ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION-27(CLASS-11)

TOPIC- STRUCTURE OF ATOM

SUBTOPIC-BASIC CONCEPT

SUBJECT – CHEMISTRY
DURATION – 30 mins

F.M. - 15
DATE -27.07.20

1.1 **For a given energy level the number of orbitals is equal to-**

a) n^2 b) 2l+1 c) 4(2l+3) d) 2n

Ans. a

1.**2** **The atomic number of an element having the valence shell electronic configuration $4s^2 4p^6 4s^2 4p^6$ is-**

(a) 35**(b)** 26 **(c)**23**(d)** 34

Ans. a

1.3 **The relationship between energy of a radiation and its frequency was given by-**

(a) Planck(b) Rutherford(c) Einstein(d) Joule

Ans. c

1.4 **In an atom of hydrogen, which of the following orbital has the lowest energy for an electron present in it?**

(a) 3s (b) 2p (c) 4p (d) 2s

Ans. b

1.5**The possible values of l for an s orbital are-**

(a)-1, +1 (b) 0 to 2 (c) -2 and + 1(d) 0

Ans. d

1.6 **A dipositive ion Z++ has 2e–in the K shell, 8 electrons in the L shell and 8e– in the M shell. Atomic number of Z is-**

(a) 19 (b) 20 (c) 16(d) 15

Ans. b

1.7 **The number of unpaired electrons in a chromic ion Cr^{+3} (atomic number 24) is-**

(a) 6 (b) 4 (c) 3(d) 1

Ans. c

1.8 **The interrelationship between matter and energy was given by-**

a) Rutherford b) Joule c) de Broglie d) Einstein

Ans. c

1.9 **The ion that is isoelectronic with CO is-**

a) CN^- b) O^{2+} c) O^{2-} d) N^{2+}

Ans. a

1.10 **The fundamental particle that has least mass is-**

(a) Meson (b) alpha-particle (c) electron (d) neutron

Ans. c

1.11 **Mass of positron is the same to that of-**

(a) Proton b) mesonc) electron d) neutron

Ans. c

1.12 **The exchange of particles considered responsible for keeping the nucleons together are-**

(a) Meson b) electron c) positron d) neutron

Ans. a

1.13 **Charge on an electron was shown by –**

(a) J. J. Thomson b) Kirchoff c) Ohmd) Max Planck

Ans. a

1.14 **The electronic configuration of Hg is:**

a) $1s^2\ 2s^2p^6\ 3s^2p^6d^{10}\ 4s^2p^6d^{10}f^{14}\ 5s^2p^6d^{10}\ 6s^2$ b) $1s^2\ 2s^2p^6\ 3s^2p^6d^{10}\ 4s^2p^6d^{10}f^{14}\ 5s^2p^6d^{10}\ 7s^2$

c) $1s^2\ 2s^2p^6\ 3s^2p^6d^{10}\ 4s^2p^6d^{10}f^{14}\ 5s^2p^6d^{10}\ 8s^2$ d) $1s^2\ 2s^2p^6\ 3s^2p^6d^{10}\ 4s^2p^6d^{10}f^{14}\ 5s^2p^6d^9\ 6s^3$

Ans. a

1.15 **Find the number of unpaired electrons present in Mn^{2+}:**

(a) 6 b) 4 c) 5d) 3

Ans. c

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