Vidyamandir Classes
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MOCK TEST PAPER # 6

SOLUTION

PHYSICS (CLASS-XII)

3. Width of central maximum is $2x = \frac{2D\lambda}{a}$

4. (i) Spherical wavefront
(ii) Plane wavefront

5. The colour of third bond will be corresponding to brown colour.

6. Back emf induced in the coil, $\varepsilon = -\frac{LdI}{dt}$.

7. Permeability and susceptibility are very high.

8. **(OR)** R = 10.28 cm and the image is virtual, erect and smaller in size.

9. R = 484 Ω, E_0 = 311 V, I_v = 0.45 A

10. Resistance in wire B is 2Ω.

13. $\because \quad V = \frac{2\pi ke^2}{h} = \frac{2\pi ke^2 c}{ch}$

14. Dimensions of image formed on the screen = 70 cm × 46 cm. Areal magnification = 400

15. $\vec{E} = \frac{q}{4\pi \in_0 a^2}$ along OE.

16. $V = \frac{2VR}{Ro + 4R}$

17. $\lambda = \frac{h}{mv} = \frac{h}{\sqrt{2mqv}}$

18. $d = 32 \times 10^3$ m

19. $M = -30$

21. (a) q should be at a distance of $2a/3$, from $+4e$ charge.
(b) The moisture allows some of the charge to leave the balloon.

22. Distance between two Positions of lens = $\sqrt{D^2 - 4Df}$

24. $R_1 = 2.5 \times 10^{-5}$ T, $R_2 = 5.64 \times 10^{-5}$ T

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