Physics - 10th Class Physics English Medium Chapter 10 Preparation

Q1. Define simple harmonic motion?

Ans 1: Simple harmonic motion occurs when the net force is directly proportional to the displacement from the mean position and always directed towards the mean position.

Q2. What id diffraction?

Ans 1: The bending or spreading of waves around the sharp edges or obstacles is called diffraction.

Q3. How can you define term wave?

Ans 1: Wave: A wave is disturbance in the medium which causes the particles of medium to undergo virbratory motion about their mean position in equal intervals of time.

Q4. What is ripple tank?

Ans 1: Ripple tank is a device to produce water waves and to study their properties. Like reflection, refraction and diffraction.

Q5. Think several examples of motion in every day life that are simple harmonic.

Ans 1: i. Motion of pendulum clock ii. Motion of Ball in bowl
iii. Motion of spring iv. Motion of the prong of the tuning fork.

Q6. What is the displacement of an object in SHM when K.E. and P.E. are equal?

Ans 1: In simple harmonic motion when K.E. and P.E. are equal then the displacement will be the half of amplitude of vibrating body.

Q7. What is wave equation?

Ans 1: The relation between the velocity, frequency and wavelength of wave is known as wave equation. i.e. v = f lamda

Q8. Difference between mechanical and electromagnetic waves. Give examples of each.

Ans 1: Mechanical waves: Wave which require any material medium for their propagation are called mechanical waves.
Example: i. Water wave
ii. Sound waves

Ans 2:   Electromagnetic waves: Wave which don't require any material medium for their propagation are called electromagnetic waves.
Example: i. X-Rays ii. Light waves

Q9. Define refraction.

Ans 1:   When waves from one medium enter in the second medium at some angle their direction of travel may change.this phenomenon is called refraction of waves.

Q10. Define frequency?

Ans 1:   The number of vibration or cycle of a vibrating body in one second is called its frequency.
It is reciprocal of time period i.g. $f = 1/T$