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Name:		Roll#:		Class:	Inter Part-II
Subject:	Biology-12	Date:		Time:	
Test Type #	Type 15 - Full Test - Board Paper Pattern - Marks=85				
Test Syllabus:	Full Book				

1- Circle the correct one.

(17x1=17)

- Most land mammals respond to cold by raising their:
(A) Skin (B) Furs (C) Bristies (D) Spines
- Which one of the following is an Endotherm:
(A) Humming Bird (B) Reptiles (Lizard) (C) Birds (D) Bat
- Chemical that cause fever and are produced from blood cells are:
(A) Bilirubin (B) Interferons (C) Pyrogens (D) Anti boidies
- What is mortality rate in developing countries due to Tetanus?
(A) 35% (B) 40% (C) 45% (D) 50%
- The largest part of brain is:
(A) Cerebellum (B) Medulla (C) Cerebrum (D) Thallamus
- The onset of epilepsy is usually before age of:
(A) 10 years (B) 20 years (C) 30 years (D) 40 years
- EEG is the most important test for the study of :
(A) Epilepsy (B) Parkinson's disease (C) Alzheimer's disease (D) Arthritis
- Testosterone is secreted by:
(A) Sertoli cells (B) Interstitial cells (C) Germinal epithelium (D) Prostrate gland
- Rapid aging and less resistance to environmental stress and diseases are limitations of:
(A) Parthenocary (B) Vernalization (C) Cloning (D) Phototropism
- A fluid is secreted to provide liquid medium, protection and nourishment:
(A) Corpus luteum (B) Follicle (C) Sertoli (D) Ilterus
- Yellow cytoplasm give rise to:
(A) Larval epidermis (B) Muscle Cells (C) Gut (D) Notochord
- The base pairs in human genome are:
(A) Two billions (B) Three billions (C) Four billions (D) Five billions
- Which one of the following is initiation codon:
(A) AUG (B) GUA (C) UGA (D) GAC
- Transgenic bacteria are produced in large vats called:
(A) transducer (B) bioreactor (C) biomultiplier (D) culter media
- Level of classification between species and family is called _____.
(A) Family (B) species (C) Genus (D) order
- Moderate grazing is very helpful to maintain ecosystem:
(A) Tundra (B) Grass Land (C) Pond (D) Desert
- The percentage of land under cultivation is:
(A) 30% (B) 21% (C) 11% (D) 5%



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(SECTION-I)

2- Write short answers to any EIGHT (8) of the following questions. (8x2=16)

- i. Briefly describe urea cycle.
- ii. Give structural adaptations for regulation of heat exchange between an animal and environment.
- iii. What is pulvinus?
- iv. Define nyctinasty and name its two types.
- v. Give two Functions of Abscisic acid.
- vi. Define follicle atresia.
- vii. Discuss the role of progesterone in reproductive cycle of human females.
- viii. Compare Epiblast and Hypoblast in Gastrulation stage of development.
- ix. What is chromosomal aberration?
- x. Define Law of Independent Assortment.
- xi. How can you protect the baby against Rh - incompatibility?
- xii. What is non – random mating?

3- Write short answers to any EIGHT (8) of the following questions. (8x2=16)

- i. Give adaptations in plants to manage high temperature.
- ii. Name unpaired bones of cranium.
- iii. What is Chlorosis?
- iv. What is Karyotype?
- v. Differentiate between Transcription and Replication.
- vi. Why Interphase is called resting phase?
- vii. What is Hemophilia? Name its Types.
- viii. Define Biotechnology.
- ix. Differentiate between plasmid pSC 101 and pBR 322.
- x. What is average rainfall in temperate deciduous forests?
- xi. How Chlorine is responsible for ozone depletion?
- xii. What is water pollution?

4- Write short answers to any SIX (6) of the following questions. (6x2=12)

- i. How plants respond to various stimuli?
- ii. What do you know about Somatotrophic Hormone?
- iii. Give two similarities of nervous and chemical coordinations.
- iv. Define mutation? What are two main classes of mutations?
- v. What do you mean by descent with modification?
- vi. Define parasitism. Give at least one example.
- vii. Enlist any four macronutrients.
- viii. Define Hydrospheric Ecosystem.
- ix. Define Desertification.

(SECTION-II)

NOTE: Attempt any THREE (3) questions. (3x8=24)

- 5.(a) Describe Osmoregulation in marine and fresh water animals.
(b) Write a note on Food web.
- 6.(a) Described ultra structure of Myofilaments of Skeletal Muscle.

- (b) Discuss the process of transcription.
- 7.(a) What are Renewable Resources Explain any two of them.
- (b) Give general characteristics and commercial applications of Gibberellins.
- 8.(a) Give an elaborative account of male reproductive system in humans.
- (b) Describe the Mendel's Law of Independent Assortment with an example.
- 9.(a) What is development, describe the principles of development in detail?
- (b) Describe the evidence of evolution from comparative anatomy.

MCQs Ans Key.

Q:1 (B)

Q:2 (D)

Q:3 (C)

Q:4 (B)

Q:5 (C)

Q:6 (C)

Q:7 (A)

Q:8 (B)

Q:9 (C)

Q:10 (C)

Q:11 (B)

Q:12 (C)

Q:13 (A)

Q:14 (B)

Q:15 (C)

Q:16 (B)

Q:17 (C)



Name:		Roll#:		Class:	Inter Part-II
Subject:	Chemistry-12	Date:		Time:	
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1- Circle the correct one.

