ECAT Chemistry Chapter 5 Atomic Structure Online Test

Sr	Questions	Answers Choice
1	Which of the following orbitals have a dumb bell shape?	A. s B. p C. d D. f
2	The total number of orbitals in a shell with principal quantum number 'n' is	A. 2n B. 2n² C. n² D. n + 1
3	Rutherford's experiment led to the discovery of	A. Nucleus B. Electron C. Proton D. alpha particle
4	Azimuthal quantum number of last electron of $_{11}Na$ is	A. 1 B. 2 C. 3 D. 0
5	For which of the following sets of quantum numbers and electron will have the highest energy?	A. 3,2,1,1/2 B. 4,2,-1,1/2 C. 4,1,0,-1/2 D. 5,0,0,1/2
6	The radius of second Bohr's orbit is	A. 0.053 nm B. 0.053/4 nm C. 0.053 x 4 nm D. 0.053 x 20 nm
7	The electron in an atom	A. moves randomly around the nucleus B. has fixed space around the nucleus C. is stationary in various energy levels D. moves around its nucleus in definite energy levels
8	If the value of principal quantum number is 3. the total possible values for magnetic quantum number will be	A. 1 B. 4 C. 9 D. 12
9	The total number of possible values of magnetic quantum number for the value of l=3 is	A. 3 B. 1 C. 5 D. 7
10	The electronic configuration of an atom/ion can be defined by the following	A. Aufbau principle B. Pauli's exclusion principle C. Hund's Rule D. All the above
11	Number of neutrons in heavy hydrogen atom is	A. 0 B. 1 C. 2 D. 3
12	The number of spherical nodes in 3p orbitals are	A. One B. Three C. Non D. Two
13	The spectrum of helium is expected to be similar to that of	A. H B. Li⁺ C. Na D. He⁺
14	Subsidiary quantum number specifies	A. size of orbital B. shape of orbital C. orientations of orbitals D. Nuclear stability
15	Sodium chloride imparts a yellow colour to the Bunsen flame. This can be	A. low ionization energy of sodium B. sublimation of metallic sodium to give yellow vapour

15	interpreted due to the	C. emission of excess energy absorbed as a radiation in the visible region as a radiation in the visible region D. photosenitivity
16	The number of neutrons in the element $^{9}_{4}Be$ is	A. 4 B. 5 C. 9 D. 13
17	The valence orbital configuration of an element with atomic number 23 is	A. 3d⁵ B. 3d³, 4s² C. 3d³, 4s¹, 4p¹ D. 3d²,4s²,4p¹
18	Which quantum number is sufficient to describe the electron is hydrogen atom?	A. l B. n C. m D. s
19	When electrons revolve in stationary orbits	A. There is no change in energy level B. They vecome stationary C. They are gaining kinetic energy D. There is increase in energy
20	The symbol of the element whose atoms have the outer most electronic configuration $2s^2 2p^3$is	A. N B. Li C. P D. Na
21	The number of electrons in the M shell of the element with atomic number 24 is	A. 24 B. 12 C. 13 D. 8
22	The maximum number of electrons in a subshell for which l = 3 is	A. 14 B. 10 C. 8 D. 4
23	The ratio of the ionization energy of H and $Be^{3+}$is	A. 1 : 1 B. 1 : 3 C. 1 : 9 D. 1 : 16
24	The mass of the neutron is of the order of	A. 10⁻²³kg B. 10⁻²⁴kg C. 10⁻²⁶kg D. 10⁻²⁷kg
25	The credit of discovering neutron goes to	A. Rutherford B. Langmuir C. Chadwick D. Austen
26	With increasing principle quantum number, the energy difference between adjacent energy levels in H atom	A. Decreases B. Increases C. Remains constant D. Decreases for low value of Z and increase for higher value of Z
27	When the electron jumps form second third, fourth orbit to the fist orbit, the transitions are known as	A. Balmer series B. Lyman series C. Pfund series D. Brackett series
28	When the electron jumps form third, fourth, fifth orbits to the second orbit, the transitions are known as	A. Paschen B. Pfund C. Balmer D. Brackett
29	Photons of yellow colour are _____ energetic than violet colour	A. More B. Less C. Equal D. None
30	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