

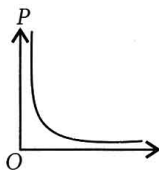
MOCK TEST PAPER # 4

HINTS & SOLUTION

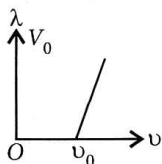
PHYSICS (CLASS-XII)

2. Ratio will be $\frac{q}{Q}$.

4.
$$P = \frac{1}{f} = (\mu - 1) \left(\frac{1}{R_1} - \frac{1}{R_2} \right)$$



6. The slope of $V_0 - \nu$ graphs is h/e



7. $n = 10$

9. The Potential difference is increased N times.

10. (i) $\epsilon = .0629$ V, $I = .03145$ A

11.
$$\lambda = \frac{h}{\sqrt{2mqV}}$$

13. (a) 5.4×10^6 N C⁻¹

(b) $- 8.1 \times 10^{-3}$ N along negative x - axis.

15. Fringe width, $\beta = \frac{D\lambda}{d}$

16.
$$B = \frac{\mu_0 IR^2}{\sqrt{2}(R^2 + x^2)^{3/2}}$$

17. $I = \frac{10}{34}$ & $V = \frac{25}{17}$ V

18. (a) 17.58 MeV and

(b) $T = 1.39 \times 10^9$ K

19. For good circuit, $RC \gg 1/\nu_c$

22. (ii) $|m| = 14$ (iii) light gathered \propto Area of objective

23.
$$V = \frac{1}{4\pi\epsilon_0} \cdot \frac{q}{r} = 3.8$$
 V

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