ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	Which of these is not a radiation detector	A. Wilson cloud chamber B. cyclotron acceleration C. Geiger Miller counter D. solid state detector
2	When a charged particle passes through matter, it produces ionization, this effect is used in	A. fission reaction B. reactor C. radiation detector D. fusion reaction
3	Radiation detector are used to	A. measure intensity of radiation B. measure energy of radiation C. difference between different types of radiation D. all the above
4	Pair production take place when energy ofγ-rays photon is	A. equal to 1.02 Mev- B. greater than 1.02 Mev C. less than 1.02 Mev D. none of these
5	γ-rays behave like a particle because they explain the	A. Compton effect B. Photoelectric effect C. Pair-production D. all the above
6	γ-rays are	A. electrostatic waves B. electromagnetic waves C. heavy particles D. longitudinal waves
7	The penetration power ofβ-particle is	A. zero B. less thanα-particle C. equal toα-particle D. greater thanα-particle
8	The range ofβ-particle in air is greater than that ofα-particle by	A. 1000 times B. 100 times C. 15 times D. 10 times
9	β-particles are easily deflected by collisions than heavy	A. α-particles B. β-particles C. γ-particles D. none of these
10	How much time, theα-particle more massive than an electron	A. 600 B. 7000 C. 5000 D. 15000
11	The range of particle depends upon the factor	A. charge, mass and energy of particle B. density of medium C. ionization potential of the atoms D. all the above
12	The distance travelled by a particle in a medium before it is stopped is called	A. range ofγ-

12	The distance travelled byα-particle in a medium before coming to rest, is called	particle B. range of neutrons C. range of particle D. none of these
13	Which of the following material has smaller has life	A. uranium B. polonium C. radium D. radian
14	Which of the following material has longer half life	A. radium B. polonium C. radium D. uranium
15	The half life of uranium-238 is	A. 6.2 x 10⁹years B. 4.5 x 10⁹days C. 4.5 x 10⁹years D. 1.3 x 10⁶years
16	The half lie of radium-226 is	A. 238 years B. 4.5 x 10⁹days C. 1620 years D. 332 years
17	The unit of decay constant is	A. sex B. sec² C. sec⁻¹ D. sec⁻²
18	Fraction of the decaying atoms per unit time is called	A. decay atom B. decay element C. decay constant D. decay
19	In radioactive decay, the new element which is formed due to the disintegration of original element is called	A. element B. daughter element C. parent element D. none of these
20	In radio-active decay, the original element which disintegrate to another element is called	A. element B. daughter element C. parent element D. none of these
21	The emission of radiations take place in elements, having charge number greater than	A. 109 B. 82 C. 69 D. 52
22	The time required for a radioactive material to decrease in active by one half is called	A. half time B. half life C. disintegration time D. mean life
23	The half life of radioactive substances depends upon	A. amount of substance B. energy of substance C. state of substance D. temperature of substance
24	Different radioactive material have	A. same half lives B. different half lives C. same mean lives D. same total lives
25	The rate of decay of a radioactive substance	A. decrease exponentially with time B. decreases linearly with time C. increases linearly with time D. increases exponentially with time
26	After alpha decay the atomic number of the atom	A. increase by four B. decreases by two C. increases by two D. decrease by four
27	When radioactive nucleus emits aβ-particle, the proton-neutron ratio	A. decrease B. increase C. same D. none of these
28	Phenomenon of radioactivity is due to disintegration of	A. nucleus B. neutron C. proton D. molecule
		A. α-particle B. <span style="color: rgb(34, 34,

