avogadro constant)
 A) $0.0030N_A$ B) $0.25 N_A$
 C) $3.0 N_A$ D) $4.0 N_A$
160. 'BREAK THE ICE' implies:
 A) Walk on ice-heat B) Swallow ice-cubes
 C) Chisel an ice-block D) To make a beginning.
161. A cell-wall that is composed of sugar and amino acids is called:
 A) Murein B) Chitin C) Lignin D) Pectin
162. In contact process for the manufacture of sulphuric acid, sulphur trioxide is dissolved in sulphuric acid in form oleum. Oleum molecular formula is:
 A) $H_2S_2O_3$ B) $H_2S_2O_5$
 C) $H_2S_2O_6$ D) $H_2S_2O_7$
163. Which of the following lists contains three regions of the electromagnetic spectrum in order of increasing frequency?
 A) Gamma rays, ultraviolet rays, radio waves.
 B) Gamma rays, visible radiation, ultraviolet rays.
 C) Microwaves, ultraviolet rays, X-rays.
 D) Radio waves, visible radiation, infrared radiation.
164. A plant or animal modified by genetic engineering is called:
 A) Transgenic B) Probe
 C) Recombinant D) Plasmid
165. Ethylene diamine tetraacetate ion (EDTA) is a polydentate ligand it bonds to central metal atom through:
 A) Two of its atoms B) Three of its atoms
 C) Four of its atoms D) Six of its atoms
166. A source contains initially N_0 nuclei of a radioactive nuclide. How many of these nuclei have decayed after a time interval of three half-lives?
 A) $N_0/8$ B) $2N_0/3$
 C) $N_0/3$ D) $7N_0/8$
167. When the entire body of a bacterium is covered by flagella, such a bacterium is called:
 A) Atrichous B) Lopho-trichous
 C) Lampi trichous D) Peri-trichous
168. Phosphorus trihalides are readily hydrolysed as shown below:
 $PX_3 + 3H_2O \rightarrow H_3PO_3 + 3HX$
 Generally moving from fluorine to iodine rate of hydrolysis:
 A) Increases B) Decreases
 C) Remains unchanged
 D) First increases and then decreases
169. Two monochromatic radiations X and Y are incident normally on a diffraction grating. The second order intensity maximum for X coincides with the third order intensity maximum for Y. what is the ratio $\frac{\text{wavelength of } x}{\text{wavelength of } y}$?
 A) $1/2$ B) $2/3$ C) $3/2$ D) $2/1$
170. Select the correct sentence:
 A) Certainly she is the best person for the job.
 B) She is the best person for the job certainly.
 C) She is certainly the best person for the job.
 D) The best person certainly she is for the job.
171. Nucleus was discovered by:
 A) Waldyne B) T.H. Margan
 C) Robert Brawn D) Kohler
172. Which of the following is not a nucleophile?
 A) NH_3 B) HO^- C) $HC=CH$ D) Br^-
173. A sound wave of frequency 400 Hz is travelling in a gas at a speed of 320 ms^{-1} . What is the phase difference between two points 0.2 m apart in the direction of the travel?
 A) $\frac{\pi}{1} \text{ rad}$ B) $\frac{\pi}{2} \text{ rad}$ C) $\frac{2\pi}{5} \text{ rad}$ D) $\frac{4\pi}{5} \text{ rad}$
174. Stroma of chloroplasts carries the fixation of:
 A) N_2 B) O_2 C) CO_2 D) NH_3
175. Half cell reaction standard reduction potential, E°
 $Fe^{2+} + 2e^- \rightarrow Fe$ -0.41
 $Cu^{2+} + 2e^- \rightarrow Cu$ -0.41
 $Ni^{2+} + 2e^- \rightarrow Ni$ -0.41
 $Zn^{2+} + 2e^- \rightarrow Zn$ -0.41
 Referring to the table above which metal could be used to prevent iron from corrosion?
 A) Cu only B) Zn only
 C) Cu & Ni only D) Ni and Zn only

176. Which of the following is the unit of pressure?
 A) Kg m s^{-1} B) $\text{Kg m}^{-1} \text{s}^{-2}$
 C) $\text{Kg m}^2 \text{s}^{-2}$ D) $\text{Kg m}^{-2} \text{s}^{-1}$
177. What will be the anti-codon of AUG?
 A) TAC B) ATC C) UAC D) UTC
178. Lipids are naturally occurring substances which are chemically:
 A) Proteins B) Amino acids
 C) Carbohydrates D) Esters
179. Satellites revolve around the earth in a circular orbit. What is the relationship between the radius of their orbits and their speeds?