(17x1=17)

- Keeping in view the size of atoms, which order is the correct one?
(A) $Mg > Sr$ (B) $Ba > Mg$ (C) $Lu > Ce$ (D) $Cl > I$
- Mark the correct statement:
(A) Melting points of halogens decrease down the group.
(B) Melting points of halogens increase down the group.
(C) Melting points of halogens remain the same
(D) Melting points of halogens first increase and then decrease down the group.
- Which one of the following is not an alkali metal?
(A) Francium (B) Caesium (C) Rubidium (D) Radium
- Which is used in the leather industry?
(A) Borax (B) Boric acid (C) Boric oxide (D) Tetra Boric acid
- Out of all the elements of group VA, the highest ionization energy is possessed by:-
(A) N (B) As (C) Sb (D) Bi
- The state of hybridization of "C" in ethane is:
(A) SP (B) sp^2 (C) dsp^2 (D) sp^3
- Tautomerism arises due to shifting of:
(A) Sigma Electrons (B) Neutron (C) Pi-Electrons (D) Proton
- In t-butyl alcohol, the tertiary carbon is bonded to:
(A) Two hydrogen atoms (B) Three hydrogen atoms (C) One hydrogen atom (D) No hydrogen atom
- A double bond consists of:
(A) Two sigma bonds (B) One sigma and one pi bond
(C) One sigma and two Pi-bonds (D) Two Pi-bonds
- Which of the following is Ortho and Para directing group?
(A) -I (B) -CHO(C) (C) -COOH(D) (D) $-NR_3$
- Amongst the following, the compound that can be most readily sulphonated is:
(A) Toluene (B) Benzene (C) Nitro-benzene (D) Chloro-benzene
- In primary alkyl halides, the halogen atom is attached to a carbon which is further attached to how many carbon atoms?
(A) Two (B) Three (C) One (D) Four
- The carbon atom of carbonyl group is hybridized:
(A) Sp (B) Sp^2 (C) Sp^3 (D) dsp^2
- Which is most difficult to be oxidized?
(A) CH_3CHO (B) CH_3COCH_3 (C) HCHO (D) C_2H_5CHO
- Cannizzaro's reaction is not given by:
(A) Formaldehyde (B) Acetaldehyde (C) Benzaldehyde (D) Triethyl acetaldehyde
- Ester benzyl acetate has the flavour:
(A) Banana (B) Apricot (C) Orange (D) Jasmine
- Which is not a calcareous material?
(A) Clay (B) Limestone (C) Marble (D) Chalk



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(SECTION-I)

2- Write short answers to any EIGHT (8) of the following questions. (8x2=16)

- (i) How does NO act as oxidizing agent? (ii) NO_2 is strong oxidizing agent, prove with the help of two chemical reactions?
(iii) Write two reactions for the preparation of phosphorus acid? (iv) Why is SO_3 dissolved in H_2SO_4 and not in water?
(v) Why Iodine has metallic luster? (vi) When does sp-hybridization occur?
(vii) Write down the formula of Aniline and Benzaldehyde. (viii) During $\text{S}_{\text{N}}1$ reaction, what is the significance of first step.
(ix) What is Wurtz synthesis? (x) Justify that Cannizzaro's reaction is self oxidation reduction reaction.
(xi) Write down mechanism of the reaction of SOCl_2 with acetic acid? (xii) What is difference between Clinker and Cement?

3- Write short answers to any EIGHT (8) of the following questions. (8x2=16)

- (i) How does electron affinity vary in a group of the periodic table? (ii) Why nitrogen is chemically inert at room temperature?
(iii) Write structural formulas of but-1-ene-3-yne and vinyl acetate. (iv) Give the mechanism of O_3 ozonolysis of Ethene?
(v) How does Acetylene react with HBr? (vi) How Acylation of Benzene takes place. Give its mechanism?
(vii) How does phenol react with alkali? (viii) Prepare bakelite from phenol?
(ix) How aldehyde react with hydrazine? Give its mechanism?
(x) How Iodoform is prepared from acetaldehyde and ethyl alcohol.
(xi) Write down the structural formula of the following. (a) Propanoic Acid:
(xii) Write the major steps involved in the synthesis of urea fertilizer?

4- Write short answers to any SIX (6) of the following questions. (6x2=12)

- (i) Give the name and formula of common minerals of Be? (ii) What is action of heat on orthoboric acid, H_3BO_3 ?
(iii) How does H_3BO_3 act as an acid? (iv) Give reaction of P_2O_3 with cold and hot water?
(v) Complete and balance following equations. (a) $\text{HClO}_4 + \text{P}_2\text{O}_5 \xrightarrow{-10^\circ\text{C}}$ (b) $\text{HgO} + \text{Br}_2 \xrightarrow{-50^\circ\text{C}}$
(vi) Write down structural formulas of 3-Ethyl pentane and 4-Ethyl-3,4-dimethylheptane.
(vii) How is the straight chain structure of benzene ruled out? (viii) How formaldehyde is prepared in laboratory?
(ix) Which type of calcareous raw material is used in cement?

(SECTION-II)

Attempt any THREE (3) questions. (3x8=24)

- 5.(a) Explain the position of hydrogen over its group of periodic table with two similarities and two differences.
(b) Discuss peculiar behaviour of Li?
6.(a) Describe Birkeland and Eyde's process for the manufacture of Nitric acid.
(b) Write down any four methods of preparation of acetic acid with reactions?
7.(a) Discuss extra ordinary stability of Benzene molecules.
(b) Explain isomerism and give various types with examples.
8.(a) How will you synthesize the following compounds starting from ethyne? i) Acetaldehyde
ii) Methyl nitrile iii) Ethane iv) Acrylonitrile
(b) Write a detail note on $\text{S}_{\text{N}}1$ reactions in organic compounds.
9.(a) Give the uses of phenols. How bakelite is prepared from it.
(b) Give three uses for each of formaldehyde and acetaldehyde.

MCQs Ans Key.

