ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	Centripetal acceleration is also called _____ acceleration	A. Tangential B. Radial C. Angular D. None of them
2	In vibrational motion(SHM)	A. P.E remains conserved B. Average K.E remain constant C. Neither P.E nor K.E remains constant D. Total energy remains constant
3	Vibratory motion is always under	A. Applied force B. Restoring force C. Periodic force D. Gravitational force
4	Acceleration of body executing SHM is always directed towards	A. Extreme position B. Mean position C. Along the direction of motion D. None
5	Which of the following is an example of SHM(in ideal situations)	A. Motion of simple pendulum B. Motion of horizontal spring man system C. Motion of violin string D. All of these
6	Which of the following forces is responsible for SHM	A. Applied force B. Restoring force C. Fractional force D. Elastic force
7	SHM is type of _____ motion	A. Vibratory B. Linear C. Circular D. None
8	One radian is:	A. Greater than one degree B. Less than one degree C. Equal to degree D. none of these
9	When angular acceleration is positive, the body rotates:	A. Slower B. Slowest C. Faster D. None of these
10	Direction of motion _____ in circular motion	A. Changes off and on B. Changes continously C. Does not change D. None of them
11	The perpendicular distance from the axis of rotation to the line of action of force is called:	A. Moment arm B. Moment of a force C. Torque D. Non of these
12	Torque is also called:	A. Momentum B. Linear inertia C. Moment of a force D. Mass
13	By convention, torques producing clockwise rotation are taken as:	A. Positive B. Nagative C. Zero D. None of these
14	Which one is conservative force	A. Electric force B. Frictional force C. Normal force D. Air resistance
15	Tick the correct answer:	A. Torque is a vector quantity B. Torque is the turning effect of a force

		C. Torque is called moment of a force D. All of above
16	Work done is independent of path followed in _____	A. Gravitational field B. Magnetic field C. Electric field D. All of these
17	Work done on a body by gravity in lifting it up to certain height is	A. Maximum B. Minimum C. Zero D. Negative
18	The space around the earth in which its gravitational force acts on a body is called	A. Electric Field B. Gravitational field C. Magnetic field D. Conservative field
19	For measuring the angle between two vectors graphically, we join:	A. Tails of both the vectors B. Tail of one vector with the head of other C. Heads of both the vectors D. None of these
20	The unit of work in CGS system is	A. Joule B. Erg C. Dyne D. Watt
21	1 J = _____?	A. 10⁷erges B. 10⁻⁷erges C. 10⁵erges D. 10⁻⁵erges
22	Scalar product is also called:	A. Cross product B. Dot product C. Product scalar D. Product vector
23	If one newton force acts on a body and displaces the body through 1m work done on body is	A. 1 dyne B. 1 joule C. 1KJ D. 1 Watt
24	The dimensions of work	A. [MLT⁻¹] B. [MLT⁻²] C. [ML²T⁻²] D. [MLT]
25	The change of order of vectors in a dot product of two vectors:	A. Changes its value B. Doesn't change it's value C. Changes the direction product quantity D. None of these
26	Area under the force displacement graph gives	A. Power B. Work C. Heat D. Energy
27	SI Unit of work is	A. Nm⁻¹ B. Joule C. Nms D. Both a and b
28	Work done by the force of friction is always	A. Positive B. Zero C. Negative D. Maximum
29	Two vectors having different magnitudes:	A. Have their directions opposite B. May have their resultant zero C. Cannot have their resultant zero D. None of these
30	When force and displacement are perpendicular to each other than work is equal to	A. Unity B. Infinity C. Zero D. -Fd
31	Maximum work is done when force and displacement are	A. Parallel B. Antiparallel C. Perpendicular D. Both a and b
32	Unit vector is used to specify:	A. Magnitude of a vector B. Dimensions of a vector C. Direction of a vector D. Position of a vector

