XI Physics Worksheet

Time: 30 min **Chapter#14: Oscillations-02** **Full Marks: 20**

Instructions:

1. All questions are compulsory.

2. Please give the explanation for the answer where applicable.

Q1 - What is periodic motion?

(1 Mark)

Q2 - What is oscillatory motion?

(1 Mark)

Q3 - Is the damping force constant on a system executing SHM ?

(1 Mark)

Q4 - Is rotation of earth about its axis is an example of SHM?

(2 Marks)

Q5 - A body of mass m is suspended by a spring of spring constant k. When the body is depressed a little and released, find its frequency of oscillation?

(2 Marks)

Q6 - When displacement is one-fourth of the amplitude, find the fraction of the total energy which is kinetic?

(2 Marks)

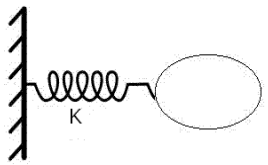
Q7 - A block of mass 5 kg executes simple harmonic motion under the restoring force of a spring. The amplitude and the time period of the motion are 0.1m and 3.14s respectively. Find the maximum force exerted by the spring on the block.

(3 Marks)

Q8 - The total energy of a particle, executing SHM is independent of displacement. Explain.

(3 Marks)

Q9 - A uniform cylinder of mass m and radius r is attached to one end of the spring as shown in the fig on rough horizontal surface. If the cylinder is slightly displaced, then find the time period of the oscillation given that there is no slipping on the surface.



(5 Marks)