Exercise MCQs

Sr. No.	Questions	A	B	C	D
1	Which of the following is an example of simple harmonic motion?	✓the motion of simple pendulum	the motion of ceiling fan	the spinning of the Earth on its axis	the spinning of the Earth on its axis
2	If the mass of the bob of a pendulum is increased by a factor of 3, the period of the pendulum's motion will	be increased by a factor of 2	✓remain the same	be decreased by a factor of 2	be decreased by a factor of 4
3	Which of the following devices can be used to produce both transverse and Longitudinal waves?	a string	a ripple tank	✓a helical spring (slinky)	a tuning fork
4	Waves transfer	✓energy	frequency	wavelength	velocity
5	Which of the following is a method of energy transfer?	Conduction	Radiation	wave motion	✓all of these
6	In a vacuum, all electromagnetic waves have the same	✓speed	frequency	amplitude	Wavelength
7	Large ripple tank with a vibrator working at a frequency of $30\ \text{Hz}$ produces 25 complete waves in a distance of $50\ \text{cm}$. The velocity of the wave is	$53\ \text{cms}^{-1}$	✓60cms^{-1}	750cms^{-1}	$1500\ \text{cms}^{-1}$
8	Which of the following characteristics of a wave is independent of the others?	Speed	Frequency	✓amplitude	Wavelength
9	The relation between v, f and λ of a wave is	v f = λ	✓f λ = v	v λ = f	v = λ / f

Additional MCQs

Sr. No.	Questions	A	B	C	D
1	The length of simple pendulum is doubled its time period will be	✓$\sqrt{2}\,T$	$\frac{T}{\sqrt{2}}$	$2T$	$\frac{T}{2}$
2	In simple pendulum motion restoring force is provided by	Air resistance	Tension in string	Inertia	✓Weight of body
3	When did Christian Huygens invent the pendulum clock?	1856	✓1656	1756	1956
4	The example of shock absorbers of the vehicle is	SHM	Vibratory motion	✓Damped motion	linear motion
5	Which of these waves consist of compressions or rarefaction?	Radio waves	✓Sound waves	Television waves	X-Rays
6	If the frequency of wave is 4 Hz and wavelength is 0.4 m, then speed will be	$16\ ms^{-1}$	16 m	✓$1.6\ ms^{-1}$	1.6 m
7	Frequency is equal to	$f=\frac{1}{g}$	$f=2\pi\sqrt{\frac{l}{g}}$	$f=kx$	✓$f=\frac{1}{T}$
8	The expression of Hook's law	✓$F=-kx$	$k=\frac{-2F}{x}$	$F=\frac{-1}{kx}$	$F=-\frac{x}{k}$
9	Time period of simple pendulum is given by	✓$T=2\pi\sqrt{\frac{l}{g}}$	$T=2\pi\sqrt{\frac{m}{g}}$	$T=2\pi\sqrt{\frac{m}{k}}$	$T=2\pi\sqrt{\frac{g}{l}}$
10	Time period of a mass spring system is given by	$T=2\pi\sqrt{\frac{k}{m}}$	$T=\frac{1}{2\pi}\sqrt{\frac{k}{m}}$	$T=\frac{1}{2\pi}\sqrt{\frac{m}{k}}$	✓$T=2\pi\sqrt{\frac{m}{k}}$
11	K.E. of mass spring system is maximum at	Extreme position	✓Mean position	Both A and B	None of these
13	If $l=1$ m then the time period of simple pendulum is	2.11 sec	1.89 sec	✓1.99 sec	1.88 sec
14	Bending of waves around corners is called_____ **OR** The bending of wave around obstacles or sharp edges, this phenomenon is called	Reflection	Refraction	✓Diffraction	Interference
15	In which state of matter longitudinal waves move faster	Gas	Liquid	✓Solid	Plasma
16	Which are the radio waves **OR** Radio waves are _____	Electric waves	✓Electromagnetic waves	Longitudinal waves	All of these
17	In SHM, velocity at extreme position is	Maximum	Minimum	✓Zero	None of these
	The product of time period and frequency is	V	✓1	0	λ
18	SI unit of frequency	✓Hz	A	s	C
19	SI unit of amplitude	S	cm	✓m	None of these
20	The main types of waves are	1	✓2	3	4
21	When water waves enter the region of shallow water their wavelength	Increase	✓Decrease	Become zero	Remain same
22	Earth-quake produces	Seismic waves✓	Crest waves	Wave fronts	Sound waves