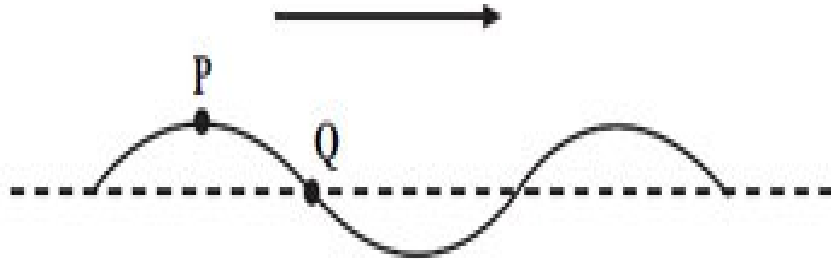


## Physics MCQ's

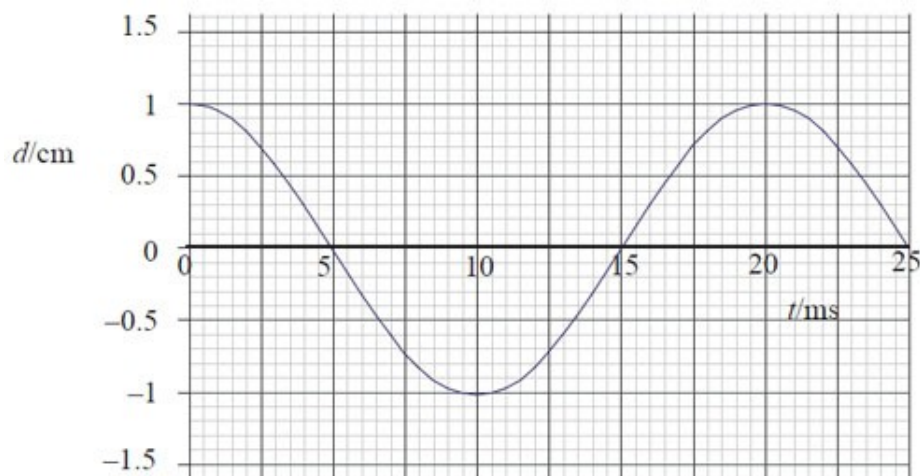
Q.1 The diagram shows a snapshot of a wave on a rope travelling from left to right.



At the instant shown, point P is at maximum displacement and point Q is at zero displacement. Which one of the following lines, A to D, in the table correctly describes the motion of P and Q in the next half-cycle?

- a). P falls then rises, Q rises
- b). P falls then rises, Q rises then falls
- c). P falls, Q falls
- d). P falls Q rises then falls

Q.2 A wave is travelling through a medium. The figure shows the variation with time  $t$  of the displacement  $d$  of a particle of the medium from  $t = 0$  to  $t = 25$  m.s.



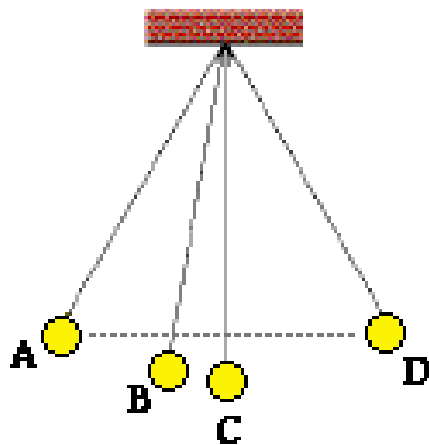
Which of the following correctly gives the frequency and the amplitude of the wave?

**Frequency**

**Amplitude**

- |                             |        |
|-----------------------------|--------|
| a). $2.0 \times 10^{-2}$ Hz | 2.0 cm |
| b). $2.0 \times 10^{-2}$ Hz | 1.0 cm |
| c). 50 Hz                   | 2.0 cm |
| d). 50 Hz                   | 1.0 cm |

Q.3 Use energy conservation to fill in the blanks in the following diagram.



**A: KE = 0 J**

**PE = 2.4 J**

**B: KE = 2.0 J**

**PE = \_\_\_\_\_ J**

**C: KE = \_\_\_\_\_ J**

**PE = 0 J**

**D: KE = \_\_\_\_\_ J**

**PE = \_\_\_\_\_ J**

## Physics MCQ's

Q.4. A transverse wave is transporting energy from east to west. The particles of the medium will move:

- a). East to west only
- b). Both eastward and westward
- c). North to south only
- d). Both northward and southward

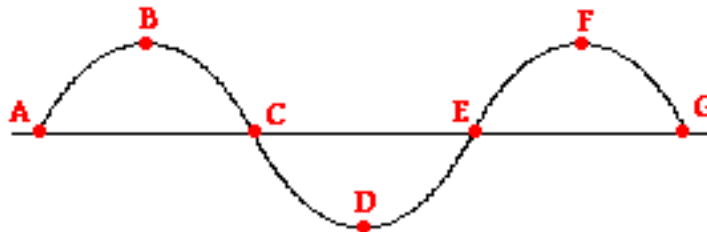
Q.5. A wave is transporting energy from left to right. The particles of the medium are moving back and forth in a leftward and rightward direction. This type of wave is known as:

- a). Mechanical
- b). Electromagnetic
- c). Transverse
- d). Longitudinal

Q.6 Which of the following is not a characteristic of mechanical waves:

- a). They consist of disturbances or oscillations of a medium.
- b). They transport energy.
- c). They travel in a direction that is at right angles to the direction of the particles of the medium.
- d). They are created by a vibrating source.

Q.7. Indicate the interval that represents one full wavelength.



- a). A to C
- b). B to D
- c). A to G
- d). C to G

Q.8 A wave is introduced into a thin wire held tight at each end. It has amplitude of 3.8 cm, a frequency of 51.2 Hz and a distance from a crest to the neighboring trough of 12.8 cm. Determine the time period of such a wave.

- a). 0.0195 sec
- b). 1.0231 sec
- c). 2.2305 sec
- d). 1.9999 sec

Q.9 A tennis coach paces back and forth along the sideline 10 times in 2 minutes. The frequency of her pacing is:

- a). 5.0 Hz
- b). 0.20 Hz
- c). 0.12 Hz
- d). 0.083 Hz

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Q.10 The distance traveled by a body from its mean position to extreme position and back to its mean position is called as:

- a). Frequency
- b). Wavelength
- c). One Vibration
- d). Time period