Scope Tuition centre
Class Test: Physics (Wave phenomena)

Total marks: 50

One-mark questions:

1. The point where amplitude is maximum, and the strain is minimum in wave propagation is called_____
2. Explain Simple harmonic motion.
3. Write the relation between phase difference and path difference.
4. Name the type of wave which does not require a material medium for their propagation.
5. What happens to a wave when it hits a rigid boundary?
6. What are the uses of Doppler effect?

Two- mark questions:

7. Differentiate between transverse wave and longitudinal wave.
8. The velocity of sound is generally greater in solids than in air at N .T.P explain why?
9. What are stationary waves? Define Nodes and Antinodes.
10. What is Doppler Effect? Give an Example.
11. Calculate the period of wave of wavelength 0.005 m which travels with a speed of 50 cm/s

Three Mark Questions

12. What is the distance between two successive Nodes, Two successive Antinodes, and distance between a node and antinode
13. Stationary wave of frequency 256 Hz are formed in air. If the velocity of sound in air is 356 m/s, Calculate the distance between i) 2 consecutive nodes ii) Node and next antinode
14. Discuss Laplace correction.

Five-mark questions

15. Mention the characteristics of stationary wave
16. Derive the equation for apparent frequency when a source moves away from the stationary observer
17. String of mass 2.5 kg is under a tension of 200N. The length of the stretched string is 20.m. If the transverse jerk is struck at one end of the string, how long does the disturbance take to reach the other end?
18. A transverse wave on a string is described by $y(x,t)=3 \sin (36t+0.0018x+\pi/4)$ The direction of X is from left to right.
    i)Is this travelling or stationary wave? If the wave is travelling find the velocity of the wave.
    ii)What is the amplitude and frequency of the wave?
    iii)What is the initial phase at the origin?
    iv)What is the least distance between two successive crests in the wave?
19. Two cars with speed of 54 km/hr are moving in a opposite direction along a straight road. The fastre car sounds the horn with a frequency of 240 Hz. Calculate the number of waves received per second by listener sitting in the other car when it is approaches.