

**Circle the correct Answer:**

**1. A wave transfers:**

- a) Molecules
- b) Energy
- c) Matter
- d) Force

**2. In air, what is the wave length of sound of frequency 2500Hz? The speed of sound in air is  $330\text{m s}^{-1}$ .**

- a) 0.0004m
- b) 0.003m
- c) 0.132m
- d) 7.58m

**3. Which of the following is an example of longitudinal waves?**

- a) Wave in a ripple tank
- b) Light waves in water
- c) A vibrating guitar string
- d) Sound waves produced by a string

**4. All electromagnetic waves have the same:**

- a) Speed in vacuum
- b) Speed in given medium
- c) Frequency in vacuum
- d) Frequency in a given medium

5. Water waves are being generated in a ripple tank at a rate of 5Hz. This means that in one second the number of waves passing through a fixed point is:

- a) 0.2
- b) 2.5
- c) 5
- d) 10

6. The velocity of a vibrating body at its mean position is:

- a) Minimum
- b) Maximum
- c) Zero
- d) Average

7. The time period of simple pendulum of length 1m is given by  $T = 2\pi \sqrt{\frac{l}{g}}$  If

the length of the pendulum is increased by four times its initial length, the new time period will be:

- a)  $8\pi \sqrt{\frac{l}{g}}$
- b)  $4\pi \sqrt{\frac{l}{g}}$
- c)  $2\pi \sqrt{\frac{2l}{g}}$
- d)  $4\pi \sqrt{\frac{2l}{g}}$

**8. How long must be the length of a simple pendulum in order to have a time period of two seconds?**

- a) 1m
- b) 0.50m
- c) 0.25m
- d) 2m

**9. The units of frequency are:**

- a) Vibrations/second
- b) cycle/second
- c) Hertz
- d) All of these

**10. Identify the waves which do not need any medium for propagation.**

- a) Sound waves
- b) Water waves
- c) Waves on string
- d) Electromagnetic waves

**11. The relation between frequency, wavelength and speed is given by:**

- a)  $f = \lambda / v$
- b)  $f = v \lambda /$
- c)  $f = \lambda + v$
- d)  $f = v \times \lambda$

## Physics \_ X \_Test Paper – I

---

**12. If a wave oscillator vibrates 10 minutes in one second with a speed of  $10\text{ms}^{-1}$ . The correct wave length of the wave is:**

- a) 10m
- b) 20m
- c) 100m
- d) 1m

**13. If a rope in hand makes 10 oscillations every two seconds, the frequency of wave is:**

- a) 2cps
- b) 10cps
- c) 20cps
- d) 5cps

**14. The distance between two successive crests or troughs is called:**

- a) Displacement
- b) Wavelength
- c) Amplitude
- d) Area

**15. Astronauts in space need to communicate with each other by radio links because:**

- a) The sound waves become distorted in space
- b) Sound waves travel very slowly in space
- c) Sound waves can not travel in space
- d) Some frequencies of sound are absorbed by their spacesuits.