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 µC point charge?
- Q-IV (a) State Ampere's Law and use it to derive n 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 80μA.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