

Choose the correct answer :

6. The insulators whose behaviour gets modified in the electric field is

- (a) conductor
- (b) semi conductor
- (c) dielectrics
- (d) none.

7. The medium which does not contain generators of voltage and currents is \_\_\_\_\_ medium.

- (a) Source free
- (b) Homogeneous
- (c) Isotropic
- (d) None.

8. Formulae relating amplitude of reflected and transmitted waves with that of incident wave are known as \_\_\_\_\_ formulae.

- (a) Fresnel
- (b) Larmor
- (c) Thomson
- (d) Brewster.

9. When the phase difference between any two waves varies in a completely random way, they are said to be

- (a) coherent
- (b) incoherent
- (c) scattered
- (d) in phase.

10. Antisymmetric tensor is also known as \_\_\_\_\_ tensor.

- (a) Electromagnetic field
- (b) Homogeneous
- (c) Rayleigh's
- (d) Maxwell's.

SECTION B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).

11. (a) Prove that  $\epsilon_r = 1 + k$ .

Or

(b) Differentiate between polar and non-polar molecules.

12. (a) Mention the differential form of Maxwell's equations.

Or

(b) A broadside antenna consists of 10 aerials having  $\lambda/2$  common separation. Find out the width of main lobe.