

ECAT Physics Online Test

Sr	Questions	Answers Choice
1	Distance covered by a freely falling body in 2 sec will be	A. 4.9 m B. 19.6 m C. 29.2 m D. 44.1 m
2	The artillery shells travel along parabolic paths under the influence of	A. magnetic field B. electric field C. electromagnetic field D. gravitational field
3	An object thrown in arbitrary direction in space with an initial velocity and moving freely under gravity will follow	A. a circular path B. a straight line C. a hyperbola D. a parabola
4	The motion of a projectile is	A. one dimension B. two dimension C. three dimension D. all of them
5	The motion in a plane is the motion in	A. one dimension B. two dimension C. three dimension D. four dimension
6	The motion of a body in a straight line is the motion in	A. one dimension B. two dimension C. three dimension D. four dimension
7	If m is the mass of the gases ejected per second with velocity v relative to the rocket of mass M , then the acceleration of rocket is	A. $a = M/mv$ B. $a = mM/v$ C. $a = mv/M$ D. $a = v/mm$
8	A rocket carries its own fuel in the form of	A. liquid only B. liquid or solid C. liquid and solid D. liquid or solid and oxygen
9	A typical rocket consists of fuel	A. more than 60% of launch mass B. less than 60% of launch mass C. less than 80% of launch mass D. more than 80% of launch mass
10	A typical rocket ejects the burnt gases at speeds over	A. 400 m s^{-1} B. 40000 m s^{-1} C. 40000 m s^{-1} D. 60000 m s^{-1}
11	A typical rocket consumes about	A. 100 kg s^{-1} of fuel B. 1000 kg s^{-1} of fuel C. 10000 kg s^{-1} of fuel D. 100000 kg s^{-1} of fuel
12	Flight of rocket in the space is an example of	A. Newton's first law B. Newton's third law C. Newton's second law D. all of them
13	When a shell explodes in mid-air, the total momentum of its fragments is	A. less than the momentum of shell B. equal to the momentum of shell C. greater than the momentum of shell D. none of them
14	When a shell explodes in mid-air, its fragments fly off in	A. only one direction B. in two direction C. different directions D. a particular direction
15	Suppose the water flows out from a pipe at 3 kg s^{-1} and its velocity changes from 5 m s^{-1} to zero on striking the wall, then the force exerted by water on wall will be	A. 5 N B. 10 N C. 15 N D. 20 N

		D. 20 N
16	A snooker ball moving with velocity V collides head on with another snooker ball of same mass at rest. If the collision is elastic, the velocity of second snooker ball is	A. Zero B. Infinity C. V D. $2V$
17	An alpha particle has a charge of	A. $+2e$ B. $-2e$ C. $-e$ D. $+3e$
18	When a nucleus emits an alpha particles, its charge number decreases by	A. 3 B. 2 C. 6 D. 5
19	When a nucleus emits an alpha particle, its atomic mass decreased by	A. 2 B. 1 C. 4 D. 3
20	Radioactivity is	A. self disruptive activity B. spontaneous activity C. exhibited by all elements under proper conditions D. both 'a' and 'b'
21	Curie is a unit of	A. reluctance B. resistivity C. binding energy D. radioactivity
22	Alfa , beta and gamma rays are emitted from a radio-active substance	A. spontaneously B. when it is heated C. when it is exposed to light D. When it interacts with the other particle
23	Gamma rays consist of stream of	A. electron B. proton C. photons D. all of these
24	Alfa particles are	A. hydrogen nuclei B. helium nuclei C. electrons D. photons
25	Beta particles are	A. hydrogen nuclei B. helium nuclei C. electrons D. photons
26	Marie Curie and Pierre Curie discovered two new radioactive elements, which are called	A. polonium uranium B. uranium and radium C. polonium and radium D. none of these
27	Radioactivity was discovered by	A. Rutherford B. Henri Becquerel C. Maxwell D. James Chadwick
28	Radioactivity	A. is exhibited more by semiconductors in general B. is exhibited more by the element when they are coupled C. with other radioactive elements by a covalent bond D. is an atomic property of radioactive elements
29	Binding energy per nucleus is	A. greater for heavy nucleus B. least for heavy nucleus C. greatest for light nuclei D. decreases for medium weight nuclei
30	The amount of energy equivalent to 1 a.m.u is	A. 9.315 Mev B. 93.15 Mev C. 931.5 Mev D. 2.22 Mev