

Test NO.1
Chapter-NO. 10

Class :- 10th

PHYSICS

Time Allowed: 15 Minutes

Paper: (Objective type)

Maximum Marks: 12

Note: You have four choices for each objective type question as A,B,C and D. The choice which you think is correct fill that circle in front of that question number. Use marker or pen in fills this circle. Cutting or filling two or more circles will result in zero mark in that question.

Q.1	QUESTIONS	(A)	(B)	(C)	(D)
1.	Time product of frequency and time period is equal to.	V	I	0	λ
2.	Simple Harmonic Motion is a special kind of ____ motion.	Circular	Vibratory	Translatory	Linear
3.	If length of simple pendulum is halved then its time period will be	$\frac{t}{2}$	$\frac{T}{\sqrt{2}}$	$\sqrt{2}T$	$2T$
4.	The unit of Frequency is	Hertz	Vibration per second	Cycle per second	All a,b,c
5.	The relation between v,f and λ of a wave	$v f = \lambda$	$f \lambda = v$	$v \lambda = f$	$v = \frac{\lambda}{f}$
6.	Which of the following is a method of Energy transfer	Conduction	Radiation	Wave Motion	All of these
7.	The time period of simple pendulum can be calculated by.	$T = 2\pi \sqrt{\frac{l}{g}}$	$T = 2\pi \sqrt{\frac{m}{k}}$	$T = 2\pi \sqrt{\frac{g}{l}}$	$T = 2\pi \sqrt{\frac{k}{m}}$
8.	The time period of mass attached with a spring can be calculated by.	$T = 2\pi \sqrt{\frac{l}{g}}$	$T = 2\pi \sqrt{\frac{g}{l}}$	$T = 2\pi \sqrt{\frac{m}{k}}$	$T = \frac{1}{T}$
9.	Which of the example of longitudinal wave	Sound wave	Light wave	Radio wave	Water wave
10.	Shock absorbers in automobiles are one practical application of	SHM	Random motion	Damped motion	None of these
11.	The speed of wave can be calculated by.	Vt	dxt	$f \lambda$	Tf
12.	If there applied force on the mass attached with a spring is represented by.	F_a	F_c	F	F_s

A B C D

A B C D

A B C D

A B C D

A B C D

1	(A) (B) (C) (D)	4	(A) (B) (C) (D)	7	(A) (B) (C) (D)	10	(A) (B) (C) (D)	13	(A) (B) (C) (D)
2	(A) (B) (C) (D)	5	(A) (B) (C) (D)	8	(A) (B) (C) (D)	11	(A) (B) (C) (D)	14	(A) (B) (C) (D)
3	(A) (B) (C) (D)	6	(A) (B) (C) (D)	9	(A) (B) (C) (D)	12	(A) (B) (C) (D)	15	(A) (B) (C) (D)

نوٹ: معروضی سوال نامے کو توجہ سے پڑھیں اور ہر MCQ کی درست آپشن A,B,C,D کو پین کی سیاہی یا مارکر سے اس طرح پُر کریں کہ سیاہی دائرے سے باہر نہ نکلے۔ ایک سے زیادہ دائروں کو پُر کرنے یا کات کر پُر کرنے کی صورت میں مذکورہ جواب غلط تصور ہوگا۔

TEST NO. 1**CH NO. 10****PHYSICS****Time Allowed: 1:45 Hours****Class:-10th
(PART – I)****Paper: (Essay Type)
Maximum Marks:48**

2. **Attempt any five parts from the followings** **10**
- (i) What is electromagnetic wave?
 - (ii) Define Hooke's law for mass-spring system. What is the usefulness of spring constant?
 - (iii) Define Wavelength.
 - (iv) Discuss wave motion.
 - (v) Define compressions.
 - (vi) What is a simple pendulum?
 - (vii) Difference between Vibration and Amplitude.
 - (viii) Define vibration, frequency, amplitude.
3. **Attempt any five parts from the following.** **10**
- (i) Define ripple tank.
 - (ii) Define simple harmonic motion. What are the necessary conditions for a body to execute simple harmonic motion?
 - (iii) Define diffraction.
 - (iv) Define wave. What are its types? Give their examples.
 - (v) Define Reflection.
 - (vi) Define a mechanical wave. Explain its different types with suitable examples.
 - (vii) If the length of a simple pendulum is doubled, what will be the change in its time period?
 - (viii) Difference between longitudinal waves and transverse waves.
4. **Attempt any five parts from the followings.** **10**
- (i) Plane waves in the ripple tank undergo refraction when they move from deep to shallow water. What change occurs in the speed of the waves?
 - (ii) Define Crests and Troughs.
 - (iii) Define time period.
 - (iv) What is meant by wave equation? Derive the relation for wave equation i.e. $v = f \lambda$
 - (v) What do you mean by reflection of Sound?
 - (vi) Define reflection of waves.
 - (vii) What types of waves do not require any material medium for their propagation?
 - (viii) A ball is dropped from a certain height onto the floor and keeps bouncing. Is the motion of the ball simple harmonic? Explain.

(PART- II)**Note: Attempt any two questions.**

- 5- (a) Define simple harmonic motion and prove that vibrating motion of mass attached to a spring is SHM. **4**
- (b) A simple pendulum completes one vibration in two seconds. Calculate its length. When $g = 10 \text{ ms}^{-2}$. **5**
- 6- (a) Distinguish between longitudinal and transverse waves with suitable examples. **4**
- (b) A ripple tank whose width is 80 cm, across at one end vibrator produce waves whose frequency is 5Hz and wavelength is 40 mm. Find the time the waves need cross the ripple tank. **5**
- 7- (a) Derive a relationship between velocity, frequency and wavelength of wave. Write Formularelating velocity of a wave to its time period and wave length. **4**
- (b) The time period of a simple pendulum is 2 s. What will be its length on the Earth? What will be itsLength on the moon if $g_m = g_e/6$? Where $g_e = 10 \text{ ms}^{-2}$. **5**