Simple Harmonic Motion and Waves

Sr	Questions	Answers Choice
1	The force applied on the mass attached with a spring is represented by:	A. F_a B. F_c C. F_{ext} D. F_s
2	In a vacuum all electromagnetic waves have the same:	A. Speed<o:p></o:p> B. frequency C. amplitude D. wavelength
3	The vacuum all electromagnetic wave have the same	A. speed B. frequency C. amplitude D. wavelength
4	The time period of simple pendulum can be calculated by:	A. T = 2π√L/g B. T = 2 π √m/k C. T = 2 π √g/L D. T = 2 π √K/m
5	Program up gradation refers to:	A. Program enhancement B. Program identification C. Program development D. Program implementation
6	Which of the following characteristics of a wave is independent of the others:	A. speed B. frequency C. amplitude D. wavelength
7	waves whose speed is equal to speed of light are:	A. X-rays B. sound rays C. electromagnetic waves D. shock waves
8	Wave equation is defined as:	A. f = Tλ B. f = V λ C. V = 2fλ D. V = fλ
9	The displacement produced in the spring directly proportional to force is called:	A. Hook's law B. Boyle's law C. Newton's law D. both 'b' and 'c'
10	The time period of mass attached with a spring can be calculated by:	A. T = 2π√L/g B. T = 1/T C. T =2π√g/L D. T = 2π√m/k
11	How many possible solutions are there for a prblem?	A. One B. Two C. Three D. Multiple
12	If the mass of the bob of a pendulum is increased by a factor of 3, the period of the pendulum's motion will:	A. Be increased by a factor of 2<o:p></o:p> B. Remain the same<o:p></o:p> C. Be decreased by a factor of 2<o:p></o:p> D. Be decreased by factor of 4<o:p></o:p>
13	Which of the following is an example of simple harmonic motion:	A. Motion of a simple pendulum<o:p></o:p> B. The motion of ceiling fan<o:p></o:p> C. The spinning of the earth on its axis<o:p></o:p>

		D. A bouncing ball on a floor<o:p></o:p>
14	In there is no extension in the spring then this positon is called	A. Equilibrium position B. Unequilibrium C. Nautral equilibrium D. Stable equilibrium
15	In CD presence of pits is indicated by:	A. 0 B. 2 C. 3 D. 1
16	It mass of bob o a simple pendulum is doubled, its time period.	A. is doubled B. become four times C. remains same D. none of the above
17	The motion in which the friction reduces the mechanical energy of the system as times passes and the amplitude of motion reduces is called:	A. SHM B. Randum motion C. Damped motion D. None of these
18	The relation between v,f andλ of a wave is:	A. vf=λ B. fλ = v C. vλ =f D. v=λ/f
19	The speed of waves can be calculated by:	A. Vt B. d x t C. f λ D. Tf
20	Which rays are used to send or receive digital information along aptical fibre:	A. infrared B. alpha rays C. beta rays D. mechanical
21	The wave properties	A. Reflection B. Refraction C. Diffraction D. All of these
22	A large ripple tank with a vibrator working at a frequency of 30 Hz produces 25 complete waves in a distance of 50 cm. The velocity of the wave is:	A. 53 cms^{-1<o:p></o:p>} B. 60 cms⁻¹<o:p></o:p> C. 750 cms⁻¹<o:p></o:p> D. 1500cms⁻¹<o:p></o:p>
23	If a wave moves in a slinky spring with frequency of 4Hz and wave length of 0.4m, the speed of the wave will be:	A. 1.0 ms-1 B. 1.2 ms-1 C. 1.4 ms-1 D. 1.6 ms-1
24	At extreme position potential energy of the pendulum is	A. Maximum B. Miimum C. a and b D. zero
25	If the mass of a spring mass system is doubled, its time period becomes:	A. √2 T B. T/2 C. √T/2 D. T/√2
26	The waves in which particles of the medium vibrate perpendicular to the directions waves are:	A. Electromagnetic waves B. Sound waves C. bothe a and b D. Transverse waves
27	Which of the following devices can be used to produce both a transverse and longitudinal waves:	A. A string<o:p></o:p> B. A ripple tank<o:p></o:p> C. A helical spring (slinky)<o:p></o:p> D. A tuning fork<o:p></o:p>
28	In simple Harmonic motion, the acceleration of the body is _____ proportional to the displacement.	A. Inversely B. Directly C. Equally D. None of these
29	The S.I unit of Spring constant is:	A. Nm B. N C. Nm-1