29	A curie represents a very strong source of	B. β-particle C. γ-particle D. none of these
30	The rate of decay of radioactive substance	A. is constant B. decrease exponentially with time C. varies inversely as time D. decreases linearly with time
31	The energy of the 4th orbit in hydrogen atom is	A. 2.5 ev B. - 3.5 ev C. -0.85 ev D. -13.6 ev
32	Position and momentum of a particle cannot both be measured simultaneously with perfect accuracy. This is the statement of	A. photoelectric effect B. pair production C. Compton effect D. uncertainty principle
33	de-Broglies hypthesis was experimentally verified by	A. Maxwell B. Compton C. Einstein D. Davison and Germer
34	G.P. Thomson observer experimentally that electrons and neutrons possess	A. particle-like properties B. wave-like properties C. neither particle nor wave like properties D. none of these
35	Davision and Germer performed experiment to verify	A. de-Brogile hypothesis B. theory of relativity C. Newton's law of gravitation D. Mass-energy relation
36	Wave nature of particle was proposed by	A. Einstein B. Plank C. De-Brogile D. Max well
37	Momentum is a parameter associated with	A. wave motion B. particle motion C. neither wave nor particle motion D. none of these
38	With the help of 50 K v electron microscope, a resolution of	A. 0.5 to 1 m to possible B. 1 m to 10 m is possible C. 0.5 to 1 nm is possible D. 1 to 10 nm is possible
39	Which of the following phenomenon proves the particle nature of light	A. interference B. diffraction C. photoelectric effect D. none of these
40	An electron is accelerated through a potential difference of 50v. its de-Brogile wavelength is	A. 1.66 x 10⁻²⁹m B. 1.74 x 10⁻¹⁰cm C. 17.4 x 10⁻⁶m D. 1.74 x 10⁻¹⁰m
41	A particle of mass 5.0 mg moves with a speed of 8.0 m/s. Its de-Brogile wavelength is	A. 1.66 m B. 1.66 x 10⁻¹⁰m C. 1.66 x 10⁻²⁹cm D. 1.66 x 10⁻²⁹m
42	Victor de-Brogile received the Nobel prize in physics in	A. 1925 B. 1929 C. 1932 D. 1935
43	0.1 kg mass will be equivalent to the energy	A. 9 x 10¹⁵J B. 5 x 10⁸J C. 6 x 10¹⁶J D. 9 x 10⁻¹⁶J
44	The stopping voltage for a certain metal is 100 volts, then the work function for the cathode plate is	A. 100 J B. 1.6 x 10⁻¹⁷J C. 100 eV D. 1.6 x 10⁻¹⁷eV
45	According to the de-Brogile relation, an object of large mass and ordinary speed has	A. very small wavelength B. very large wavelength C. very small frequency D. all of these

46	Photocell is a device which converts	A. chemical energy into electrical energy B. electrical energy into light energy C. heat energy into electrical energy D. light energy into electrical energy
47	In process of annihilation of matter, the two photons produced move in opposite direction to converse	A. momentum B. charge C. energy D. mass
48	Pair production is the phenomenon in which	A. matter is converted into energy B. energy is converted into matter C. light is converted into electrical energy D. electrical energy is converted into light
49	Position was discovered by Carl Anderson in	A. 1920 B. 1925 C. 1928 D. 1932
50	The existence of position was predicted by Dirace in	A. 1920 B. 1925 C. 1930 D. 1928
51	When a position comes close to an electron they annihilate into photons such that	A. each photon has energy 0.51 Me v B. each photon has energy 1.02 Me v C. each photon has energy 0.25 Me v D. none of these
52	When a position comes close to an electron they annihilate into	A. one photon B. two photons which travel in the same direction C. two photons which travels in the opposite direction D. two photons which travel in any direction
53	Converse of pair production is known as	A. Compton effect B. annihilation of matter C. photoelectric effect D. none of these
54	In order to produce pair production, a photon must have a energy	A. 0.511 Me v B. 0.256 Me v C. 1.02 Me v D. 0.956 Me v
55	If the radius of first orbit of hydrogen atom is 0.53° A the radius of second orbit will be	A. 2.120°A B. 0.212<span style="color: rgb(84, 84, 84); font-family: arial, sans-serif; font-size: small;">°A C. 21.2°A D. 0.14° a
56	When a high energy photon interact with a metal, which of the following effect is most likely to be taken place	A. pair production B. photoelectric effect C. Compton effect D. None of these
57	When low energy photon interact with a metal,which of the following effect is likely to be taken place	A. pair production B. photoelectric C. Compton effect D. None of these
58	Compton was awarded Nobel prize in physics in	A. 1921 B. 1923 C. 1925 D. 1927
59	In the compton's effect, it is found that the wavelength of incident x-rays is	A. greater than the wavelength of scattered x-rays B. equal to the wavelength of scattered x-rays C. less than the wavelength of scattered x-rays D. any one of these

