ECAT Chemistry Chapter 5 Atomic Structure

Sr	Questions	Answers Choice
1	An orbital can accommodate maximum two electrons with opposite spins according to	A. Heisenberg's principle B. Aufbau principle C. Hund's srule D. Pauli exclusion principle
2	When cathode rays strike the anode metal X-rays are emitted and not the positive rays because	A. Cathode rays are material particles B. Cathode rays knock out electrons from anode, which emit X-rays when outer electron take their place C. Cathode rays are absorbed by the nucleus D. Cathode rays become heated
3	No cathode rays are produced in the discharged tube when gas is under ordinary pressure even if voltage of 5000 to 10000 is applies. This reason is	A. Voltage is low B. Discharge tube is not coloured C. Gas does not conduct current under ordinary pressure D. Temperature low
4	The correct set of quantum numbers (n,l and m) respectively of the unpaired electron of chlorine atom is	A. 2,1,0 B. 2,1,1 C. 3,1,1 D. 3,2,1
5	Maximum potential energy that an electron can have within the atom is:	A. Equal to zero. B. Less than zero. C. Greater than zero. D. Infinite
6	The nature of positive rays depend on:	A. Nature of discharge tube. B. Nature of resident gas. C. Nature of electrode. D. All of above.
7	The radius of first orbit of hydrogen atom	A. 0.329 A° B. 0.429 A° C. 0.529 A° D. 0.229 A°
8	The total values of magnetic quantum number of subshell are five, the subshell is	A. S-subshell B. P-subshell C. D-subshell D. F-subshell
9	The quantum number which describe the orientation of the orbitals is	A. Spin quantum number B. Principle quantum number C. Azimathal quantum number D. Magnetic quantum number
10	n + l value for 4f will	A. 2 B. 5 C. 7 D. 9
11	Positive particle in discharged tube is produced by ionization of gas molecules, which is caused by	A. Gas molecules collide with anode B. Gas molecules are at high temperature C. Gas molecules produce X-rays D. Cathode rays remove electrons from gas molecules
12	The number of spherical nodes in 3p orbitals are	A. One B. Three C. Non D. Two
13	Heaviest particle is	A. Meson B. Neutron C. Proton D. Electron
14	1 erg of energy corresponds to	A. 6.02 x 10²³J/mol B. 6.02 x 10¹⁶J/mol C. 1 erg/mol

		D. 10⁻⁷J/mol
15	The spectrum of helium is expected to be similar to that of	A. H B. Li⁺ C. Na D. He⁺
16	Consider the ground state of Cr atom (Z=24). The numbers of electrons with the azimuthal quantum numbers l = 1 and l = 2 are respectively	A. 12 and 4 B. 16 and 5 C. 16 and 4 D. 12 and 5
17	The arrangement of subshells in the ascending order of their energy on complete filing of 4f subshell the entering electrons goes to	A. 5s B. 5p C. 5d D. 5f
18	Question Image	A. Plank's equations B. de Broglie's equations C. Heisenburg's equation D. None
19	Light emitted from a source has its wave length 500nm, then its wave number will be	A. 2 x 10⁶m⁻¹ B. 2 x 10⁷m⁻¹ C. 5 x 10⁸m⁻¹ D. 5 x 10⁹m⁻¹
20	e/m of cathode rays is same but for positive rays e/m changes by changing gas in the discharge tube because	A. Cathode rays are small sized particles B. Cathode rays have same charge C. Nature of cathode rays same for all gasses, but masses of nuclei are different for different gases D. Temperature of cathode rays higher