PHYSICS

BOOKS - VGS PUBLICATION-BRILLIANT

MODEL PAPER 11

Section A

1. Write the formulae for the speed of sound in solids and gases.

View Text Solution

2. What happens to the force between two charges if the distance between them is halved ?

View Text Solution

3. What happens to the force between two charges if the distance between them is doubled?

View Text Solution

4. Write the expression for electric intensity due to an infinite plane sheet of charge.

View Text Solution

5. Write the expression for the Torque experienced by a dipole placed in an external magnetic field.

View Text Solution

6. On what factors does the resistance of a conductor depends ?

View Text Solution

7. Number of turns in a coil are 100. When a current of 5Ą flowing through the coil the magnetic flux is 10^{-6}Wb. Find the self induction of the coil.

View Text Solution

8. State Ampere's law and Biot - Savart law.

View Text Solution

9. The half life of ^{58}Co is 72 days. Calculate its average life.

View Text Solution

10. Draw the circuit symbols of P-N-P and N-P-N transistors.

View Text Solution

11. Define modulation. Why is it necessary ?

View Text Solution

Section B

1. Define Doppler effect. Derive an expression for apparent frequency when the source is in motion and observer is at rest.

View Text Solution

2. Derive an expression for the equivalent capacity when capacitors are connected in series.

View Text Solution

3. The balance point in metre bridge experiment is obtained at 30 cm from the left. If the right gap contains 3.5Ω what is the resistance in the left gap ?

View Text Solution

4. Derive the balancing condition of a Wheatstone bridge.

View Text Solution

5. Explain the working of a Nuclear Reactor with the help of a labelled diagram.

View Text Solution

6. Describe how a Semi-Conductor diode is used as a half-wave rectifier.

View Text Solution

Section C

1. Describe the construction and working of a compound microscope with a neat diagram. Derive the expression for its magnification.

View Text Solution

2. Describe the construction and working of a moving coil galvanometer. Obtain the relation between current and deflection of the coil. The resistance of M.C.G is 5Ω. The maximum current it can measure is 0.015 A. How would you convert it into voltmeter to measure 1.5 volts ?

View Text Solution

3. State Bohr's Postulates. Derive an expression for the radius of the first orbit in a Hydrogen atom. Radius of the first orbit of a Hydrogen atom is $5.3 \times 10^{-11} m$. What are the radii of the n_2 and n_3 orbits ?

View Text Solution