

ECAT Pre General Science Online Test

Sr	Questions	Answers Choice
1	Laser is a beam of:	A. Visible light B. Infra red light C. Ultra violet light D. Violet light only E. yellow light only
2	By CAT scans, we can detect the density difference of the order of:	A. 1% B. 20% C. 30% D. 50% E. 70%
3	The shell closer to the nucleus is called:	A. N shell B. <div>L shell</div> C. K shell D. M shell E. O shell
4	An compared to solid matter, a crack or an air bubble allows:	A. Great amount of X-rays to pass B. Smallest amount of X-rays to pass C. Very samall amount of X-rays to pass D. Any of these E. None of these
5	X-rays can penetrate in a solid matte through a distance of several:	A. Kilo metres B. Metres C. Centimeters D. A few angstroms E. One micrometer
6	In case of braking radiations, when the rate of deceleration is very large, the emitted radiation corresponds to:	A. Short wavelength B. Large wavelength C. Very large wavelenth D. Low frequency E. Both (B) and (C)
7	Braking radiation causes:	A. Continuous spectrum B. Line Spectrum C. Band spectrum D. Discrete spectrum E. All of these
8	The holes created in the L and M shells are occupied by transitions of:	A. Electrons from lower states B. Electrons from higher state C. Positrons from higher states D. Electrons from K shell E. Both (A) and (B)
9	The transitions of electrons in the hydrogen atom result in the emission of spectral lies in the:	A. Ultra red region B. Visible region C. Ultraviolet region D. Any of these E. None of these
10	Energy required by an electron revolving in certain orbit to jump to an excited state is called:	A. Ionization energy B. Ionization potential C. Excitation energy D. Excitation potential E. None of these
11	An electron of the hydrogen atom in the second orbit is called its:	A. Ground state B. Excited state C. Ionized state D. Any of these E. None of these
12	The formula of Brackett series can be obtained by putting in the general formula, the value of n equal to:	A. <div>one</div> B. two C. three D. four E. five
13		A. Infra-red region B. Visible region C. Ultraviolet region D. Any of these E. None of these

13	Lyman series in the spectrum of hydrogen exists in the :	<p>C. Ultraviolet region</p> <p>D. Both(A) and (B)</p> <p>E. None of these</p>
14	Tick the series which lie/s in. the infra-red region.	<p>A. Pfund series</p> <p>B. Brackett series</p> <p>C. Paschen series</p> <p>D. All of these</p> <p>E. None of these</p>
15	Tick the series which lies in the visible region:	<p>A. Lyman series</p> <p>B. Balmer series</p> <p>C. Paschen series</p> <p>D. Brackett series</p> <p>E. P fund series</p>
16	Spectrum represents the number of component colours present in certain light in terms of:	<p>A. Wavelength</p> <p>B. Frequency</p> <p>C. Energy</p> <p>D. Both (A) and (B)</p> <p>E. All of these</p>
17	The process of formation of spectrum is called:	<p>A. Interference</p> <p>B. Spectroscopy</p> <p>C. Dispersion</p> <p>D. Reflection</p> <p>E. Botha (A) and (D)</p>
18	The results of spectra obtained by Balmer were expressed in 1896 by:	<p>A. Bohr</p> <p>B. Rydberg</p> <p>C. Planck</p> <p>D. Rutherford</p> <p>E. Coulomb</p>
19	The natural arrangement of colours in the spectrum of white light spectrum is	<p>A. VIBGYOR</p> <p>B. ROYBGIV</p> <p>C. ROYBIGV</p> <p>D. BIGROYV</p> <p>E. None of these</p>
20	Balmer series lies in that region of electromagnetic wave spectrum which is called:	<p>A. Visible region</p> <p>B. Invisible region</p> <p>C. Infra-red region</p> <p>D. ultraviolet region</p> <p>E. None of these</p>
21	Balmer series was identified in:	<p>A. 1685</p> <p>B. 1785</p> <p>C. 1885</p> <p>D. 1985</p> <p>E. 1585</p>
22	The first series which was identified in the spectrum of hydrogen is called:	<p>A. Lyman series</p> <p>B. Balmer series</p> <p>C. Paschen series</p> <p>D. Brackett series</p> <p>E. Pfund series</p>
23	The positron was discovered by:	<p>A. In cosmic radiation</p> <p>B. In 1932</p> <p>C. By Carl Anderson</p> <p>D. All above</p> <p>E. By direc</p>
24	A particle having mass and charge equal to that of an electron is called:	<p>A. Proton</p> <p>B. Positron</p> <p>C. Pion</p> <p>D. Pi-meson</p> <p>E. Both (C) and (D)</p>
25	Photoelectric effect takes place with a photon of:	<p>A. Very high energy</p> <p>B. Very low energy</p> <p>C. Low energy</p> <p>D. High energy</p> <p>E. None of these</p>
26	Compton shift refers to:	<p>A. Photon</p> <p>B. Meson</p> <p>C. Proton</p> <p>D. Positron</p> <p>E. Both (B) and (D)</p>
27	The year when A.H. Compton was awarded Nobel Prize is:	<p>A. 1923</p> <p>B. 1927</p> <p>C. 1931</p> <p>D. 1935</p> <p>E. None of these</p>