Q:1 (B)

Q:2 (B)

Q:3 (D)

Q:4 (A)

Q:5 (A)

Q:6 (D)

Q:7 (D)

Q:8 (D)

Q:9 (B)

Q:10 (A)

Q:11 (A)

Q:12 (C)

Q:13 (B)

Q:14 (B)

Q:15 (D)

Q:16 (D)

Q:17 (A)



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Test Syllabus:	Full Book				

(A)- Choose the correct option of under-lined words from Book-2 Part-I.

(3)

- (1) The anticipation was always worse than the reality: (A) fear (B) delay (C) knowledge (D) wait before hand
- (2) My voice was sepulchral. (A) sorrowful (B) chirpy (C) good (D) musical
- (3) Corn is scare and food is lacking: (A) mean (B) short (C) long (D) soft

(B)- Choose the correct option of under-lined words from Book-2 Part-II.

(3)

- (4) Pasteur was filled with loathing of Germany. (A) hatred (B) love (C) romance (D) patriotism
- (5) In Eastern Anatolia, week by week, little encounters increased. (A) skirmishes (B) nobility (C) areas (D) distance
- (6) Who ordered Mustafa Kamal to return to Constantinople? (A) Mehmet (B) Pariick Pringle (C) G. F. Lamb (D) Stephen Leacock

(C)- Choose the correct option of under-lined words from Goodbye Mr. Chips.

(4)

- (7) Katherine had not been able to bequeath all her mind to him. (A) conceal (B) read (C) grant (D) afford
- (8) Chips was a legend: (A) famous person (B) poet (C) novelist (D) held
- (9) Across the road behind a rampart of ancient elms lay Brookfield. (A) latest (B) old (C) stone wall (D) mountain
- (10) School bell clanged for call over. (A) rang (B) change (C) fell (D) hanged

(D)- Choose the correct option of appropriate prepositions.

(5)

- (11) They built a bridge the river. (A) to (B) from (C) over (D) of
- (12) He is deaf my advice. (A) on (B) for (C) about (D) of
- (13) My house is adjacent ____ the Masjid. (A) with (B) to (C) from (D) by
- (14) He ran into many troubles. (A) He ran into much trouble. (B) He ran in trouble. (C) He ran with troubles. (D) He ran into much troubles.
- (15) He has a decent house to live. (A) He has a decent house to live in. (B) he has a decent house to live at. (C) he has a decent house to live into. (D) he has a decent house to live from.

(E)- Choose the correct sentence.

(5)

- (16) Ten deers are sitting in the forest.
(A) Ten deer are sitting in the forest. (B) Ten deer is sitting in the forest.
(C) Ten deers are sitting on the forest. (D) Ten deers is sitting in the forest.
- (17) There are no place in this compartment.
(A) There are no place in this compartment. (B) There is no room in this compartment.
(C) There are no room in this compartment. (D) There was no place in this compartment.
- (18) One should do his duty:
(A) One should do one's duty. (B) One must do his duty. (C) One should do their duty.
(D) One should do her duty.
- (19) He is a miser man.
(A) He is miser man. (B) He is the miser man. (C) He is a miser. (D) He is a miserly
- (20) Although he is poor, but he is honest.
(A) although he is poor, yet he is honest. (B) although he is poor, but he is honest.
(C) although he is poor, he was honest. (D) although he is poor, even he is honest.



Name:		Roll#:		Class:	Inter Part-II
Subject:	English-12	Date:		Time:	
Test Type #:	Type 9 - Full Test - Board Paper Pattern - Marks=100				
Test Syllabus:	Full Book				

(SECTION-I)

2- Answer the following any SIX questions from Book-II Part-I.

(6x2=12)

- (i) What happened when the wandering star came nearer and nearer?
- (ii) What conditions are necessary for the kind of life we know, to exist on other heavenly bodies?
- (iii) Does life zone or life belt exist any other planet of the universe except earth? (iv) What is an absolute zero?
- (v) What happened when the stars began to move away from the sun?
- (vi) How do the students suffering from nervous habits fail to get through? (vii) Justify the author's act of destroying books?
- (viii) Briefly describe the reaction of the bank officials when Stephen Leacock left the bank.
- (ix) Describe how Anna Mckenzie define hunger?

3- Answer the following any SIX questions from Book-II Part-II.

(6x2=12)

- (i) Why was Churchill's name stood last in the list for about one year?
- (ii) What good did Churchill's three years stay at Harrow do him? (iii) What is the essay "First Year at Harrow" about?
- (iv) What sort of man was the headmaster at Harrow? (v) How did Lister kill germs?
- (vi) Write a brief note on Pasteur's family background. (vii) What were the activities of Mustafa Kamal at Anatolia?
- (viii) What was the attitude of the Turkish government towards the Allies after the World War I?
- (ix) Give a brief account of Mustafa Kamal as a great nation builder.

4- Answer the following any EIGHT questions from the Novel Goodbye Mr.Chips.

(8x2=16)

- (i) Where did Mr. Chips live after his retirement? (ii) What did Chips think about Katherine?
- (iii) Where did Mr. Chips meet Katherine first time? (iv) What changes were brought by Katherine in Chips?
- (v) How was Mr. Chips living before marriage? (vi) What were Mr. Chips called Pre-War?
- (vii) What was Chips' joke about abhorrendum? (viii) Why does the author call Mr. Chips a legend?
- (ix) Who was Cartwright and what did he say about Mr. Chips' children? (x) Was Chips a dry sort of man?
- (xi) Can we look upon Mr. Chips as an institution of Brookfield? (xii) Write brief note on Mr. Merivale:

(SECTION-II)

5- Write an Essay (300-400 words) on any ONE of the following topics.

(15)

- (i) The Most Thrilling Cricket Match (ii) Life in a Big City (iii) Corona Pandemic in Pakistan (iv) Importance of Muslim Unity

6- Use any FIVE of the following idioms/phrases in sentence of your own.

(10)

- (i) in the teeth of (ii) set up (iii) beat about the bush (iv) in cold blood (v) a rotten egg (vi) back out
- (vii) on the horns of a dilemma (viii) for good

7- Translate the following passage into English.

