



Name

1۔ ہر سوال کے سامنے چار دائرے دئے گئے ہیں، صرف صحیح جواب والا دائرہ بھریں۔

2۔ دائروں کو شیڈ (بھرنے) کے لئے نیلے یا کالے رنگ کا مارکر استعمال کریں۔

Roll No

3۔ جواب میں ایک سے زائد دائرے بھرنے سے جواب غلط تصور ہوگا۔

Time Allowed: 20 Minutes

SECTION – A

Marks : 18

- 1 The minimum charge exist on any body can not be less than..... $1.6 \times 10^{-27}C$ $1.6 \times 10^{-19}C$ $1.6 \times 10^{31}C$ $1.6 \times 10^{19}C$
- 2 A charge $1e$ accelerated through a potential difference of $1000 V$ acquires K.E..... 1000 ev $1000 J$ $1 J$ 1 ev
- 3 A wire of uniform cross section area A and length L and resistance R is cut into two equal parts. The specific resistance of each part will be..... Doubled Halved One fourth Remains the same
- 4 The reciprocal of resistivity of the conductor is..... Conductance Capacitance Condilivity None
- 5 The crystal always tends to fracture along definite directions by mechanical stress, this phenomena is called..... Cleavage Symmetry Isotropy None of these
- 6 Magnetic flux per unit area is area of..... Magnetic flux density Magnetic induction Self induction Both A & B
- 7 According to Len's law for electromagnetic induction that the quantity, which conserved, is..... Energy Angular, momentum Torque Magnetic induction
- 8 A balanced wheat-stone bridge is used to determine..... Unknown current Unknown voltage Unknown resistance Unknown emf
- 9 By doubling the frequency of alternating current..... X_C becomes double X_L becomes double X_L becomes half Both halves
- 10 The value of alternating voltage is $V = 10 \sin 2\pi t$. The effective value will be..... $10 V$ $7.07 V$ $14.1 V$ $2\pi V$
- 11 A small piece of an un-magnetized material gets repelled when it is brought near a powerfull magnet. The material is..... Paramagnet Diamagnetic Ferromagnetic None magnet
- 12 Which one is not ferromagnetic in nature? iron Nickel Copper Cobalt
- 13 The wave length of a photon having energy of $6.625 \times 10^{-19} J$ $1.3 \times 10^{-7} J$ $1 \times 10^{-7} J$ $3 \times 10^{-7} J$ None of these
- 14 In the pair production, electron and positron are created, the electron is similar particle as that of positron except..... Mass Charge Momentum Energy
- 15 Which of the given properties of an electron is used in electron microscopy? High velocity Wave nature Small mass Diffraction
- 16 The Balmer series converges at the shortest wavelength equal to..... $4 R_H$ $\frac{R_H}{4}$ $\frac{4}{R_H}$ None of these
- 17 With the help of laser beam we can produce..... Fusion reaction Holograms Fragment of kidney stone All these
- 18 α - particles is + vely charged particle, similar to..... Hydrogen nuclei Oxygen nuclei Helium nuclei Helium atom

PHYSICS (New)

Inter Part – II

(Fresh/Reappear)

Note: Time allowed for Section – B and Section – C is 2 Hours and 40 minutes.

Section – B

Marks: 40

Q-II Attempt any TEN parts. Each part carries FOUR marks.

1. What is an Equipotential line and Equipotential Surfaces? ✓
2. Clearly differentiate between Resistance and Resistivity? ✓
3. Why Wheat flour is usually passed near a magnet before being packed?
4. Differentiate between Dynamic and Static Induced emf with examples?
5. Show those inductive and capacitive reactances are measured in the units of ohms? ✓
6. Define Strength, stiffness, ductility and brittleness of a solid material? ✓
7. Explain why the base current is weak as compared to collector current? ✓
8. When a particle K.E increases, what happen to its de Broglie wavelength? Explain. ✓
9. Define the units: Columb, Tesla, Farad, and Henry?
10. What are laser knives? ✓
11. Why are large nuclei are unstable? ✓
12. Why do heavy elements require more neutrons in order to maintain stability? ✓
13. An electron is placed in a box about the size of an atom that is 10^{-10} m. What is the velocity of the electron?

Section – C

Marks: 27

Note: Attempt any THREE questions. All questions carry equal marks.

- Q-III (a) Explain the term emf, internal resistance and terminal potential difference of a battery? ✓
 (b) Find electric field at distance of 30 cm from a $3 \mu\text{C}$ point charge?
- Q-IV (a) State Ampere's Law and use it to derive an expression for magnetic field due to solenoid? ✓
 (b) In a certain circuit, the transistor has a collector current of 20 mA and a base current of $80 \mu\text{A}$. What is the current gain of the transistor? ✓
- Q-V (a) Define and explain the half life of a radioactive element? ✓
 (b) Calculate the longest wave length of radiations for Paschen series?
- Q-VI Write brief notes on any two of the following.
- (a) Electron Microscope ✓
 - (b) Transformer ✓
 - (c) Transistor ✓