



General Instructions

- (i) The test is of 1 hour duration.
- (ii) The question paper consists of 50 questions. The maximum marks are 250.
- (iii) 5 marks are awarded for every correct answer, and 1 mark is deducted for every wrong answer.

1. In Young's double slit experiment, if the distance between the slits is increased while keeping all other parameters constant, the fringe width will:

- (A) Increase
- (B) Decrease
- (C) Remain unchanged
- (D) First increase then decrease

2. The dimensional formula of capacitance is:

- (A) $[M^{-1}L^{-2}T^4A^2]$
- (B) $[ML^2T^{-2}A^{-2}]$
- (C) $[M^{-1}L^{-1}T^3A]$
- (D) $[MLT^{-3}A^{-1}]$

3. Polarisation of light proves that light waves are:

- (A) Longitudinal
- (B) Transverse
- (C) Stationary
- (D) Electromagnetic only in vacuum

4. The work function of a metal is 2 eV. Photoelectric emission will occur when the metal is illuminated with light of energy:

- (A) 1 eV
 - (B) 1.5 eV
 - (C) 2.5 eV
 - (D) 2 eV only
-

5. In a moving coil galvanometer, the magnetic field is made radial so that the:

- (A) Resistance decreases
 - (B) Current sensitivity decreases
 - (C) Deflection becomes directly proportional to current
 - (D) Coil does not rotate
-

6. The SI unit of magnetic flux is:

- (A) Tesla
 - (B) Weber
 - (C) Henry
 - (D) Coulomb
-

7. In an electromagnetic wave, the electric field and magnetic field are:

- (A) Parallel to each other
 - (B) Anti-parallel to each other
 - (C) Perpendicular to each other and to the direction of propagation
 - (D) Parallel to the direction of propagation
-

8. The half-life of a radioactive substance is 10 days. The fraction of the original sample left after 30 days is:

- (A) $1/2$
- (B) $1/4$
- (C) $1/6$
- (D) $1/8$

9. The focal length of a convex lens is 20 cm. An object is placed at 40 cm from the lens. The image formed will be:

- (A) Virtual and erect
- (B) Real and inverted
- (C) Virtual and inverted
- (D) Real and erect

10. The magnetic field at the center of a circular current carrying loop depends on:

- (A) Only the radius of the loop
 - (B) Only the current flowing
 - (C) Current and radius of the loop
 - (D) Resistance of the wire only
-