(15)

موجودہ صدی میں ہمارے بڑے بڑے مسائل میں سے ایک اہم مسئلہ ماحولیاتی آلودگی ہے۔ یہ مسئلہ زیادہ ترقی پذیر ممالک کو درپیش ہے۔ ہمارے ہر بڑے شہر کی فضاء فیکٹریوں اور ٹریفک کے دھوئیں سے آلودہ ہوتی جا رہی ہے۔ سانس کی دشواری تو درکنار حتیٰ کہ بصارت بھی ماند پڑ گئی ہے۔ زمین جس پر ہم چلتے ہیں وہ بھی کوڑا کرکٹ کے باعث آلودہ ہو رہی ہے۔ پانی آلودہ ہو جانے کے باعث آبی حیات کو شدید خطرہ لاحق ہے۔ اس پہلو کے بارے میں حکومت نے ابھی کچھ سوچا ہی نہیں ہے۔

MCQs Ans Key.

Q:1 (C)

Q:2 (A)

Q:3 (B)

Q:4 (A)

Q:5 (A)

Q:6 (A)

Q:7 (C)

Q:8 (A)

Q:9 (B)

Q:10 (A)

Q:11 (C)

Q:12 (D)

Q:13 (B)

Q:14 (A)

Q:15 (A)

Q:16 (A)

Q:17 (B)

Q:18 (A)

Q:19 (C)

Q:20 (A)



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1- Circle the correct one.

(20x1=20)

1. **The perimeter P of square as a function of its area A is:**

- (A) \sqrt{A} (B) $2\sqrt{A}$ (C) $4\sqrt{A}$ (D) $\frac{1}{2}\sqrt{A}$

2. The curves $y = |x|^3 + 2|x|^2 + 1$ and $y = x^3 + 2x^2 + 1$ have the same graph for:

- (A) $x > 0$ (B) $x \geq 0$ (C) $x \neq 0$ (D) all x

3. If $f(x) = \sqrt{x+1}$, then range of f(x) is:

- (A) $(-\infty, \infty)$ (B) $[-\infty, \infty]$ (C) $[0, \infty)$ (D) $[-1, \infty)$

4. If $f(x) = \tan^{-1}x$ then $f'(\tan x) =$ _____:

- (A) $\frac{1}{1+x^2}$ (B) $\sin 2x$ (C) $\cos 2x$ (D) $\sec 2x$

5. $y = \ln(\tanh x)$ then $\frac{dy}{dx} =$ _____:

- (A) $\operatorname{sech} 2x \coth x$ (B) $2 \operatorname{sech} x$ (C) $\operatorname{sech} x \coth 2x$ (D) $-2 \operatorname{sech} x \coth x$

6. $\int (-\sin x) dx$ is equal to:

- (A) $\sin^{-1}x$ (B) $\cos x$ (C) $-\cos x$ (D) $-\sin x$

7. $\int \frac{\sec^2 x}{\tan x} dx =$ _____:

- (A) $\tan x$ (B) $\cot x$ (C) $\ln \cot x$ (D) $\ln \tan x$

8. $\int \frac{x}{x+2} dx =$ _____:

- (A) $\ln(x+2) + c$ (B) $x + 2\ln(x+2) + c$ (C) $x - 2\ln(x+2) + c$ (D) $x - \ln(x+2) + c$

9. If $\int_{-1}^2 f(x) dx = 8$, $\int_2^3 f(x) dx = 4$, then $\int_{-1}^3 f(x) dx =$ _____:

- (A) 0 (B) 4 (C) 8 (D) 12

10. If $\frac{dy}{dx} = 3x^2 - 4$, and $y = 3$ when $x = 2$, then $y = ?$

- (A) $x^3 - 4x$ (B) $x^3 + 4x + 3$ (C) $(x+1)(x^2 - x + 3)$ (D) $(x-1)(x^2 + x - 3)$

11. The distance of the point (3,-7) from x-axis is:

- (A) 7 (B) 3 (C) -3 (D) -7

12. Bisectors of angles of a triangle are:

- (A) Parallel (B) Perpendicular (C) Concurrent (D) non-concurrent

13. **Equation of Y-axis is:**

- (A) $x = 0$ (B) $y = 0$ (C) $x = c$ (D) $y = c$

14. y-intercept of the line $2x - y - 4 = 0$ is:

- (A) 2 (B) -2 (C) 4 (D) -4

15. If $x = -3$ satisfies:

- (A) $x + 3 > 2$ (B) $x + 3 > -2$ (C) $3x > 0$ (D) $x + 2 > 5$

16. **The graph of linear equation of the form $ax + by = c$ is a line, which divides the plane into ----- disjoint regions, where a, b and c are constants and a, b are not both zero.**

- (A) one (B) three (C) two (D) None of these

17. The centre of the circle $(x-1)^2 + (y+3)^2 = 3$ is:

- (A) (-1,-3) (B) (-1,3) (C) (1,3) (D) (1,-3)

18. The directrix of the parabola $x^2 = -8y$ is:

- (A) $x+2=0$ (B) $x-2=0$ (C) $y+2=0$ (D) $y-2=0$

19. The directrix of the parabola $y^2 = -4ax$ is:

- (A) $x = a$ (B) $x = -a$ (C) $y = a$ (D) $y = -a$

20. If d is the displacement and E is the applied force, then work done by E is equal to:

- (A) $F + d$ (B) $F \cdot d$ (C) $F \times d$ (D) $F - d$



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(SECTION-I)

2- Write short answers to any EIGHT (8) of the following questions. (8x2=16)

