

ECAT Chemistry Chapter 5 Atomic Structure Online Test

Sr	Questions	Answers Choice
1	When potassium metal is exposed to violet light	A. Ejection of electrons takes place B. Ejection of some potassium atoms occurs C. There is no effect D. The absorption of electrons takes place
2	Find the magnetic moment of a divalent ion in aqueous solution if its atomic number is 25	A. 3.0 BM B. 4.9 BM C. 5.9 BM D. 6.9 BM
3	What is the packet of energy called?	A. Electron B. Photon C. Positron D. Proton
4	Effective magnetic moment of Sc^{3+} ion is	A. 1.73 B. 0 C. 5.92 D. 2.83
5	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
6	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
7	For principle quantum number $n=4$, the total number of orbitals having $l = 3$ is	A. 3 B. 7 C. 5 D. 9
8	The atomic number of an element is 35 what is the total number of electrons present in all the p-orbitals of the ground state atom of that element?	A. 6 B. 11 C. 17 D. 23
9	The orbital in Rutherford's model is	A. Spiral B. Circular C. Both D. None
10	The number of de-electrons retained in Fe^{2+} (At.No. of Fe = 26) ions is	A. 3 B. 4 C. 5 D. 6
11	The configuration $1s^2 2s^2 2p^5 3s^1$ shows	A. Excited state of O^{2-} B. Excited state of neon C. Excited state of fluorine D. Ground state of fluorine atom
12	The energy of the first electron in helium will be	A. -13.6 eV B. -54.4 eV C. -5.44 eV D. zero
13	Which of the following is not isoelectronic?	A. Na^{+} B. Mg^{2+} C. O^{2-} D. Cl^{-}
14	The spectrum of He is expected to be similar to that of	A. H B. Na C. He^{+} D. Li^{+}
15	Which of the following element's outermost orbital's last electron has magnetic quantum number $m=0$?	A. Na B. O C. Cl D. ...

		D. N
16	Which is not true with respect to cathode rays?	A. A stream of electrons B. Charged particles C. Move with speed as that of light D. Can be deflected by magnetic fields
17	In the ground state, an element has 13 electrons in its M shell. The element is	A. Copper B. Chromium C. Nickel D. Iron
18	Rutherford's atomic model suggests the existence of	A. Atom B. Nucleus C. alpha particle D. Measons
19	The third line of the Balmer series, in the emission spectrum of the hydrogen atom, is due to the transition from the	A. Fourth Bohr orbit to the first Bohr orbit B. Fifth Bohr orbit to the second Bohr orbit C. Sixth Bohr orbit to the third Bohr orbit D. Seventh Bohr orbit to the third Bohr orbit
20	In which of the following pairs, the numbers of electrons in the outermost shell are different?	A. As, Sb B. Ge, Sn C. In, Pt D. Se, Te
21	The total number of orbitals possible for the quantum number n is	A. n B. n^2 C. 2n D. $2n^2$
22	A 4f orbital has	A. one node B. two node C. three node D. four nodes
23	1 erg of energy corresponds to	A. 6.02×10^{23} J/mol B. 6.02×10^{16} J/mol C. 1 erg/mol D. 10^{-7} J/mol
24	The de-Broglie wavelength of a particle with mass 1g and velocity 100 m/s is	A. 6.63×10^{-33} m B. 6.63×10^{-34} m C. 6.63×10^{-35} m D. 6.65×10^{-35} m
25	Which of the following has more unpaired d-electrons?	A. Zn^{+1} B. Fe^{+2} C. Ni^{+3} D. Cu^{+1}
26	Heaviest particle is	A. Meson B. Neutron C. Proton D. Electron
27	The four quantum numbers of the valency electron of potassium are	A. 4, 1, 1, 1/2 B. 4, 0, 0, 1/2 C. 4, 1, 0, 1/2 D. 4, 4, 0, 1/2
28	An electron has principal quantum number 3. The number of its 1 subshell and 2 orbitals would be respectively	A. 3 and 5 B. 3 and 7 C. 3 and 9 D. 2 and 5
29	If the radius of first Bohr orbit be a_0 , then the radius of third Bohr orbit would be	A. $3 \times a_0$ B. $6 \times a_0$ C. $9 \times a_0$ D. $1/2 \times a_0$
30	The quantum number which determines the shape of the orbital is	A. principal B. azimuthal C. magnetic D. spin