

## MOCK TEST PAPER # 2

### HINTS & SOLUTION

#### PHYSICS (CLASS-XII)

1. Alloys have low value of temperature coefficients of resistance and high resistivity.

2. 
$$\frac{1}{f} = (\mu - 1) \left( \frac{1}{R_1} - \frac{1}{R_2} \right)$$

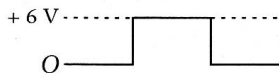
3. Paschan series, Brackett series and Pfund series.

4. Signals of frequency greater than 30 MHz will not be reflected by ionosphere but will Penetrate through ionosphere.

5. Colour code of given resistor is orange, green, red and gold.

6. Work done will be zero.

7. The output waveform across  $R$  is



8. Ratio will be 2 : 1

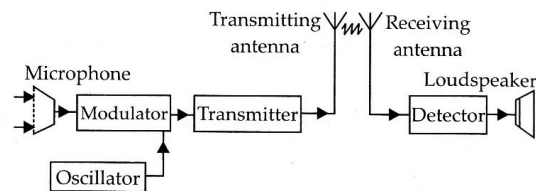
9. 3 : 1

10.  $Z = \sqrt{R^2 + X_L^2}$ ,  $\tan \phi = \frac{X_L}{R}$  and time lag,  

$$\Delta t = \frac{\phi}{\omega}$$

14.  $I = I_0 \cos^2 \theta$  and the Intensities will be  $\frac{I_0}{2}, 0, I$ .

15.



17. Time = 208.5 days

18.  $d = 8 \text{ mm}$

20.  $f = 7.815 \times 10^{-4} \text{ N}$  (Repulsive *i.e.*, towards left)

21. (a)  $f = 10 \text{ cm}$

(b)  $v = 15 \text{ cm}$  and  $h = -1.5 \text{ cm}$

22. (a)  $E = 4.174 \times 10^{-2} \text{ eV}$

(b)  $l = 0.145 \text{ nm}$

23.  $\lambda = \frac{h}{p}$  and  $K = \frac{h^2}{2m\lambda^2}$

24. Potential on surface of smallest shell > potential on surface of intermediate shell > potential on surface of outer shell.

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