- i. Define Even and Odd function.
- ii. Evaluate each limit by using algebraic techniques: $\lim_{x \rightarrow 1} \frac{x^3 - 3x^2 + 3x - 1}{x^3 - x}$
- iii. Write Maclaurin's series expansion of the function $f(x)$.
- iv. Expand $\cos x$ by Maclaurin's series expansion.
- v. Find the interval in which f is increasing or decreasing, $f(x) = \sin x$; $x \in [-\pi, \pi]$.
- vi. Define order of the differential equation with one example.
- vii. Describe the location in the plane of the point $P(x,y)$ for which $|x| = -|y|$
- viii. The two points P and O' are given in xy -coordinate system. Find the XY -coordinates of P referred to the translated axes $O'X$ and $O'Y$. $P(\frac{3}{2}, \frac{5}{2})$; $O'(-\frac{1}{2}, \frac{7}{2})$
- ix. Find equation of line through $(-4,-6)$ and perpendicular to the line having slope $-\frac{3}{2}$.
- x. Find the distance between the parallel lines $3x - 4y + 3 = 0$ and $3x - 4y + 7 = 0$.
- xi. Find the interior angles of the triangle whose vertices are $A(2,-5)$, $B(-4,-3)$, $C(-1,5)$.
- xii. Define convex and feasible region.

3- Write short answers to any EIGHT (8) of the following questions. (8x2=16)

- i. Define parameter and parametric function.
- ii. Given that $f(x) = \sqrt{x+4}$ find $f(-2)$
- iii. Evaluate each limit by using algebraic techniques: $\lim_{h \rightarrow 0} \frac{\sqrt{x+h} - \sqrt{x}}{h}$
- iv. Show that $\frac{dy}{dx} = \frac{y}{x}$ if $\frac{y}{x} = \tan^{-1} \frac{x}{y}$.
- v. Find $f'(x)$ if $f(x) = \frac{e^{ax} - e^{-ax}}{e^{ax} + e^{-ax}}$
- vi. Evaluate $\frac{dy}{dx} = \frac{y^2 + 1}{e^x}$.
- vii. Describe the location in the plane of the point $P(x,y)$ for which $|x| \geq 3$.
- viii. Find Focus and vertex of Parabola $x^2 = 4(y - 1)$.
- ix. Write the standard equation of hyperbola.
- x. Write the vector PQ in the form $\vec{x}_i + \vec{y}_j$ $P(0,5)$, $Q(-1,-6)$.
- xi. Find the magnitude of the vector \underline{u} : $\underline{u} = \underline{i} + \underline{j}$
- xii. Define vector triple product.

4- Write short answers to any EIGHT (8) of the following questions. (8x2=16)

- i. Evaluate $\lim_{x \rightarrow 0} (1 + 2x^2)^{\frac{1}{x^2}}$
- ii. Find the derivative of $x^3 + 2x + 3$.
- iii. Find $\frac{dy}{dx}$ then $y = (x+1)^x$.
- iv. Evaluate $\int \sin^2 x dx$.
- v. Evaluate $\int \frac{x}{\sqrt{4+x^2}} dx$.
- vi. The xy -coordinate axes are translated through the the point O' whose coordinates are given in xy -coordinate. The coordinates of P are given in the XY -coordinate system. Find the coordinates of P in xy -coordinate system. $P(8, 10)$; $O'(3,4)$
- vii. Find the lines represented by $3x^2 + 7xy + 2y^2 = 0$.
- viii. Define feasible solution set.

- ix. Find condition that the line may be a tangent to the circle.
- x. Find position vector of point which divide the join of P and Q with position vectors $2\hat{i} - 3\hat{j}$ and $3\hat{i} - 2\hat{j}$ in ratio 4:3.
- xi. Find the cosine of the angle θ between \underline{u} and \underline{v} : $\underline{u} = [2, -3, 1]$, $\underline{v} = [2, 4, 1]$
- xii. Prove that $\sin(\alpha - \beta) = \sin \alpha \cos \beta - \cos \alpha \sin \beta$.
- xiii. Define work done by a force.

(SECTION-II)

Attempt any THREE (3) questions.

(3x8=24)

- 5.(a) Find $\frac{d^3y}{dx^3}$ if $y = \ln(x + \sqrt{x^2 + a^2})$
- (b) Find $\frac{f(a+h)-f(a)}{h}$ and simplify where $f(x) = x^3 + 2x^2 - 1$
- 6.(a) Show that: $\int e^{ax} \sin bx \, dx = \frac{1}{\sqrt{a^2+b^2}} e^{ax} \sin(bx - \tan^{-1} \frac{b}{a}) + c$
- (b) Find distance between $3x - 4y + 3 = 0$ and $3x - 4y + 7 = 0$. Also find equation of parallel line lying midway between them.
- 7.(a) Evaluate the definite integral $\int_0^{\frac{\pi}{2}} \frac{\cos x}{\sin x(2+\sin x)} \, dx$..
- (b) Maximize the function defined as $f(x, y) = 2x + 3y$ subject to the constraints:
 $2x + y \leq 8$; $x + 2y \leq 14$; $x \geq 0$; $y \geq 0$
- 8.(a) Find an equation of the chord of contact of the tangents drawn from (4,5) to the circle
 $2x^2 + 2y^2 - 8x + 12y + 21 = 0$
- (b) Find a joint equation of the lines through the origin and perpendicular to the lines
 $x^2 - 2xy \tan \alpha - y^2 = 0$
- 9.(a) Show that an equation of the parabola with focus at $(a \cos \alpha, a \sin \alpha)$ and directrix $x \cos \alpha + y \sin \alpha + a = 0$ is
 $(x \sin \alpha - y \cos \alpha)^2 = 4a(x \cos \alpha + y \sin \alpha)$
- (b) If $\underline{a} = 4\hat{i} + 3\hat{j} + \hat{k}$ and $\underline{b} = 2\hat{i} - \hat{j} + 2\hat{k}$. Find a unit vector perpendicular to both \underline{a} and \underline{b} . Also find the sine of angle between the vectors \underline{a} and \underline{b} .

