



SUCCESSOR'S

Inter Part-II Important Long Questions (Physics)



Roll No.: _____

Chapter 12

- State Gauss's law. Derive relation for electric intensity at a point near an infinite sheet of charge.
- Define electric flux. Show that electric flux due to point charge 'q' placed at the center of a sphere is equal to $\frac{q}{\epsilon_0}$.
- Define electric potential. Calculate the electric potential at the point due to a point charge.

Chapter 13

- What is Wheatstone Bridge? How it is used to determine the unknown resistance.
- What is Potentiometer? How it can be used as:
 - (i) Potential Divider
 - (ii) Measuring of emf of a cell.
- Kirchhoff's Rule

Chapter 14

- Define Ampere's law. Calculate the magnetic field due to current flowing through a solenoid.
- Derive expressions of force on a current carrying conductor placed in a uniform magnetic field?
- Explain how e/m for an electron is determined.

Chapter 15

- Derive a relation for energy stored in an inductor and electric density.
- What is alternating current generator? Describe its principle, construction and working. Also derive an expression for induced emf and induced current.

Chapter 16

- Describe the generation, propagation and reception of electromagnetic waves.
- What is RC series circuit? Derive an expression for impedance and phase angle of RC series circuit.

Chapter 17

- What is the energy band theory? How behaviors of electrical conductors, insulators and semi-conductors can be explained on the basis of energy band theory.
- What is Hysteresis loop? Describe its main features.
- Define extrinsic and intrinsic semiconductors. How can we obtain P-type and N-type substance?

Chapter 18

- What is operational amplifier? Describe the use of an operational amplifier as
 - (i) Inverting Amplifier.
 - (ii) Non-Inverting Amplifier.
- What are logic gates? Discuss the OR Gate and AND Gate.
- Describe the use of transistor as an amplifier and calculate its voltage gain.

Chapter 19

- Define photoelectric effect. Give its explanation on the basis of Quantum theory.
- Explain de Broglie hypothesis. How Davisson and Germer experimentally verified the de Broglie hypothesis.

Chapter 20



SUCCESSOR'S

Inter Part-II Important Long Questions
(Physics)



Roll No.: _____

- State the postulates of Bohr model of hydrogen atom and explain de-Broglie's interpretation of Bohr's orbit to show that $mvr = \frac{nh}{2\pi}$.
- What are X-rays? How are they produced? Give their two applications.

Chapter 21

- Explain mass effect and binding energy.
- What is radioactivity? Discuss emission of α , β and γ particles from radioactive nuclei.
- Describe Aston's mass spectrograph. How can it be used for the detection of isotopes.