Unit 7: Waves:

Subunit 7.2: Transverse and longitudinal waves:

Topical Question No: 1

23 Diffraction is a term used to describe one aspect of wave behaviour.

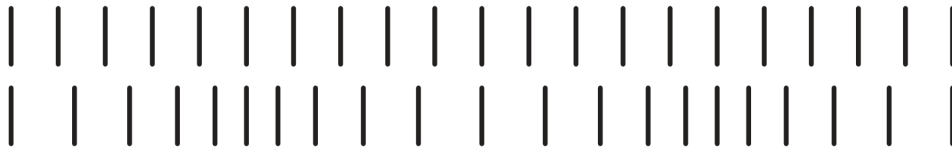What does diffraction make possible?

    A   the ability to hear around corners

    B   the ability to hear high frequency and low frequency sound waves

    C   the ability to hear loud and quiet sounds

    D   the ability to hear sound through a brick wall

Topical Question No: 2

23 The top row of bars represents a set of particles inside the Earth and at rest.

The lower row represents the same particles at one instant as a longitudinal wave passes from left to right through the Earth.

What should be measured to determine the amplitude of the oscillations of the particles in the lower row as the wave passes?

    A   half the maximum displacement of the particles from their position at rest

    B   half the maximum distance apart of the particles

    C   the maximum displacement of the particles from their position at rest

    D   the maximum distance apart of the particles

Topical Question No: 3

22 Which statement is correct for longitudinal waves but **not** correct for transverse waves?

    A   They can form stationary waves.

    B   They can only travel through a medium.

    C   They can transfer energy in the direction of travel.

    D   They consist of peaks and troughs.

Topical Question No: 4

21 Which statement about longitudinal waves and transverse waves is **not** correct?

    A   Both waves can be polarised.

    B   Both waves can form stationary waves.

    C   Both waves can transfer energy as progressive waves.

    D   Both waves obey the equation $v = f\lambda$.

Topical Question No: 5

24 Electromagnetic waves from an unknown source in space were found to be significantly diffracted when passing through gaps of the order of 10^{-5} m.

  Which type of wave are they most likely to be?

    A   radio waves

    B   microwaves

    C   infra-red waves

    D   ultraviolet waves

Space for working

Answer Key

1. N/A

2. N/A

3. B

4. A

5. N/A