MCQs Ans Key.

Q:1 (C)

Q:2 (B)

Q:3 (C)

Q:4 (C)

Q:5 (A)

Q:6 (B)

Q:7 (D)

Q:8 (C)

Q:9 (D)

Q:10 (D)

Q:11 (A)

Q:12 (C)

Q:13 (A)

Q:14 (D)

Q:15 (B)

Q:16 (C)

Q:17 (D)

Q:18 (D)

Q:19 (A)

Q:20 (B)



Name:		Roll#:		Class:	Inter Part-II
Subject:	Pak Studies-12	Date:		Time:	
Test Type #	Type 5- Full Test - Board Paper Pattern - Marks=50				
Test Syllabus:	Full Book				

(10x1=10)

1- درست جواب کے گرد دائرہ لگائیں۔

1. سپریم کورٹ کا صدر دفتر کس شہر میں ہے؟
(A) لاہور (B) کراچی (C) پشاور (D) اسلام آباد
2. قومی اسمبلی کے ارکان کے انتخاب کی مدت کتنے سال ہے۔
(A) 5 (B) 6 (C) 7 (D) 8
3. ہڑپہ کے کھنڈرات کس ضلع میں واقع ہے؟
(A) ملتان (B) اوکاڑہ (C) لاہور (D) ساہیوال
4. موہنجوداڑو کا مطلب ہے :
(A) انسانوں کا شہر (B) مردوں کا شہر (C) زندوں کا شہر (D) مسجدوں کا شہر
5. راولپنڈی سے پشاور تک کا علاقہ کہلاتا ہے :
(A) گندھارا (B) وسطی پنجاب (C) نیکیلا (D) پوٹھووار
6. ”جامع شیر شاہی مسجد“ واقع ہے۔
(A) ٹھٹھہ میں (B) بھیرہ میں (C) لاہور میں (D) ملتان میں
7. خاندان سے علیحدگی کے حق کو کیا کہتے ہیں؟
(A) مساوات (B) وراثت (C) نکاح (D) خلع
8. پاکستان میں لڑکی کی شادی کے لیے کم از کم عمر کیا ہے؟
(A) 15 سال (B) 16 سال (C) 17 سال (D) 18 سال
9. پاکستان کو آزادی کے بعد سب سے پہلے کس ملک نے تسلیم کیا؟
(A) سعودی عرب (B) ترکی (C) افغانستان (D) ایران
10. پاکستان اور چین نے اپنے سرحدی مسائل کو ----- میں طے کر لیا تھا۔
(A) 1961 (B) 1962 (C) 1963 (D) 1964

(حصہ اول - معروضی)

(6x2=12)

2- کوئی سے چھ (6) سوالات کے مختصر جوابات لکھئے۔

- (i) سرسید احمد خاں کی تحریر کی گئی چار کتابوں کے نام لکھیں۔ (ii) قرار داد مقاصد کب اور کس نے پیش کی؟
- (iii) مقننہ کیا کام کرتی ہے۔ یا مقننہ کا بنیادی فرض کیا ہے؟ (iv) حضرت عمرؓ نے زمین کے متعلق کیا پالیسی اختیار کی تھی؟
- (v) پاکستان کے مشہور کھیلوں کے نام لکھئے۔ (vi) پاکستان میں کون کون سی غذائیں پسند کی جاتی ہیں؟ (vii) بلوچی زبان کے دو اہم لہجے کون سے ہیں؟
- (viii) پاکستان کے ذرائع آبپاشی بیان کریں۔ (ix) صنعتی ترقی کے دو لوازمات بیان کیجئے۔

(6x2=12)

3- کوئی سے چھ (6) سوالات کے مختصر جوابات لکھئے۔

- (i) خیبر پختونخواہ سے تعلق رکھنے والی دو شخصیات کے نام تحریر کریں جنہوں نے تحریک پاکستان میں اہم کردار ادا کیا۔
- (ii) ریاست حیدر آباد دکن پر بھارت نے کس طرح قبضہ کیا؟ (iii) پاکستان کے شمال مغرب میں واقع دو اہم ممالک کے نام لکھئے۔
- (iv) 1973ء کے آئین کے تحت پاکستان میں کون سا طرز حکومت ہے؟ (v) مسلمانوں کے دریاہت کردہ ساز اور لاگ تحریر کریں۔
- (vi) مغلیہ دور کے ان بادشاہوں کے نام لکھئے جو فن خطاطی میں گہری دلچسپی رکھتے تھے۔ (vii) پاکستان کے کوئی سے دو مشہور مصوروں کے نام لکھئے۔
- (viii) غیرت کے نام پر قتل کے لیے عام طور پر کیا وضاحت دی جاتی ہے؟ (ix) ورلڈ ٹریڈ سنٹر کا واقعہ مختصراً بیان کریں۔

(حصہ دوم - انشائیہ)

(8x2=16)

نوٹ:- کوئی سے دو (2) سوالات کے جوابات لکھئے۔

- i. سرسید احمد خاں کی تعلیمی خدمات پر روشنی ڈالیں:
- ii. وفاقی انتظامیہ کے ڈھانچے کی وضاحت کیجئے۔
- iii. آپ قومی یک جہتی اور سالمیت کے بارے میں کیا جانتے ہیں۔ نیز قومی یک جہتی کی اہمیت بیان کیجئے۔

MCQs Ans Key.

Q:1 (D)

Q:2 (A)

Q:3 (D)

Q:4 (B)

Q:5 (A)

Q:6 (B)

Q:7 (D)

Q:8 (A)

Q:9 (D)

Q:10 (C)



Name:		Roll#:		Class:	Inter Part-II
Subject:	Physics-12	Date:		Time:	
Test Type #	Type 16 - Full Test - Board Paper Pattern - Marks=85				
Test Syllabus:	Full Book				

1- Circle the correct one.