A. Energy only

28	Compton derived an expression to find Compton shift by applying to the process, the law of conservation of:	A. Energy only B. Momentum only C. Mass only D. Charge only E. Both (A) and (B)
29	Compton studied the scattering of x-rays by loosely bound electrons from:	A. NaCl crystal B. Graphite crystal C. Zirconia D. Copper crystal E. None of these
30	The threshold frequency of sodium is 6×10^6 MHz. The cut-off wavelength for this metal will be	A. 500 m B. 500 nm C. 500 km D. 500 cm E. None of these
31	The unit of work function is:	A. Joule B. Electron volt C. That of threshold frequency D. Both (A) and (B) E. None of these
32	Photoelectrons are emitted when ultraviolet light falls on:	A. Cesium B. Silver C. Potassium D. Any of these E. None of these
33	The Nobel Prize on the explanation of photoelectric effect was awarded to:	A. Max. Planck B. Maxwell C. Bohr D. Rutherford E. None of these
34	The idea of quantization of energy was proposed by:	A. Einstein B. Max. Planck C. Maxwell D. Bohr E. Rutherford
35	Intensity of light determines the:	A. Energy of each photon B. Number of photons C. Speed of photons D. Size of photons E. None of these
36	Electromagnetic -radiation means:	A. Photons B. protons C. Electrons D. Mesons E. None of these
37	The way through which electromagnetic radiations or photons interact with matter depends upon their:	A. Wavelength B. Frequency C. Energy D. Temperature E. All of these
38	If A represents linear momentum and c, the velocity of light, then unit of pc in international system of units is:	A. Newton B. Joule C. Joule-Sec D. Joule-s^{-1} E. Watt
39	Max Planck received the Nobel Prize for his discovery of energy quanta in:	A. 1718 AD B. 1918 AD C. 1818 AD D. 1918 AD E. None of these
40	The ratio of energy E to the corresponding frequency (f) of the radiation (emitted or absorbed) is called:	A. Wien's constant B. Stefan's constant C. Planck's constant D. Boltzmann's constant E. None of these
41	Wien's constant is measured in:	A. Metre per kelvin B. Metre kelvin C. Kelvin per meter D. Joules E. Dynes
42	The intensity of emitted energy (with wavelength) radiated from a black body at different temperatures was initially measured by:	A. Lummer B. Planck C. Pringsheim D. Both (A) and (B) E. Both (A) and (C)

43	When platinum wire is heated, then at the temperature of 500 °C, it becomes:	A. Yellow B. Orange red C. Dull red D. White E. Cherry red
44	The nature of radiations emitted by a hot body depends upon its:	A. Metarial B. Temperature C. colour D. Volume E. Length
45	When the atomic particle are moving with velocities approaching that of light:	A. Newton's laws become valid B. Relativistic effects become prominent C. Both(A) and (B) are valid D. Neither (A)nor (B) E. There mass becomes zero.
46	As compared to the distance measured by an observer on Earth, the distance from Earth to a star measured by an observer in a moving spaceship would seem:	A. Smaller B. Lger C. Same D. Much larger E. None of these
47	the dilation of time applies to the timing processes which are:	A. Physical B. Chemical C. Biological D. All of these E. None of these
48	Due to relative motion of observer and the frame of reference of events, time always:	A. Dilates itself B. Contracts itself C. Stretches itself D. Both (A) and (C) E. None of these
49	Practically the quantity v/c is always:	A. less than one B. Equal to one C. Greater then one D. all of these E. None of these
50	the symbol to be used in relativity problems denotes:	A. Dilated time B. Proper time C. Life time D. Half time E. None of these
51	There is no way to detect:	A. Absolute uniform motion B. Accelerated motion C. State rest D. State of motion E. None of these
52	The special theory of relativity is based on:	A. Four postulates B. Three postulates C. Two postulates D. One postulate E. None of these
53	The special theory of relatively treats the problems involving:	A. Inertial frames of reference B. Non-inertial frames C. Non-accelerated frame D. Botha (A) and (C) E. Both (B) and (C)
54	Strictly speaking, the earth is:	A. An accelerated frame of reference B. A non-inertial frame of reference C. An inertial frame of reference D. ^{A non-accelerated frame of reference} E. Both (A) and (B)
55	The concept of direction is purely:	A. Absolute B. Relative C. Relative to stars always D. Relative to the sun always E. None of these
56	Conversion of A.C. into D.C. is called:	A. Reftification B. Amplification C. Electric induction D. Magnetic induction E. None of these
57		A. AND gate B. NOR gate

