Class-XII

Sample Questions

1. If a current carrying metal wire of diameter 2 mm produces a maximum magnetic field of magnitude

   2×10^{-3} T, then the current in the wire is:

   (a) 10A

   (b) 20A

   (c) 40A

   (d) $40\sqrt{2}$ A

2. In the region around a charge at rest, there is:

   (A) Magnetic field only

   (B) Electric field only

   (C) Neither electric nor magnetic field

   (D) Electric as well as magnetic field

3. An electric dipole placed with its axis inclined at an angle to the direction of a uniform electric field experiences:

   (A) A force but no torque (B) A torque but no force

   (C) A force as well as a torque (D) Neither a force nor a torque

4. When a ray of light enters a glass slab from air, its wavelength:

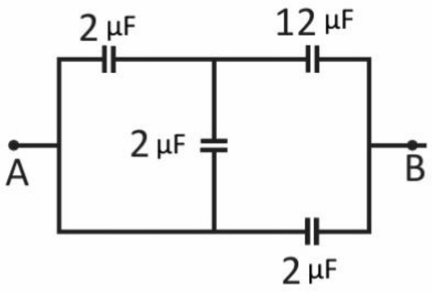
   (A) Decreases (B) Increases

   (C) Remains same (D) All of these

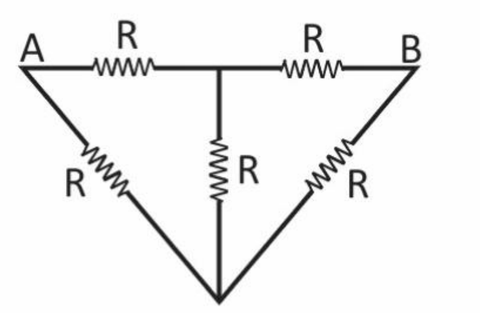
5. In the figure given below, four capacitors are connected. The effective capacitance between points A and B will be:

   (a) 3 μ F (b) 4 μ F

   (c) 5 μ F (d) 6 μ F



6. In a circuit shown in the given figure, the equivalent resistance between points A and B is:



(a) $\frac{3R}{4}$

(b) $\frac{R}{2}$

(c) $\frac{5R}{8}$

(d) 2R

7. A single-slit diffraction pattern is obtained using a beam of red light. What happens if the red light is replaced by blue light?

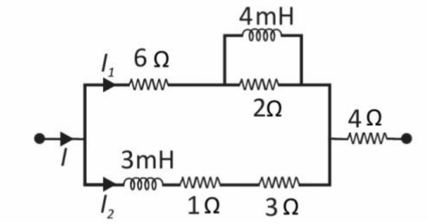
(A) There is no change in the diffraction pattern

(B) Diffraction fringes become narrower and crowded together

(C) Diffraction fringes become broader and farther apart

(D) The diffraction pattern disappears

8. In the circuit shown in figure given below, $I_2 = 3A$ in the steady state. Find the potential difference across the 4 Ω resistor.



(a) 12V

(b) 18V

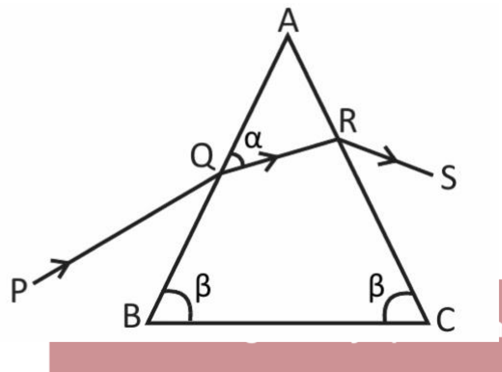
(c) 20V

(d) 24V

9. A ray of light PQ is incident on an isosceles glass prism placed on a horizontal table. If the prism is in the minimum deviation position for the ray PQ, which of the following is true?

(a) $\alpha = \beta$

(b) $\alpha > \beta$



(c) $\alpha < \beta$

(d) $\alpha + \beta = 90^0$

10. What is the effect on the interference fringes in Young's double slit experiment if the width of the two slits are increased?

(A) The fringe width increases

(B) The fringe width decreases

(C) The bright fringe are equally bright and equally spaced

(D) The bright fringes are no longer equally bright and equally spaced