(17x1=17)

- Electric coefficient is represented by:
(A) ϵ_0 (B) ϵ_r (C) μ_0 (D) μ_r
- Electric intensity inside the hollow sphere is:
(A) $\frac{\sigma}{\epsilon_0}$ (B) $\frac{\sigma}{2\epsilon_0}$ (C) $\frac{1}{\epsilon_0}$ (D) Zero
- Resistance tolerance of silver band is:
(A) 10% (B) 6% (C) 7% (D) 5%
- Brightness in cathode ray oscilloscope is controlled by:
(A) Grid (B) Filament (C) Anode (D) Cathodes
- When current flowing through an inductor is doubled, then energy stored in it becomes:
(A) Half (B) Four times (C) One fourth (D) Double
- Root mean square value of voltage is given by:
(A) $V_{rms} = 2V_0$ (B) $V_{rms} = \sqrt{2}V_0$ (C) $V_{rms} = \frac{V_0}{\sqrt{2}}$ (D) $V_{rms} = \frac{V_0}{2}$
- An inductor of 1 Henry inductance has a reactance 500 ohms, then the frequency required is approximately:
(A) 50 Hz (B) 100 Hz (C) 80 Hz (D) 120 Hz
- The impedance of RLC series circuit at resonance is given by:
(A) $Z = \sqrt{R^2 + X_L^2 - X_C^2}$ (B) $Z = \sqrt{R^2 + X^2}$ (C) $Z = R$ (D) $Z = \sqrt{R^2 + X^2}$
- Which one is pentavalent impurity?
(A) Boron (B) Gallium (C) Antimony (D) Indium
- Soft magnetic material is:
(A) Iron (B) Sodium (C) Steel (D) Copper
- A pn junction can not be used as:
(A) Rectifier (B) Amplifier (C) Detector (D) LED
- For rectification we use:
(A) Transformer (B) Diode (C) Choke (D) Generator
- In full wave rectification number of diodes required are equal to:
(A) 4 (B) 3 (C) 5 (D) 1
- Transistor was discovered by:
(A) Young (B) I. Curie (C) John Bardeen (D) Shale's
- Amount of energy released due to complete conversion of 1 kg mass into energy is:
(A) 9×10^{16} J (B) 9×10^9 J (C) 9×10^{20} J (D) 3×10^8 J
- A positron is an-anti particle of:
(A) Proton (B) Electron (C) Neutron (D) Photon
- The typical nuclei have diameter less than:
(A) 10^{-14} m (B) 10^{-12} m (C) 10^{-10} m (D) 10^{-8} m



Name:		Roll#:		Class:	Inter Part-II
Subject:	Physics-12	Date:		Time:	
Test Type #:	Type 16 - Full Test - Board Paper Pattern - Marks=85				
Test Syllabus:	Full Book				

(SECTION-I)

2- Write short answers to any EIGHT (8) of the following questions.

(8x2=16)

- (i) Define Electric force and Electrostatics.
- (ii) A particle carrying a charge of $2e$ falls through a potential difference of 3.0 V calculate the energy acquired by it.
- (iii) Define capacitance of capacitor and write its formula.
- (iv) Describe the force or forces on a positive point charge when placed between parallel plates a) With similar and equal charges
b) With opposite and equal charge
- (v) State Ampere's law and write it in mathematical form. (vi) How brightness on screen of CRO can be controlled?
- (vii) What is C.R.O? Also give its two uses.
- (viii) Can an electric motor be used to drive an electric generator with the output from the generator being used to operate the motor?
- (ix) Which quantity, voltage or current leads in a capacitor and by how much angle? (x) What is Impedance? Give its SI Unit.
- (xi) Define stress and strain. What are their SI Units? (xii) When a solid is heated, it begins to glow? Why does it first appear red?

3- Write short answers to any EIGHT (8) of the following questions.

(8x2=16)

- (i) Define temperature coefficient of resistance. Give its unit.
- (ii) State Faraday's Law of electromagnetic induction. Write its mathematical form.
- (iii) A sinusoidal current rms Value of 15 A. What is the maximum or peak value?
- (iv) Define modulus of elasticity. Also discuss its three kinds.
- (v) What are the two main differences between conductors and semi conductors? (vi) Define depletion region and potential barrier.
- (vii) What in effect of forward biasing of a diode on width of depletion region?
- (viii) Can an electron in the ground state of hydrogen atom absorb a photon of energy 13.6 eV or greater than 13.6 eV?
- (ix) How much energy is released when 1 amu is converted into energy? (x) What is Radioactivity?
- (xi) What is meant by half life of a radioactive element? (xii) What do you mean by quark?

4- Write short answers to any SIX (6) of the following questions.

(6x2=12)

- (i) Define Tesla. Write its mathematical formula. (ii) Write the principle of electric generator.
- (iii) Define Elasticity and plasticity of the material. (iv) What is meant by virtual ground?
- (v) We do not notice the de Broglie wavelength for a pitched cricket ball. Explain why?
- (vi) Find the energy of photon in radiowave of wavelength 100m. (vii) Is energy conserved when an atom emits a photon of light?
- (viii) What is meant by population inversion? Explain. (ix) Write a short note on Geiger Muller counter.

(SECTION-II)

NOTE: Attempt any THREE (3) questions.

