ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	The motion of a projectile is	A. one dimension B. two dimension C. three dimension D. all of them
2	The motion in a plane is the motion in	A. one dimension B. two dimension C. three dimension D. four dimension
3	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
4	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
5	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
6	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
7	A typical rocket ejects the burnt gases at speeds over	A. 400 ms⁻¹ B. 40000m s⁻¹ C. 40000 ms⁻¹ D. 60000 ms⁻¹
8	A typical rocket consumes about	A. 100 kg s⁻¹of fuel B. 1000 kg s⁻¹of fuel C. 10000 kg s⁻¹of fuel D. 100000 kg s⁻¹of fuel
9	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
10	When a shall explodes a 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
11	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
12	Suppose the water flows out from a pipe at 3kg $s^{-1}$and its velocity changes from 5m $s^{-1}$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
13	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. 2 V
14	An alpha particle has a charge of	A. +2e B. -2e C. -e D. +3e
15	When a nucleus emits an alpha particles, its charge number decreases by	A. 3 B. 2 C. 6 D. 5

		D. 5
16	When a nucleus emits an alpha particle, it atomic mass decreased by	A. 2 B. 1 C. 4 D. 3
17	Radioactivity is	A. self disruptive activity B. spontaneous activity C. exhibited by all elements under proper conditions D. both 'a' and 'b'
18	Curie is a unit of	A. reluctance B. resistivity C. binding energy D. radioactivity
19	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
20	Gamma rays consist of steam of	A. electron B. proton C. photons D. all of these
21	Alfa particles are	A. hydrogen nuclei B. helium nuclei C. electrons D. photons
22	Beta particles are	A. hydrogen nuclei B. helium nuclei C. electrons D. photons
23	Maric Curie and Pieree Curie discovered two new radioactive elements, which are called	A. polonium uranium B. uranium and radium C. polonium and radium D. none of these
24	Radioactivity was discovered by	A. Rutherford B. Henri Becqureal C. Maxwell D. James Chadwick
25	Radioactivity	A. is exhibited more by semiconductors in general B. in 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
26	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 niclei
27	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
28	The energy is found from Einstein's mass energy relation is called	A. binding energy of electron B. binding energy of proton C. binding energy of neutron D. binding energy of nucleus
29	The missing mass which is converted to energy in the formation of nucleus, is called	A. packing fraction B. mass defect C. binding energy D. none of these
30	The energy acquired by a mass of 1g moving with the speed of light is	A. 3 x 10⁸J B. 9 x 10¹³J C. 3 x 10¹³J D. 9 x 10¹⁶J
31	If 'V' is the relativistic speed and 'C' is the speed of light then according to Einstien the factor V/C must always be	A. Equal to 1 B. Less than 1 C. Greater than 1 D. Infinity
		A. 1.66 x 10⁻²⁴kg

32	1 amu is equal to.	A. 1.66 x 10⁻²⁴kg B. 1.66 x 10⁻¹⁹kg C. 1.66 x 10⁻²⁴kg D. 1.66 x 10⁻²⁷kg
33	The mass of the nucleus is always less than the total man of the protons and neutron that make up the nucleus. The difference of the two masses is called	A. nuclear fission B. nuclear fusion C. man defect D. radioactivity
34	Neon gas have three isotopes whose atomic numbers are	A. 20, 24 , 23 B. 20, 21 , 22 C. 20, 19 , 21 D. none of these
35	The most abundant isotope of neon is	A. neon-20 B. neon-21 C. neon-22 D. neon-23
36	A mass spectrograph sort out	A. molecules B. atoms C. elements D. isotopes
37	The chemical properties of an element depends upon the number of	A. electron B. position C. photons D. neutrons
38	The chemical properties of all the isotopes of an elements are	A. same B. different C. slightly different D. none of these
39	Hydrogen atom with only one proton and one neutron in its nucleus, and one electron, is called	A. deuterium B. protium C. tritium D. none of these
40	Hydrogen atom with only one proton in its nucleus, and one electron in its orbit is called	A. deuteron B. deterium C. protium D. tritium
41	How many isotopes of helium are present?	A. 1 B. 2 C. 3 D. 4
42	The number of isotopes of hydrogen are	A. 2 B. 1 C. 3 D. 4
43	Nuclei that have the same charge number but different mass number are called	A. isotones B. isomers C. isotopes D. isobars
44	Electrons are	A. positive charged B. negatively charged C. massless D. neutral
45	Neutrons are	A. positive charge B. negatively charged C. massless D. neutral
46	The diameter of an atom is of the order	A. 10⁻¹²⁵m B. 10⁻¹¹m C. 10⁻¹⁰m D. 10⁻⁹m
47	Structure of the nucleus was explained by	A. J.J Thomson B. Bohr C. Millikan D. Rutherford
48	Charge on proton is	A. 1.59 x 10⁻⁹C B. 1.59 x 10⁻⁷C C. -1.59 x 10⁻¹⁹C D. 1.59 x 10⁻¹⁹C
49	Mass of proton is of order of	A. 10⁻³¹gm B. 10⁻²⁷kg C. 10⁻²⁴gm D. 10⁺²⁷kg