		D. Position of a vector
33	Work is a Quantity	A. Vector B. Scalar C. Non-physical D. None of these
34	Work is a scalar product of	A. Force, Velocity B. Velocity, Displacement C. Force, Displacement D. Force, Momentum
35	The driection of vector si space is specified by:	A. One angle B. Two angles C. Three angles D. None of above
36	The sum of two or more vectors is equal to a single vector which is called:	A. Component vector B. Resultant vector C. Product vector D. None of these
37	Which of the following are the units of intensity of light	A. Pois B. Lux C. Siemen D. Candela
38	All trigonometric functions (since, cosine tangent etc.) are positive in:	A. 1st Quadrant B. 2nd Quadrant C. 3rd Quadrant D. 4th Quadrant
39	Number of supplementary units are	A. Three B. Two C. Seven D. Five
40	Total number of base units are	A. Three B. Five C. Seven D. Nine
41	Two forces of 10N and 8N are applied simultaneously to a body. The maximum value of their resultant is:	A. 20 N B. -2 N C. 18 N D. 36 N
42	The system international (SI) is built from _____ kind of unites	A. Two B. Three C. Four D. Five
43	The principle characteristics of an ideal standard are	A. Inaccessible and Invariable B. Accessible and Invariable C. Accessible and Variable D. None of these
44	The vector is space has:	A. One Component B. Two Compnents C. Three Components D. Non of these
45	Diameter of the atom is of the order of	A. 10⁻¹⁰m B. 10⁻¹²m C. 10⁻¹⁵m D. 10⁻⁹m
46	Diameter of the nucleus s of the order of	A. 10⁻¹⁰m B. 10⁻¹²m C. 10⁻¹⁵m D. 10⁻¹⁸m
47	Distance to nearest galaxy from earth is	A. 10¹⁰m B. 10¹⁵m C. 10⁴⁰m D. 10³⁰m
48	Physical quantities are often divided into _____ categories	A. 3 B. 2 C. 9 D. 5
49	Those quantities which can be measured accurately are known as	A. Physical Quantities B. Scalar Quantities C. Vector Quantities D. Non Physical Quantities
50	Which branch of physics deals with the structure and properties of solids	A. Atomic Physics B. Plasma Physics

	Which branch of physics deals with the structure and properties of solids	C. Molecular Physics D. Solid state physics
51	Computer chips are made from	A. Conductors B. Semiconductors C. Insulators D. Both A and B
52	The branch of physics which concerned with the ultimate particles of which the universe is composed is known as	A. SolidState physics B. Particle Physics C. Nuclear Physics D. Atomic Physics
53	The instrument used to gather information form the far side of the universe is	A. Compound microscope B. Radio telescope C. Astronomical Telescope D. Simple microscope
54	At the present time, the main frontiers of fundamental science are	A. 2 B. 3 C. 4 D. 5
55	A choke coil is used as a resistance in	A. d.c. circuit B. a.c. circuit C. d.c. potentiometer circuit D. wheatstone bridge
56	The A.M. transmission frequency range from	A. 500-1000 KHz B. 540-1600 KHz C. 300-490 KHz D. 900-2040 KHz
57	Which of the following waves are more energetic	A. radio waves B. infrared waves C. ultraviolet D. γ-rays
58	The electric field, magnetic field and the direction of their propagation are mutually	A. perpendicular B. parallel C. none of these
59	A piece of wire along which charges are made to accelerate is known as	A. transmitting antenna B. receiving antenna C. modulator D. nor of these
60	In a three phase a.c generator if the first coil has a phase 0, then the other two coils will have phases	A. 90° - 120° B. 20° and 140° C. 120° and 240° D. 120° and 140°
61	In a three phase a.c. generator, there are	A. 2 coils B. 3 coils C. 1 coild D. No coil
62	For a parallel resonant circuit at resonance, current from supply is	A. minimum B. maximum C. zero D. none of these
63	The L-C parallel circuit the capacitor draws a	A. leading current B. lagging current C. main current D. none of these

64	The circuit in which current and voltage are in phase, the power factor is	A. zero B. 1 C. negative D. 0.83
65	The power dissipation in a pure inductive or capacitance circuit is	A. maximum B. positive C. zero D. none
66	The ratio of the r.m.s value of the applied voltage to the r.m.s value of resulting a.c. is	A. Impedance B. Inductance C. Reactance D. Resistance
67	Such an inductor coil which does not consume energy and is often employed for controlling a.c. without consumption of energy is called	A. Choke B. impedance C. Semi-conductor D. None
68	Units of impedance are	A. Henry B. Ohms C. moh D. Watt
69	The combined effect of resistance and reactance in a.c. circuit is called	A. conductance B. resistance C. impedance D. choke
70	The reactance of a cell changes directly with	A. frequency of a.c B. the inductance C. both a and b D. none of these
71	Current varies with voltage	A. Inversely B. as square root C. Directly D. None of these
72	The basic circuit element in a d.c. circuit is a/an	A. Inductor B. Resistor C. Capacitor D. Battery
73	The average value of current and voltage over a cycle is	A. Positive B. Negative C. Zero D. May be positive or negative
74	The phase at the positive peak is	A. Π/2 B. Π C. 3Π/2 D. 2Π
75	The r.m.s value of a.c. current is always	A. positive B. negative C. zero D. all of these
76	The sum of positive and negative peak values are usually written as	A. P-P value B. negative C. zero D. may be positive or negative
77	The highest value reached by voltage or current in one cycle is called	A. root means square value B. peak value C. peak to peak value D. instantaneous value