57	If both the inputs given to a gate are 1 such that the output is 0, then it is:	C. OR gate D. NOT gate E. Both (A) and (C)
58	Truth table of logic function:	A. Summarizes its output values B. Tabulates all its input conditions only C. Display all its input/output possibilities D. Is not based on logic algebra E. None of these
59	To designate the voltage as low or 0 by a logic gate, the specified minimum value is:	A. 0.2 volt B. 0.8 volt C. 0 volt D. 2.0 volt E. 5.0 volt
60	Op-amp has been discussed as comparator of:	A. Distances B. Voltages C. Velocities D. Magnetic fields E. Both (A) and (C)
61	To turn the transistor OFF, the base current is set:	A. At maximum value B. At zero C. Either (A) or (B) D. All are correct E. None of correct
62	In AND gate, the output is 1 if:	A. Both inputs are 0 B. Both inputs are 1 C. Only one input is 0 D. Both (A) and (B) E. Both (A) and (C)
63	A digital system deals with quantities which has discrete values:	A. Two in number B. One in number C. Three in number D. Four in number E. None of these
64	The number of input terminals of an op-amp is:	A. One B. Two C. Three D. Four E. None of these
65	An electronic computer is basically a vast arrangement of electronic switches which are made from	A. Resistors B. Transistors C. N-type crystals D. P-Type crystals E. Capacitors
66	To display a digit of EIGHT, the number of ON LED'S are:	A. Two B. Three C. Five D. Seven E. Eight
67	To make an LED, it is impracticable to use:	A. Silicon B. Gallium arsenide C. Gallium arsenide phosphide D. Iron E. Both (B) and (C)
68	In the text book, the transistor amplifier circuit is a:	A. Common emitter circuit B. Common collector circuit C. Common base circuit D. Any of these E. None of these
69	A transistor has:	A. One region B. Two regions C. Three regions D. Four regions E. None is correct
70	The number of LED'S needed to display all the digits is:	A. Four B. Five C. Nine D. Six E. Seven
71	A diode which can turn its current ON and OFF in nano seconds is called:	A. LED B. Photodiode C. An ordinary diode. D. Both (A) and (B) E. Both (B) and (C)