		C. NTFT D. Ns
30	With broadband information can be loaded:	A. In 1 min<o:p></o:p> B. In 1 sec<o:p></o:p> C. In 1 day<o:p></o:p> D. In 2 days<o:p></o:p>
31	A large ripple tank with a vibrator working at a frequency of 30 Hz produces 25 complete wae in distance of 50 cm. The velocity of the wave is:	A. 54 cms⁻¹ B. 60 cms⁻¹ C. 750 cms⁻¹ D. 1500 cms⁻¹
32	The part of waves at which particles of the medium are below the normal position are called:	A. Extreme positon B. Crest C. Trough D. None of these
33	Waves transfer:	A. Energy<o:p></o:p> B. Wavelength<o:p></o:p> C. Velocity<o:p></o:p> D. frequency
34	The instrument used to study the properties of waves is called:	A. Ripple tank B. Stroboscope C. Pendulum D. None of these
35	The waves in which particles of the medium vibrate perpendicular to the direction of propagation of waves are called:	A. Transverse waves B. Longitudinal waves C. Electromagnetic waves D. None of these
36	It mean position kinetic energy of the ball is:	A. Minimum B. Zero C. Maximum D. None of these
37	Time period is reciprocal of:	A. Frequency B. Cycle C. Wavelength D. Amplitude
38	Diffraction of wave can be observed clearly only when the size of slit or obstacle is nearly_____ to the wavelength of the wave:	A. Two times B. Equal C. Four times D. None of these
39	The way of doing business by using web is called:	A. Sources of entertainment<o:p></o:p> B. Web business<o:p></o:p> C. E-commerce<o:p></o:p> D. E-mail<o:p></o:p>
40	Which of the following tasks are performed by most of the algorithms?	A. Input B. Out put C. Processing D. All of these
41	The oscillations of a system in the presence of _____ force are called amp oscillations:	A. Resistive force B. Attractive force C. Both of these D. None of these
42	One byte is equal to:	A. 7 bits<o:p></o:p> B. 5 bits<o:p></o:p> C. 8 bits<o:p></o:p> D. 9 bits<o:p></o:p>
43	Typographical errors in BASIC statements are:	A. Runtime errors B. Logical Errors C. Syntax errors

		D. Execution errros
44	The value of acceleration in simple harmonic motion at mean position is	A. Maximum B. Zero C. 10 N D. Both a , b
45	When a body moves to and fro about a point its motion is called:	A. Random motion B. Linear motion C. Vibratory motion D. Rotatory motion
46	Which of the following is a method of energy transfer.	A. Conduction B. Reatiation C. wave motion D. all of these
47	First voice signal was transmitted in the form of electrical signal in:	A. 1870<o:p></o:p> B. 1875<o:p></o:p> C. 1876<o:p></o:p> D. 1880<o:p></o:p>
48	At mean position of pendulum, the potential energy of the pendulum is:	A. Maximum B. Minimum C. Much more D. Both a and c
49	If the mass of the bob of a pendulum is increased by a factor of 3. The period of the pendulum's motion will:	A. Be increased by a factor 2 B. Remain the same C. Be decreased by a factor of 2 D. Be decresaed by a facro of 4
50	The formula of time period of simple pendulum is:	A. T = 2π √L/g B. T = 2π (L/g) C. T = 2π√1/g D. T = 1/2π √L/g
51	The unit of frequency is:	A. Heartz B. Vibration per second C. Cycle per second D. all a, b, c
52	Thye Water waves obey the laws of	A. Reflection B. Refraction C. Diffraction D. All of these
53	If the distance is nspring is 'x' of mass 'm' attached with a spring then restoring force is:	A. F =ma B. F =kx C. F = mx D. F= m/a
54	During S.H.M acceleration of the body is maximum at:	A. Mean position B. Extreme positions C. Between mean & Extereme D. None of these
55	The unit of spring constnat is:	A. m B. kg C. Nm² D. Nm⁻¹
56	Which of the following characteristic of a wave is independent of the others .	A. speed B. frequency C. amplitude D. wavelength
57	The disturbance travelling in a medium is called:	A. Wave motion B. Simple harmonic motion C. Motion D. both a ,b
58	A device which has two ways of communication is:	A. television B. radio C. hard disk D. mobile phone
59	The water waves after striking the hurdle will:	A. Reflect B. Refract C. Diffract D. All a , b, c
60	Wave transfer	A. Energy B. Frequency

