SEM - II

Idea of S.H.M →

A simple Harmonic motion, or S.H.M is defined as a motion in which the restoring force is directly proportional to the displacement of the body from its mean position. The direction of this restoring force is always towards the mean position. The acceleration of a particle executing simple harmonic motion is given by $a(t) = -\omega^2 x(t)$.

Here, ω is the angular velocity of the particle.

Simple harmonic, Periodic and oscillation motion

Simple harmonic motion can be described as an oscillatory motion in which the acceleration of the particle at any position is directly proportional to the displacement from the mean position. it is a special case of oscillatory motion.

All the simple harmonic motion are oscillatory and also periodic, but not all oscillatory motion are SHM. oscillatory motion is also called the harmonic motion of all the oscillatory motions, where in the most important one is Simple Harmonic motion (S.H.M)