		D. any one of these
60	Current is measured in	A. volts B. watt C. ohm D. ampere
61	Resistance is measured in	A. volts B. ampere C. ohm D. watt
62	Avo-meter is used of measure the	A. current, voltage B. voltage, resistance C. resistance, current D. current, voltage and resistance
63	A resistance used in galvanometer to make it voltmeter is called	A. shunt resistance B. high resistance C. zero resistance D. none of these
64	When a suitable small resistance is put in parallel with the galvanometer coil, it is converted into	A. Voltmeter B. Avometer C. Ammeter D. None of these
65	A resistance used in voltmeter is called	A. shunt resistance B. high resistance C. low resistance D. zero resistance
66	In order to make a voltmeter, high resistance is connected with galvanometer, in	A. perpendicular B. may be paralled or pendicular C. series D. none of these
67	Which is modified form of galvanometer	A. potentiometer B. battery C. voltmeter D. slide wire bridge
68	A voltmeter is used to measure the	A. potential difference B. current C. temperature D. resistance
69	For measuring large currents, an ordinary galvanometer cannot be used without proper, then both relates with each other as	A. modification B. voltage C. current D. resistance
70	A full-scale deflection is obtained in a galvanometer with a current of few	A. ampere B. volts C. milliampere D. ohm
71	The current is measured in	A. volts B. watt C. ampere D. ohm
72	Ammeter is used to measure	A. voltage B. resistance C. voltage and current D. current
73	A galvanometer in which the coil comes to rest quickly after the current passed through it, or the current stopped form flowing through it, is called	A. dead beat galvanometer B. stable galvanometer C. shunt galvanometer D. sensitive galvanomter
74	The current in microamperes required to produce one millimeter deflection on a scale placed one meter away from the mirror of the galvanometer, defined the sensitivity of	A. ammeter B. voltmeter C. galvanometer D. avo-meter
75	The torque per unit twist of coil is called	A. proportionality constant B. gravitational constant C. boltzman constant D. coupling constant
76	Method "lamp and scale arrangement" used to measure the	A. angle of deflection B. restoring torque C. magnetic field strength D. current
77	If the value of galvanometer constant k = C/BAN is made small, the galvanometer can be	A. Sensitive B. Accurate

. .	made	C. Stable D. None of these
78	The angle of deflection of coil can be measured by the	A. one method B. three method C. two method D. none of these
79	A shunt resistance parallel to the galvanometer is used to convert it into	A. avometer B. millimeter C. voltmeter D. none of these
80	In a moving coil galvanometer, the deflecting couple depends upon	A. area of the coil B. number of turns of coil C. value of magnetic field D. all of the above
81	For the conversion of galvanometer into voltmeter, we connect a	A. small resistance in series with galvanometer B. small resistance in parallel with galvanometer C. high resistance in parallel with galvanometer D. high resistance series with galvanometer
82	The working of galvanometer depends upon torque exerted on a current carrying coil in	A. magnetic field B. electric field C. gravitational field D. nuclear field
83	Galvanometer is a device used for the detection of	A. voltage B. current C. temperature D. pressure
84	The working of all DC electric meters (galvanometers, ammetersand voltmeters) depends upon	A. Heating effect of current B. Chemical effect of current C. Magnetic effect of current D. Electromagnetic effect of current
85	To convert galvanometer into ammeter we connect	A. small resistance in parallel with galvanometer B. small resistance in series with galvanometer C. high resistance in series with galvanometer D. high resistance in parallel with galvanometer
86	The galvanometer can be made sensitive if the value of the factor C/BAN is	A. constant B. small C. large D. none of these
87	A galvanometer is an instrument used to	A. measure voltage across a circuit B. detect current in a circuit C. measure current flowing through a circuit D. none of these
88	The current sensitivity of the galvanometer is	A. C/BAN B. BAN/C C. CAN/B D. CBN/A
89	The vector representation of force experience give the direction of	A. magnetic field B. current C. length of conductor D. force
90	The fractional change in resistance per kelvin is known as	A. temperature coefficient B. resistance coefficient C. super temperature D. critical temperature
91	If the length of the conductor is double and its cross sectional area is halved, its conductance will	A. Increase four fold B. Become one-fourth C. Become one-half D. Remains unchanged
92	The resistivity of a substance depends upon the	A. length B. mass C. area D. temperature
		A. ohm-m B. ohm⁻¹m<sup>-

93	The SI unit of conductivity is	1</sup> C. ohm-m⁻¹ D. ohm⁻¹m
94	The unit of conductance is	A. ohm B. meter C. mho D. ohm-meter
95	The unit of resistivity is	A. ohm B. ohm-m² C. ohm-meter D. ohm-m⁻¹
96	Resistance of a conductor is increased, the currant will	A. Decrease B. Increase C. Remain the same D. None of these
97	The resistance of a conductor does not depend on its	A. mass B. resistivity C. length D. cross-sectional area
98	Three resistance 500,500 and 50 ohms are connected in series across 555 volts mains. The current flowing through them will be	A. 0.52 A B. 1 mA C. 0.7 mA D. 1.4 A
99	Three resistors of resistance 2,3 and 6 ohms are connected in parallel, their equivalent resistance is	A. 11.0 ohm B. 1.0 ohm C. 7.0 ohm D. 3.0 ohm
100	If the resistance of 2 ohm and 4 ohm are connected in parallel, the equivalent resistance will be	A. 6 ohm B. 4 ohm C. zero ohm D. 1.33 ohm