		C. Wavelength D. Velocity
61	Which of the following is an example of simple harmonic motion ?	A. Motion of the simple pendulum B. The motion of ceiling fan C. The spining of the Earth on its axis D. A bouncing ball on a floor
62	Floppy has a storage capacity	A. 4-5 MB B. 3-4 MB C. 1-3 MB D. 3-6 MB
63	If the length of a simple pendulum is halved its time period will become:	A. T/2 B. T = T/√2 C. √2T D. 2T
64	Shock absorbers in automobiles are one practical application of:	A. SHM B. Random motion C. Damped motion D. None of these
65	The maximum displacement from mean position is called:	A. Maximum height B. Time period C. Amplitude D. Intervel
66	The energy is transferred from one place to another:	A. Through matter B. Thouth waves C. both a and b D. None of these
67	To get a design on the computer screen by moving a pointer with the help of mouse is called:	A. word processing B. graphic designing C. data managing D. telecommunication
68	The distance between two consecutive troughs or crests is called:	A. wavelength B. Frequency C. Time period D. None of these
69	Which of the following devices can be used to produce both a transverse and longitudinal waves?	A. A string B. A ripple tank C. A helical spring D. A tuning fork
70	The time period of frequency and time period is equal to:	A. v B. 1 C. 0 D. λ
71	Mathematical formula of spring constant is:	A. F/x B. X/F C. F/t D. F/m
72	The ratio of external force applied on the spring to displacement is called:	A. Hook's law B. Constant C. Spring constant
73	The number of wavelength of waves passing through a point in one secnd is called:	A. Time period B. Cycle C. Frequency D. None of these
74	The waves, which are used to detect the broken bones, are called:	A. Light waves B. x-rays C. Sound waves D. both b,c,
75	Which is not a hardware:	A. CPU<o:p></o:p> B. Window<o:p></o:p> C. Keyboard<o:p></o:p> D. Mouse<o:p></o:p>
76	The waves in which particle of the medium vibrate parallel to the direction of waves are called	A. Longitudinal waves B. Transverse waves C. Electromagnetic waves D. both b and c
		A. Time period

77	The time required to complete one round trip (vibration) abut mena position is called:	B. Freqency C. Amplitude D. None of these
78	Formula for time period of spring mass system is represented by:	A. T = 2π√m/k B. T = 2π √k/m C. T = 1/2π√k/m D. T = 1/2π√m/k
79	BASIC is a:	A. High level language B. Low level language C. Assembly language D. Machine Language
80	The product of frequency (f) and wavelengthλ is equal to:	A. Time period B. Amplitude C. Wave speed D. Wave energy / frequency
81	Which of the following is a method of energy transfer:	A. Conduction<o:p></o:p> B. Radiation<o:p></o:p> C. Wave motion<o:p></o:p> D. All of these<o:p></o:p>