72	In full wave rectification, simultaneous action is that:	<p>A. Two diodes conduct and two do not.</p> <p>B. One diode conduct and three do not.</p> <p>C. Three diodes conduct and one does not.</p> <p>D. All the four diodes conduct</p> <p>E. None of these</p>
73	In reverse-biased p-n junction, the reverse current is due to flow of:	<p>A. Minority charge carriers</p> <p>B. Majority charge carriers</p> <p>C. Free electrons from p to n-region</p> <p>D. Holes from n to p-region</p> <p>E. all are true except (B)</p>
74	In the forward biases situation, the current flowing across the p-n junction is a few:	<p>A. amperes</p> <p>B. Milli amperes</p> <p>C. Micro amperes</p> <p>D. Pico amperes</p> <p>E. None of these</p>
75	A potential barrier of 0.7 V exists across p-n junction made from:	<p>A. Germanium</p> <p>B. Silicon</p> <p>C. Arsenic</p> <p>D. Gallium</p> <p>E. Indium</p>
76	A hole in p-type may be due to:	<p>A. Trivalent impurity</p> <p>B. Breking of some covalent bond</p> <p>C. Pentavalent impurity</p> <p>D. Germanium</p> <p>E. Either (A) or (B)</p>
77	Majority charge carriers in the p-region of p-n junction are:	<p>A. electrons</p> <p>B. positrons</p> <p>C. Holes</p> <p>D. Neutrons</p> <p>E. None of these</p>
78	All the valence electrons present in a crystal of silicon are bound in their orbits by	<p>A. Ionic bond</p> <p>B. covalent bond</p> <p>C. Molecular bond</p> <p>D. Both (A) and (B)</p> <p>E. Both (B) and (C)</p>
79	Crystal of germanium or silicon in its pure form at absolute zero acts as:	<p>A. A conductor</p> <p>B. A semiconductor</p> <p>C. an insulator</p> <p>D. Both (A) and (C)</p> <p>E. Both (A) and (B)</p>
80	The use of chips in electronics is described in the form of:	<p>A. Yellow boxes</p> <p>B. Black boxes</p> <p>C. Red boxes</p> <p>D. White boxes</p> <p>E. Orange boxes</p>
81	Silicon is one of the most commonly used:	<p>A. onductor</p> <p>B. Dielectric</p> <p>C. Insulator</p> <p>D. Semiconduction</p> <p>E. Both (B) and (C)</p>
82	Tick the one which is not polymer solid:	<p>A. Zirconia</p> <p>B. Polythene</p> <p>C. Nylon</p> <p>D. Synthetic rubber</p> <p>E. None of these</p>
83	Polymers are the chemical combination of carbon with:	<p>A. Nitrogen</p> <p>B. Oxygen</p> <p>C. Hydrogen</p> <p>D. All of these</p> <p>E. None of these</p>
84	Examples of crystalline solids are:	<p>A. Cooper</p> <p>B. NaCl</p> <p>C. Zirconia</p> <p>D. Both (A) and (B)</p> <p>E. All of these</p>
85	Examples of polymeric substances are:	<p>A. Plastic</p> <p>B. Synthetic rubbers</p> <p>C. Zirconia</p> <p>D. All of these</p> <p>E. Both (A) and (B)</p>

86	A structure of polymeric solid is:	A. An ordered structure B. A disordered structure C. Intermediate between order and disorder D. Any of these E. None of these
87	When relatively simple molecules are chemically combined into massive molecules, the reaction is called:	A. Fission reaction B. Fusion reaction C. Polymerization D. Any of these E. None of these
88	Each atom in metal crystal:	A. Remains fixed B. Vibrates about a fixed point C. Moves randomly D. Rotates about center of a crystal E. None of these
89	The smallest three dimensional basic structure is called as:	A. An atom B. Unit cell C. Crystal lattice D. Polymer E. None of these
90	In crystalline solids, atoms are held about their equilibrium positions depending upon the strength of:	A. Adhesive force B. Nuclear forces C. Inter atomic cohesive force D. Electromagnetic force E. None of these
91	The pattern of NaCl particles have a shape which is :	A. Cubic B. Body centred cubic C. Simple cubic D. face centred E. Both (A) and (C)
92	The whole structure obtained by the repetition of unit cells is called:	A. Crystal lattice B. Amorphous solid C. Polymeric solid D. Polyesterne E. None of these
93	The temperature at which the vibrations become so great that structure of the Crystal breaks up, is called:	A. Critical temperature B. Temperature of vaporization C. Melting point D. Both (A) and (C) E. Both (A) and (B)
94	Tick the one which is not a crystalline solid:	A. Zirconia B. Glass C. Copper D. Ceramic solid E. An ionic compound
95	A unit cell is smallest basic structure which is:	A. One dimensional B. Two dimensional C. Three dimensional D. Four dimensional E. None of these
96	The arrangement of molecules or atoms in a crystalline solid can be studied by using:	A. Chemical methods B. Neutrons C. X-ray techniques D. Copper atoms E. Both (A) and (B)
97	An ordinary glass gradually softens into a 'paste -like' state before it becomes a very viscous liquid. It happens almost at:	A. 800°C B. 500°C C. 300°C D. 100°C E. None of these
98	In a cubic crystal, All solids meet at:	A. 60° B. 90° C. 109° D. 30° E. 10°
99	The pattern of crystalline solid is:	A. One dimensional B. Two dimensional C. Three dimensional D. None of these E. Either (A) or (B)
100	Amorphous solids:	A. Have definite melting points B. Are called glassy solids C. Have no definite melting point D. Both (B) and (C)