50	The number if neutrons in the nucleus of $_{92}U^{235}$are	A. Infinite B. 92 C. 235 D. 143
51	For an atom having atomic number Z and atomic weight A, the number of electron in an atoms	A. A - Z B. A + Z C. Z D. A
52	For an atom having atomic number Z and atomic weight A, the charge on the nucleus is	A. A - Z B. A + Z C. Z D. A
53	The number of all the protons and neutrons in a nucleus is known as	A. atomic number B. mass number C. charge number D. none of these
54	The number of protons inside a nucleus is called	A. mass number B. atomic weight C. atomic number D. none of these
55	The total charge of any nucleus is given as	A. Ze² B. Z²e C. Z/e D. Ze
56	The nucleous of uranium -235 differs from a nucleous of a uranium -238 in that the later contains	A. 3 more neutrons B. 3 more electrons C. 3 more protons D. 3 more ions
57	For an atom having atomic number 'Z' and atomic weight 'A', the number of neutrons in the nucleous is	A. A - Z B. A C. Z D. A + Z
58	According to Rutherford atomic model, the positive charge in an atom	A. is concentrated at its centre B. is in the form of positive electron at same distance from its centre C. is spread uniformly through its volume D. none of these
59	The chemical behaviour of an atom is determined by	A. binding energy B. atomic number C. mass number D. number of isotopes
60	1 amu is equal to	A. 1.66 x 10⁻²⁴kg B. 1.66 x 10⁻¹⁹kg C. 1.66 x 10⁻³⁴kg D. 1.66 x 10⁻²⁷kg
61	Mass of proton is	A. 1.67 x 10⁻²⁷kg B. 1.67 x 10⁻³¹kg C. 1.66 x 10⁻³⁴kg D. 1.67 x 10⁻¹⁷kg
62	Mass of neutron is	A. 1.67 x 10⁻³¹kg B. 1.67 x 10⁻²⁷kg C. 9.1 x 10⁻³¹kg D. 1.67 x 10⁻19kg
63	Nucleus consists of	A. proton and neutron B. protons and electron C. electron and neutron D. protons only
64	A particle having the mass of electron and charge of a proton is called a	A. photon B. position C. antiproton D. antineutrino
65	Charge on neutron is	A. 1.6 x 10⁻¹⁹C B. zero C. -1.6 x 10⁻¹⁹C D. 1.2 x 10⁻¹⁹C
66	In 1932 Chadwick discovered	A. proton B. neutron C. photon D. electron
		A. Curie

