**Gulistan Academy**

Physics (10th) Max.Marks = 40

Chapter No.10(Simple Harmonic motion & Waves) Pass Marks = 20

**Time = 1 Hour** Teacher Name: M.Maaz

**Question No.1: Give short answers. (2x11 = 22)**

1. *What is simple harmonic motion? What are the necessary conditions for a body to execute simple harmonic motion?*
2. *What is the difference between Damped and Un-Damped oscillations?*
3. *Prove that* ***v = f ƛ .***
4. *Does increasing the frequency of a wave also increase its wavelength?*
5. *What types of waves do not require any material medium for their propagation?*
6. *Find the time period and frequency of a simple pendulum 10 m long at a location where g = 10.0 ms-2.*
7. *Define frequency and time period of a wave.*
8. *Waves are the carriers of energy. Explain.*
9. *Define Reflection and Refraction.*
10. *What happens to the time period of a simple pendulum if its mass has been doubled?*
11. *What type of waves result in Earthquake?*

**Question No.2: (5+3)**

1. *Prove that the motion of a mass attached to a spring is SHM.*
2. *A simple pendulum completes one vibration in two seconds. Calculate its length.*

**Question No.3: (5+3)**

1. *Explain the following properties of waves with reference to ripple tank experiment*

*1-Reflection 2-Refraction 3-Diffraction*

1. *What is the wavelength of the radio waves transmitted by an FM station at 90 MHz? Speed of radio wave is 3 x 108 ms-1.*

***Best of luck***