 A) $V \propto r^2$ B) $V \propto r$
 C) $V \propto 1/r$ D) $V \propto 1/r^2$
180. 'DENOUNCE' means:
 A) To reject straight away B) To praise in a meeting
 C) To condemn publicly D) To negotiate secretly
181. Potatoe plastids, which store starch, are known as:
 A) Paramylum B) Amyloplasts
 C) Leucoplasts D) glycoplasts
182. A salt AB ionizes as $\text{AB} = \text{A}^+ + \text{B}^-$. The solubility product for the salt AB is 4.0×10^{-4} . The molar solubility of the salt is:
 A) $4.0 \times 10^{-4} \text{ M}$ B) $2.0 \times 10^{-2} \text{ M}$
 C) $8.0 \times 10^{-4} \text{ M}$ D) $2.0 \times 10^{-4} \text{ M}$
183. Of the following properties of a wave, the one that is independent of the others is its:
 A) Amplitude B) Wavelength
 C) Speed D) Frequency
184. The primers used in polymerase chain reaction has a sequence of bases:
 A) 8 B) 12 C) 16 D) 20
185. Which has the lowest temperature?
 A) Troposphere B) Stratosphere
 C) Mesosphere D) Thermosphere
186. The prefix 'tera' stands for:
 A) 10^4 B) 10^4 C) 10^4 D) 10^{12}
187. The phenomenon that a seed fails to germinate in spite of providing all conditions necessary for germination, is called:
 A) Photoperiodism B) Vernalization
 C) Dormancy D) phytochrome
188. Which one is least reactive towards a reaction with Na?
 A) $\text{CH}_3 - \text{OH}$ B) $\text{CH}_3 - \text{CH}$
 C) $\text{CH}_3 - \text{O} - \text{CH}_3$ D) $\text{CH}_3 - \text{COOH}$
189. The force 'F' on a charged particle 'q' moving with velocity 'v' parallel to magnetic field 'B' is given by:
 A) $F = qvB$ B) $F = qE$
 C) $F = uO$ D)
190. The police arrested him for dangerous driving.
 Select the correct passive voice:
 A) He was arrested for dangerous driving by the police.
 B) He was arrested by the police for dangerous driving.
 C) For dangerous driving he was arrested by the police.
 D) By the police was he arrested for dangerous driving.
191. Which one of the following is a sex-linked inheritance?
 A) Baldness B) Albinism
 C) Eye colour D) Myopia
192. The element which has the smallest atomic radius is:
 A) Fe B) Co
 C) Ni D) Cu
193. Which one of the following has negative temperature coefficient?
 A) Copper B) Thermistor
 C) Soft iron D) platinum
194. Pulvinus tissues are present at:
 A) Leaf-tip B) Leaf-margin
 C) Leaf-base D) Middle-vein
195. Which isomers have difference in both their physical and chemical properties?
 A) Chain isomers B) Position isomers
 C) Functional group isomers D) Both (A) and (B)
196. When the light from two lamps falls on a screen, no interference pattern can be obtained. Why is this?
 A) The lamps are not point sources
 B) The lamps emit light of different amplitudes
 C) The light from the lamps is not coherent
 D) The light from the lamps is white.
197. The valve between left ventricle is called:
 A) Semi lunar valve B) Bicuspid valve
 C) Tricuspid valve D) Pulmonary valve
198. Which of the following tests can be used to distinguish between aldehydes and ketones?
 A) Bayer's test B) Fehling's test
 C) Silver mirror test D) Both (B) and (C)
199. One way of expressing the equation of state for an ideal gas is by the equation $pV = NkT$. What do 'N' and 'K' represent respectively?
 C) Avogadro constant; Boltzmann constant
 D) Avogadro constant; Molar gas constant
 E) Total number of molecules; Boltzmann constant
 F) Total number of molecules; Avogadro constant
200. "I have been to Spain," he told me. Select the correct indirect speech:
 A) He told me that he could visit Spain.
 B) He told me that he has visited Spain.
 C) He told me that he had been to Spain.
 D) He told me that he has been to Spain.