

## Physics ECAT Pre Engineering Online Test

Sr	Questions	Answers Choice
1	If the distance between two charges is doubled, the force between them will become	A. Double B. Half C. Three times D. One fourth E. One third
2	In a transistor, collector current is controlled by	A. Collector voltage B. Base current C. Collector resistance D. All of the above
3	Most of the electrons in the base of an NPN transistor flow	A. Out of the base lead B. Into the collector C. Into the emit D. Into the base supply
4	When transistors are used in digital circuits they usually operate in the	A. Active region B. Breakdown region C. Saturation and cutoff regions D. Linear region
5	Improper biasing of a transistor circuit produces	A. Heavy loading of emitter current B. Distortion in the output signal C. Excessive heat at collector terminal D. Faulty location of load line
6	The reverse saturation current in a PN junction diode is only due to	A. Majority carriers B. Minority Carriers C. Acceptor ions D. Donor ions
7	In an N-type silicon, which of the following statement is true	A. Electrons are majority carriers and trivalent atoms are the dopants B. Electrons are minority carriers and pentavalent atoms are the dopants C. Holes are minority carriers and pentavalent atoms are the dopants D. Holes are majority carriers and trivalent atoms are the dopants
8	The induced current in a conductor depends upon	A. Resistance of the loop B. Speed with which the conductor moves C. Any of these D. Both A and B E. None of these
9	The Phenomenon of generation of induced emf is called	A. Electrostatic induction B. Magnetic induction C. Electromagnetic induction D. Electric induction E. Both A and B
10	An induced current can be produced by	A. Constant magnetic field B. Changing magnetic field C. Varying electric field D. Constant electric field E. None of these
11	An emf is set up in a conductor when it	A. Is kept in a magnetic field B. Is kept in an electric field C. Moves across a magnetic field D. Both A and B E. None of these
12	The current produced by moving a loop of wire across a magnetic field is called	A. Direct current B. Magnetic current C. Alternating current D. Induced current E. None of these
13	The charge carriers in an electrolyte are	A. Positive ions B. Negative ions C. Either A or B D. Both A and B E. None of these

		E. Neither A nor B
14	In case of metallic conductors, the charge carriers are	A. Protons B. Electrons C. Antiprotons D. Positrons E. Both A and B
15	SI unit of current describes the flow of charge at the rate of	A. One ampere per second B. One coulomb per second C. One electron per second D. $6.25 \times 10^{18}$ electrons per second E. Both B and D
16	The current that flows through the coil of a motor causes	A. Its shaft to revolve B. Its brushes to rotate C. Motor to move D. Its shaft to rotate E. None of these
17	Most practical applications of electricity involve	A. Charges at rest B. Charges in motion C. Electrons at rest D. Atoms in motion E. Molecules in motion
18	If time period of a pendulum is doubled by increasing its length, then its frequency will	A. Also be doubled B. Become half C. Become one fourth D. Becomes four times
19	INTELSAT operates at frequencies 4, 6, 11, 14 having unit of	A. KHz B. MHz C. GHz D. BHz
20	The number of "Earth Stations" which transmit signals to satellites and receive signals from them are	A. 3 B. 24 C. 126 D. 200
21	The net force acting on a 100 kg man standing in an elevator accelerating downward with $a = 9.8 \text{ m sec}^{-2}$ comes out to be	A. 980 N B. 580 N C. 1380 N D. Zero
22	If a gymnast sitting on a rotating stool with his arms outstretched, brings his arms towards the chest, then its angular velocity will	A. Increase B. Decrease C. Remain constant D. None of these
23	Work has the dimensions as that of	A. Torque B. Angular momentum C. Linear momentum D. Power
24	If force and displacement are in opposite direction, the work done is taken as	A. Positive work B. Negative work C. Zero work D. Infinite work
25	The work performed on an object does not depend on	A. Force applied B. Angle at which force is inclined to the displacement C. Initial velocity of the object D. Displacement
26	Work is always done on a body when	A. A force acts on it B. It moves through certain distance C. None of A or B is correct D. Both A and B are correct
27	Work is a	A. Scalar quantity B. Vector quantity C. Base quantity D. None of these
28	Which one is the least multiple	A. Pico B. Femto C. Nano D. Atto
29	Significant figures in 0.0010 are	A. Four B. Three C. Two D. One
		A. $10^3 \text{ kg-m}^2 \text{ sec}^{-2}$

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1 gm-cm<sup>-3</sup> is equal to

A. 10<sup>-3</sup>

B. 10<sup>-3</sup> kg-m<sup>-3</sup>

C. 1 kg-m<sup>-3</sup>

D. 10<sup>6</sup> kg-m<sup>-1</sup>