67	Neutron was discovered by	B. Roentgen C. Chadwick D. Rutherford
68	Neutron was discovered in	A. 1915 B. 1920 C. 1925 D. 1932
69	Proton was discovered by Rutherford in	A. 1915 B. 1906 C. 1910 D. 1920
70	According to the electromagnetic wave theory of light, increasing the intensity of incident light should increase the	A. number of photoelectrons B. size of the photoelectrons C. charge on photoelectrons D. K.E of photoelectrons
71	As the light shines on the metal surface, the electrons are ejected	A. slowly B. instantaneously C. either of these D. none of these
72	The value of threshold frequency for different metals is	A. different B. same C. may be different or may be same D. none of these
73	There is certain frequency below which no electrons are emitted from the metal surface, this frequency is known as	A. maximum frequency B. minimum frequency C. threshold frequency D. all of these
74	The photoelectric effect, the maximum energy of photoelectrons depends on the	A. particular metal surface B. frequency of incident light C. both of them D. none of them
75	When monochromatic light is allowed to fall on cathode, it begins to emit electrons, these electrons are called	A. thermoionic electrons B. free electrons C. photoelectrons D. slow electrons
76	The emission of electrons from a metal surface when exposed to light of suitable frequency is called the	A. pair production B. Compton effect C. photoelectric effect D. relativity
77	Electromagnetic radiation or photons interact with matter in	A. two distinct ways B. three distinct ways C. four distinct ways D. five distinct ways
78	The whole shape of the black body spectrum for all wavelengths was explained by the formula proposed by	A. Max plank B. Newton C. Einstein D. J.J. Thomson
79	The analysis of the distribution of wavelengths of the radiation emitted from a hot body set the foundation of new mechanics, known as	A. classical mechanics B. Newtonian mechanics C. quantum mechanics D. statistical mechanics
80	The energy of a photon in a beam of infrared radiation of wavelength 1240 nm is	A. 100 ev B. 10⁶e v C. 10³e v D. 1.0 e v
81	The photon of radio-waves has energy of about	A. 1 Me V B. 1 Ke v C. 10⁻¹⁰e v D. 10¹⁰e v
82	From the theory of relativity, momentum p of the photon is related to energy as	A. p = hfc B. p = hf/c C. p = f(hc,f) D. p = cf/h
83	Max plank received the Nobel Prize in physics for his discovery of energy quanta in	A. 1900 B. 1906 C. 1912 D. 1918
84	In photoelectric effect the energy of ejected electrons depend on	A. The frequency B. The intensity C. Both frequency and intensity D. None of these

85	The value of the plank's constant 'h' is given by	A. 1.6 x 10⁻¹⁹J B. 1.67 x 10⁻²⁷Kg C. 6.63 x 10³⁴Js D. 6.63 x 10⁻³⁴Js
86	A photon is considered to have	A. Momentum B. Energy C. Wavelength D. All of the above
87	S.I. unit of planks constant is	A. J-s⁻¹ B. J.s C. J.s⁻² D. J.s²
88	The energy of photon 'E' is proported to	A. The magnetic field H B. The electric field E C. Both the electric and magnetic field H and E D. Frequency
89	The energy of a photon is represented by	A. h/c² B. h/T C. hc² D. hf/c²
90	According to the Max plank, energy is redialed or absorbed in	A. discrete packets B. continuous waves C. either of them D. none of these
91	Max plank founded a mathematical model resulting in an equation that describes the shape of observed black body radiation curves exactly, in	A. 1890 B. 1895 C. 1900 D. 1905
92	The value of the Stephen's constant for black body radiations is given by	A. 5.6 x 10⁸Wm⁻²K⁻⁴ B. 5.67 x 10⁻⁸Wm⁻²K⁻⁴ C. 2.9 x 10⁻³mK D. 2.9 x 10³mK
93	The Stephen-Boltzmann law for the black body radiation is given by	A. E = T² B. E = -T² C. E = T⁴ D. E = -T⁴
94	The inside cavity of the black body is	A. painted white B. painted silver C. blackened with soot D. painted red
95	A black body is	A. an ideal absorber B. an ideal radiator C. both of them D. none of them
96	When a platinum wire is heated, it appears white at	A. 1600°C B. 900°C C. 1100°C D. 1300°C
97	When platinum wire is heated, it appears cherry red at	A. 1600°C B. 900°C C. 1100°C D. 1300°C
98	When a platinum wire is heated, it appears yellow at	A. 1600°C B. 900°C C. 1100°C D. 1300°C

99	When a platinum wire is heated, it appears orange red at	A. 500°C B. 900°C C. 1100°C D. 1300°C
100	When a platinum wire is heated, it appears dull red at about	A. 500°C B. 900°C C. 1100°C D. 1300°C