(3x8=24)

- 5.(a) Describe the Millikan's method to find the charge on an electron.
(b) A platinum wire has resistance of 10Ω at 0°C and 20Ω at 273°C . Find the value of temperature coefficient of resistance of platinum.
- 6.(a) State Ampere's law and find magnetic field (B) due to current carrying solenoid.
(b) A solenoid coil 10cm long has 40 turns per cm. when the switch is closed, the current rises from zero to its maximum value of 5A in 0.01s. find the energy stored in the magnetic field if the area of cross-section of the solenoid be 28 cm^2 .
- 7.(a) What are the semi-conductors? Discuss the formation of p-type and n-type materials with their schematic diagrams.
(b) An iron core coil of 2.0 H and 50Ω is placed in series with a resistance of 450Ω . An A.C. Supply of 100 V, 50 Hz is connected across the circuit. Find (i) the current flowing in the coil, (ii) phase angle between the current and voltage.
- 8.(a) What is photo electric effect? Explain it on the basis of quantum theory.
(b) What is operational amplifier? Discuss the action of op.amp as inverting and non-inverting amplifier. Also calculate voltage gain in each case.
- 9.(a) What is the energy in eV of quanta of wavelength of $\lambda = 500\text{nm}$?
(b) Radiation from a point source obeys inverse square law. If count rate at a distance of 1.0 m from Geiger counter is 360 counts per minute. What will be its count rate at 3.0 m from the source?

MCQs Ans Key.

Q:1 (A)

Q:2 (D)

Q:3 (A)

Q:4 (A)

Q:5 (B)

Q:6 (C)

Q:7 (C)

Q:8 (D)

Q:9 (C)

Q:10 (A)

Q:11 (B)

Q:12 (B)

Q:13 (A)

Q:14 (C)

Q:15 (A)

Q:16 (B)

Q:17 (C)

TALEEM CITY INSTITUTE



Ameenpur, Faisalabad

03126987979

Name:		Roll#:		Class:	Inter Part-II
Subject:	Urdu-12	Date:		Time:	
Test Type #:	Type 8 - Full Test - Board Paper Pattern - Marks=100				
Test Syllabus:	Full Book				

(حصہ اول)

(8+1+1=10)

2(الف) درج ذیل اشعار کی تشریح کیجیے۔ نظم کا عنوان اور شاعر کا نام بھی تحریر کیجیے۔
 نہ مظلوم کی آہ و زاری سے ڈرنا
 ہوا و ہوس میں خودی سے گزرنا
 سدا خواب غفلت میں بے ہوش رہنا
 نہ مفلوک کے حال پر رحم کرنا
 ہوا و ہوس میں خودی سے گزرنا
 سدا خواب غفلت میں بے ہوش رہنا

(9+1=10)

(ب) درج ذیل اشعار کی تشریح کیجیے اور شاعر کا نام بھی تحریر کیجیے۔
 نوید نہ ہو ان سے، اے رہبر فرزاند!
 اے طائر لاهوتی! اس رزق سے موت اچھی
 دارا و سکندر سے وہ مرد فقیر اولیٰ
 کم کوش تو ہیں لیکن بے ذوق نہیں راہی
 جس رزق سے آتی ہو پرواز میں کوتاہی
 ہو جس کی فقیری میں بوئے اسد الہی

(حصہ دوم)

(10+3+1+1=15)

3- سیاق و سباق کے حوالے سے کسی ایک جزو کی تشریح کیجیے۔ مصنف کا نام اور سبق کا عنوان بھی لکھیے:
 i. کلکتہ میری جائے پیدائش ہے، حالانکہ میں صرف ایک سال کی شیر خوار وہاں سے لے آئی گئی تھی لیکن پھر بھی اس جگہ سے اُس تھا۔ اس کو دیکھنے کا ارمان تھا لیکن میرے جذبات نے مجھے ہمیشہ دھکے کھلوائے ایز پورٹ سے لے کر پولیس اسٹیشن تک جو میرا اور باقی مجھ جیسے سیاحوں کا حال ہو ا وہ ناگفتہ بہ ہے۔ خدا کسی شریف انسان کو کلکتہ نہ لے جائے۔ اگر مرزا غالب نے اس میں کچھ دیکھا تو ہندوستانی کسٹم آفیسر اور بنیا پولیس سے پہلے دیکھا ہو گا۔
 ii. عمر بن عبدالعزیز اکثر عیسائیوں اور یہودیوں کے ہاں مہمان ہوتے تھے لیکن ان کے کھانے کی قیمت دے دیا کرتے تھے۔ وفات کے وقت اپنے مقبرے کے لیے جو زمین پسند کی وہ ایک عیسائی کی تھی۔ اس کو بلا کر خریدنا چاہا۔ اس نے کہا، امیر المؤمنین! قیمت کی ضرورت نہیں، ہمارے لیے تو یہ امر برکت کا باعث ہو گا لیکن انھوں نے نہ مانا اور تیس دینار دے کر وہ زمین خرید لی۔

(9+1=10)

4- کسی ایک سبق کا خلاصہ لکھیے اور مصنف کا نام بھی لکھیے: (i) تفکیک پاکستان (ii) پہلی فتح

(5)

5- نظم کا مرکزی خیال / خلاصہ لکھیے اور شاعر کا نام بھی لکھیے۔ نعت

6- درج ذیل عنوانات میں سے کسی ایک پر مفصل مضمون تحریر کیجیے۔ (i) کرونا وائرس اور ہماری ذمہ داریاں (ii) میرا نصب العین (iii) شجر کاری کی ضرورت واہمیت (20)

(10)

7- خط لکھیں۔ اپنے دوست کے نام خط لکھو جس میں کھانے پینے کی اشیاء میں ملاوٹ پر اپنے تاثرات کا اظہار کیجیے۔

MCQs Ans Key.

Q:1 (B)

Q:2 (B)

Q:3 (C)

Q:4 (A)

Q:5 (D)

Q:6 (B)

Q:7 (C)

Q:8 (C)

Q:9 (A)

Q:10 (B)

Q:11 (C)

Q:12 (B)

Q:13 (C)

Q:14 (B)

Q:15 (C)

Q:16 (C)

Q:17 (D)

Q:18 (B)

Q:19 (A)

Q:20 (A)