

TALEEMI DUNYA

Test Syllabus: Unit # 7

St. Name		Test	physics	T. Marks	30	Time	60 Min
F. Name		Class	11 th	T. Code	U#7	T. Date	

NOTE: Four possible answers A, B, C and D to each question are given. The choice which you think is correct, fill that circle in front of that Question with Marker or Pen ink. Cutting or filling two or more circles will result in zero mark in that question. **6.**

1. The S-I units of spring constant are							
a	m^{-1}	b	Nm^{-1}	c	Nm^{-2}	d	Nm^2
2. If $F = 0.08 \text{ N}$ and $x = 4 \text{ cm}$ then $k =$							
a	$6Nm^{-1}$	b	$4Nm^{-1}$	c	$8Nm^{-1}$	d	$2Nm^{-1}$
3. One complete round trip of a vibrating body is called							
a	Time period	b	frequency	c	Vibration	d	Amplitude
4. The time required to complete one vibration is called							
a	Time period	b	Frequency	c	Time period	d	Velocity
5. The force which opposes the applied force producing the displacement in the spring is called							
a	Restoring force	b	Periodic force	c	Centripetal force	d	Resistive force
6. In SHM, the restoring force is directly proportional to							
a	Velocity	b	Acceleration	c	displacement	d	Time period

Q.2 Write short answers of the following questions.

(8x2=16)

1. What is the total distance traveled by an object moving with SHM in a time equal to its period if its amplitude is A?
2. What happens to the time period of the simple pendulum if its length is doubled? What happens if the suspended mass is doubled?
3. Does the acceleration of a simple harmonic oscillator remain constant during its motion/ Is the acceleration ever zero? Explain
4. What is meant by phase angle? Does it define the angle between maximum displacement and the driving force?
5. Under what condition does the addition of two simple harmonic motion produce a resultant, which is also harmonic.
6. Explain the relation between total energy, potential energy and kinetic energy for a body oscillating with SMH
7. Describe some common phenomena in which the resonance plays an important role?
8. If a mass spring system is hung vertically and set in to oscillation, why does motion eventually stop?

NOTE: Attempt the long questions.

(4+4=8)

3(a) Explain SHM and uniform circular motion.

(b) What should be the length of a simple pendulum whose period is 1.0 second at a place where $g = 9.8 \text{ ms}^{-2}$ what is the frequency of such a pendulum?