Name: _____	**Subject:** Physics	**Class:** 10th	**Time:** 80 minutes	Total Marks:	**40**
Chapter No.	**MJDexpert.com**			Obtained marks	

Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts (a and b) of Question 3. Cutting and removal of any content is strictly prohibited.

Objective-Section

Q. 1 Encircle the correct answer. (10x1=10)

1. In simple harmonic motion, velocity at extreme position is:
   A) Maximum B) Minimum C) Zero D) None
2. In the motion of a simple pendulum, the restoring force is provided by:
   A) Air Resistance B) Tension in string C) Force of gravity D) Inertia
3. _____ of waves does not depend upon other properties of waves:
   A) Speed B) Frequency C) Amplitude D) Wavelength
4. Waves transfer from one place to another:
   A) Frequency B) Wavelength C) Velocity D) Energy
5. In which state of matter do longitudinal waves move faster?
   A) Liquid B) Solid C) Gas D) Liquid and Solid Both
6. The product of frequency (f) and wavelength is equal to:
   A) Time period B) Amplitude C) Wave speed D) Wave Energy
7. In a vacuum, all electromagnetic waves have the same:
   A) Speed B) Frequency C) Amplitude D) Wavelength
8. Ripple tank is a device used to produce:
   A) Water waves B) Sound waves C) Mechanical waves D) Electrical waves
9. When length is 1.0 m, then the period of a simple pendulum is:
   A) 1.99s B) 2.11s C) 1.89s D) 1.88s
10. The main categories of waves are:
    A) 2 B) 3 C) 4 D) 5

Subjective-Section

Q.2 Write short answers of any ten of the following questions: (10x2=20)

i. Define Simple Harmonic Motion (SHM). Also write one feature.
ii. What is the spring constant? Write its formula.
iii. Define time period and frequency.
iv. How does damping progressively reduce the amplitude of oscillation?
v. Define wave motion.
vi. Differentiate between mechanical waves and electromagnetic waves.
vii. Define crust and trough.
viii. Define the equation of a wave and also write its formula.
ix. What is the function of a ripple tank?
x. Define refraction and diffraction of waves.
xi. What is meant by simple harmonic motion? Describe its features.
xii. Describe waves as carriers of energy in detail.

Q.No.3 Long Question: (5+5=10)

a) What is meant by simple harmonic motion? Describe its features.
b) Describe waves as carries of energy with detail.