

## Physics \_ X Test P - II

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### CRQ's

**Q1. a) Define simple Harmonic Motion and give two examples.**

Ans. \_\_\_\_\_  
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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**b) A sound wave of frequency 3 Hz and wave length 0.3 m passes through a certain medium. Calculate the speed of the wave in that medium.**

Ans. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**c) A man stands some more distance away from a cliff. He gives a shout and hears his echo 4s later. How far is he from the cliff? Speed of sound in air is 330ms?**

Ans. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**d) Name two types of waves and give two examples of each.**

Ans. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Q2. a) Describe the three factors on which loudness of sound depends.

Ans. \_\_\_\_\_

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\_\_\_\_\_

b) What do you understand by audible frequency range which sounds are called Ultrasonic?

Ans. \_\_\_\_\_

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\_\_\_\_\_

c) Give one use each of ultrasonic in medical and technical field.

Ans. \_\_\_\_\_

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\_\_\_\_\_

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Q3. a) Define the following terms and give their S.I unit?

i). Displacement:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ii). Frequency:

\_\_\_\_\_

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iii). Time period:

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iv). Wave Length:

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b). Distinguish between transverse and longitudinal waves.

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**ERQ:**

Q4. a) Derive the relationship that wave speed is a product of its frequency and wavelength:

**OR**

If the intensity of sound is  $1 \text{ W m s}^{-2}$ . Calculate its sound level in decibel scale if the intensity of threshold of hearing is  $10^{-12} \text{ Wm}^{-2}$ .

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Q5. The figure shows the graph of the variation of displacement of a wave with distance along the wave at a particular time.

Displacement / m



Figure

**State the value for:**

i) The amplitude of the wave

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ii) The wavelength of the wave

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iii) If the wave takes 2.5 s to reach point A. Calculate its frequency.

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