

NEET Predicted Question Paper for Physics (3)

1. As the temperature increases, the electrical resistance

- (1) Decreases for conductors but increases for semiconductors
- (2) Increases for both conductors and semiconductors
- (3) Decreases for both conductors and semiconductors
- (4) Increases for conductors but decreases for semiconductors

2. The angular speed of a fly wheel moving with uniform angular acceleration changes from 1200 rpm to 3120 rpm in 16 seconds. The angular acceleration in rad/s² is

- (1) 104π
- (2) 2π
- (3) 4π
- (4) 12π

3. In a Young's double slit experiment, a student observes 8 fringes in a certain segment of screen when a monochromatic light of 600 nm wavelength is used. If the wavelength of light is changed to 400 nm, then the number of fringes he would observe in the same region of the screen is

- (1) 12
- (2) 6
- (3) 8
- (4) 9

4. An electric lift with a maximum load of 2000 kg (lift + passengers) is moving up with a constant speed of 1.5 ms^{-1} . The frictional force opposing the motion is 3000 N. The minimum power delivered by the motor to the lift in watts is : ($g = 10 \text{ m s}^{-2}$)

- (1) 23500
- (2) 23000
- (3) 20000
- (4) 34500

5. Two resistors of resistance, 100Ω and 200Ω are connected in parallel in an electrical circuit. The ratio of the thermal energy developed in 100Ω to that in 200Ω in a given time is

- (1) 4 : 1
- (2) 1 : 2
- (3) 2 : 1
- (4) 1 : 4

6. The angle between the electric lines of force and the equipotential surface is

- (1) 180°
- (2) 0°
- (3) 45°
- (4) 90°

7. A biconvex lens has radii of curvature, 20 cm each. If the refractive index of the material of the lens is 1.5, the power of the lens is

- (1) Infinity
- (2) +2 D
- (3) +20 D
- (4) +5 D

8. A square loop of side 1 m and resistance 1Ω is placed in a magnetic field of 0.5 T. If the plane of loop is perpendicular to the direction of magnetic field, the magnetic flux through the loop is

- (1) Zero weber
- (2) 2 weber
- (3) 0.5 weber
- (4) 1 weber

9. Plane angle and solid angle have

- (1) Both units and dimensions
- (2) Units but no dimensions
- (3) Dimensions but no units
- (4) No units and no dimensions

10. Given below are two statements

Statement I: Biot-Savart's law gives us the expression for the magnetic field strength of an infinitesimal current element (Idl) of a current carrying conductor only.

Statement II: Biot-Savart's law is analogous to Coulomb's inverse square law of charge q , with the former being related to the field produced by a scalar source, Idl while the latter being produced by a vector source, q . In light of above statements choose the most appropriate answer from the options given below

- (1) Statement I is incorrect and Statement II is correct
- (2) Both Statement I and Statement II are correct
- (3) Both Statement I and Statement II are incorrect
- (4) Statement I is correct and Statement II is incorrect