78	The angle which specifies the instantaneous value of the alternating voltage or current is called	A. phase B. critical angle C. angle of incidence D. all of these
79	The root mean square voltage for alternating current is	D. All of these
80	The peak value of alternating voltage is given by	
81	The current in LCR circuit will be maximum when ω is	A. As large as possible B. Equal to natural frequency of LCR system
82	Alternating current can not be measured by D.C. ammeter because	A. A.C. can not pass through D.C. Ammeter B. A.C. changes direction C. Average value of current for complete cycle is zero D. D.C. Ammeter will get damaged
83	The value of current at resonance in series LCR circuit is affected by the value	A. R only B. C only C. L only D. R, C and L
84	A circuit has a resistance of 11 Ω an inductive reactance of 25 Ω and a capacitance reactance of 18 Ω. It is connected to an a.c. source of 200 V and 50 Hz. The current through the circuit (in amperes) is	A. 11 B. 15 C. 18 D. 20
85	In LCR circuit which one of the following statement is correct?	A. L and R oppose each other B. R value increase with frequency C. The inductive reactance increases with frequency D. The capacitive reactance increases with frequency
86	A fuse wire is having 5 ampere current rating. What is the peak value of current it can have?	A. 0.7074 A B. 7.07 A C. 0.0707 A D. 7.707 A
87	An L-R circuit has R = 10 Ω and L = 2 H. If 120 V, 60 Hz A.C. voltage is applied, then current in the circuit will be	A. 0.32 A B. 0.16 A C. 0.48 A D. 0.80 A
88	In and A.C. circuit, the current lags behind the emf. The power factor is 50% In order to make it 100%, What additional component is to be used?	A. Impedance B. Inductance C. Capacitance D. Resistance
89	The henry is the unit for	A. Resistance B. Magnetic flux C. Magnetic field D. Inductance
90	Energy is stored in the choke coil in the form of	A. Heat B. Magnetic energy C. Electric energy D. Electro-magnetic energy
91	The reactance of a coil when used in the domestic A.C. power supply (220 volts, 50 cycles per second) is 50 ohms. The inductance of the coil is nearly	A. 2.2 henry B. 1.6 henry C. 0.22 henry D. 0.16 henry
92	In a capacitive circuit	A. Current leads voltage by phase ofπ/2 B. Voltage leads current by phase ofπ/2 C. Current and voltage are in same phase D. Sometime current and sometime

		D. Sometime current and sometime voltage leads
93	The peak voltage in a 220 volt A.C. supply is nearly	A. 220 volt B. 253 volt C. .311 volt D. 440 volt
94	An ideal choke (used along with fluorescent tube) would be	A. A pure resistor B. A pure capacitor C. A pure inductor D. A combination of an inductor and a capacitor
95	A capacitor acts as an infinite resistance for	A. AC B. DC C. Both AC and DC D. Neither AC nor DC
96	A 220 V, 50 Hz. A.C. source is connected to an inductance of 0.2 H and a resistance of 20 ohm in series. What is the current in the circuit?	A. 10 A B. 5 A C. 33.3 A D. 3.33 A
97	In an A.C. circuit, a resistance of R ohm is connected in series with an inductance L. If phase angle between voltage and current be 45°. the value of inductive reactance will be	A. R/4 B. R/2 C. R D. Cannot be found with the given data
98	In L.C.R series A.C. circuit, the phase angle between current and voltage is	A. Any angle between 0 and <u>+ </u>π/2 B. π/2 C. π D. Any angle between 0 andπ/2
99	Thermocouple is an arrangement of two different metals	A. To convert heat energy in to electrical energy B. To produce more heat C. To convert heat energy into chemical energy D. To convert electric energy in to heat energy
100	Current provided by a battery is maximum when	A. Internal resistance equal to external resistance B. Internal resistance is greater than external resistance C. Internal resistance is less then external resistance D. None of these