ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION-26(CLASS-11)

TOPIC- STRUCTURE OF ATOM

SUBTOPIC-BASIC CONCEPTS

SUBJECT – CHEMISTRY

DURATION – 30 mins

F.M. - 15

DATE -25.07.20

1.1 Which of the following atoms has a non-spherical outermost orbital?

a) H b) Li c) Be d) B

Ans. d

1.2 In Lyman series an electron jumps from higher energy level to-

 (a) K energy level**(b)** M energy level**(c)** N energy level**(d)** L energy level

Ans. a

1.3 The wavelength of a moving electron-

(a) is equal to that of light(b) remains constant with velocity(c) decreases with an increasing velocity(d) increases with an decreasing velocity

Ans. c

1.4 Bohr's concept of the orbit in an atom was contradicted by-

(a) de Broglie relationship(b) Uncertainty principle(c) Planck's

Ans. b

1.5The velocity of a photon is-

(a)Dependent on its wavelength (b) dependent on its source (c) equal to cube of its amplitude(d) independent of its wavelength

Ans. d

1.6 Among the following ions, which are has the highest paramagnetism?

(a) $[Cr(H2O)6]^{+3}$(b) $[Fe(H2O)6]^{+2}$(c) $[Cu(H2O)6]^{+2}$(d) $Zn(H2O)6]^{+2}$

Ans. b

1.7 In the case of atomic spectrum of hydrogen which series of lines lie in the visible region?

 (a) Balmer(b) Paschen (c) Pfund(d) None of these

Ans. b

1.8 When the electron is excited from K level to M level we get-

a) γ- rays b) cathode rays c) continuous spectra d) absorption spectra

Ans. d

1.9 Davisson and Germer gave an experimental evidence for-

a) Wave nature of electron b) particle nature of electron c) particle nature of light d) wave nature of light

Ans. d

1.10 The size of nucleus is-

(a) 10^{-12} m (b) 10^{-8} m (c) 10^{-15} m (d) 10^{-10} m

Ans. c

1.11 The number of unpaired electrons in the ground state of chromium is-

(a) 1 b) 6 c) 7 d) 2

Ans. b

1.12 The wavelength of an electron moving with a velocity 5×10^5m sec^{-1} is
(h=6.63 ×10^{-34} kg m^2 sec^{-1})5×10^5m sec^{-1} is (h=6.63 ×10^{-34} kg m^2 sec^{-1})-

(a) 11.6×10^{-5}m b) 11.6×10^{-9}m^{-1} c) 14.6×10^{-5}m d) 1.46×10^{-9}m

Ans. d

1.13 The orbitals with maximum number of possible orientation is-

(a) s b) p c) d d) f

Ans. c

1.14 If value of h is taken as 10^{-34} kg m^2 sec^{-1}, the de-Broglie wavelength of a particle of mass 10^{-31} Kg having velocity 10^9cm sec^{-1} is-

a) 0.01 m b) 2 nm c) 0.1 nm d) 15Å

Ans. c

1.15 The maximum number of electrons that can be accommodated by an atom in g-sub-energy level are-

(a) 20 b) 25 c) 18 d) 12

Ans. c

PREPARED BY: MR. ARNAB PAUL CHOWDHURY