CBSE Class 12 Physics Sample Paper Set 1

Class XII Physics

Time: 3 hours Maximum Marks: 70

General Instructions:

- (i) All questions are compulsory. There are 26 questions in all.
- (ii) This question paper has five sections: Section A, Section B, Section, Section D and Section E.
- (iii) Section A contains five questions of one mark each, section B contains five questions of two marks each, section C contains twelve questions of three marks each, section D contains one value based question of four marks and section E contains three questions of five marks each.
- (iv) There is no overall choice. However, an internal choice has been provided in one question of two marks, one question of three marks and all the three questions of five marks weightage. You have to attempt only one of the choices in such questions.
- (v) You may use the following values of physical constants wherever necessary:

$$c = 3 \times 10^8 \text{ m/s}$$

$$h = 6.63 \times 10^{-34} \text{ Js}$$

$$e = 1.6 \times 10^{-19} \text{ C}$$

$$\mu_0 = 4 \pi \times 10^{-7} \text{ T mA}^{-1}$$

$$\epsilon_0 = 8.854 \times 10^{-12} \text{ C}^2 \text{ N}^{-1} \text{ m}^{-2}$$

$$\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ N m}^2 \text{ C}^{-2}$$

$$me = 9.1 \times 10^{-11} \text{ kg}$$
Mass of neutron = 1.675 × 10⁻²⁷ kg
Mass of proton = 1.673 × 10⁻²⁷ kg
Avogadro's number = 6.023 × 10⁻²⁹ per gram mole
Boltzmann constant = 1.38 × 10⁻²³ J K⁻¹

SECTION - A

- Q. 1 Define the term 'mobility' of charge carriers. Write its S.I. unit [1]
- Q. 2 In a series LCR circuit, $V_L = V_C \neq V_R$. What is the value of power factor? [1]
- Q. 3 The focal length of an equiconvex lens is equal to the radius of curvature of either face. What is the refractive index of the material of the lens?
 [1]
- Q. 4 Write a relation for polarisation P of a dielectric material in the presence of an external electric

field
$$\vec{E}$$
 . [1]

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Lei Huang

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