ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION-25(CLASS-11)

TOPIC- STRUCTURE OF ATOM

SUBTOPIC-ELECTRONIC CONFIGURATION

SUBJECT – CHEMISTRY
DURATION – 30 mins

F.M. - 15
DATE -20.07.20

1.1 **Which principle states order of energy?**

a) Aufbau b) Pauli c) Einstein d) Hund

Ans. a

1.**2 Electronic configuration of the outer shell of the element Nb with atomic number 78 is:**

(a) [Kr] $5s^1 3d^4$ **(b)** [Kr] $3d^5$ **(c)** [Xe] $5s^1 3d^4$ **(d)** [Kr] $5s^1 4d^4$

Ans. a

1.3 **Maximum number of electrons in a subshell can be:**

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

Ans. a

1.4 **The quantum number that determines orbit of an revolving electron-**

(a) Spin quantum number (b) magnetic quantum number (c) azimuthal quantum number (d) Principal quantum number

Ans. d

1.5**Number of unpaired electrons in Cu^+:**

(a)3 (b) 1 (c) 2 (d) 0

Ans. d

1.6 **Which among the following can also be considered as rule based on Spin Multiplicity?**

(a) Hund's rule (b) Pauli's exclusion principle (c) Aufbau Principle (d) None of these

Ans. a

1.7 **Maximumdegeneracy is not observed for-**

(a) s-orbital (b) p-orbitals (c) d-orbitals(d) f-orbitals

Ans. d

1.8 **For a principal quantum number n, how many atomic orbitals are possible?**

a) n^2 b) n+ l c) 2n d) n

Ans. d

1.9 **The typical electronic configuration of Cr and Cu can be explained by considering-**

a) Exchange energy b) Spin multiplicity c) Orbital angular momentum d) Inert pair effect

Ans. a

1.10 **Element Z has the ground state electronic configuration $1s^2 2s^2 2p^2$. In which group does it belong?**

(a) 5 (b) 15 (c) 14 (d) 13

Ans. c

1.11 **A set of orbitals for which the quantum number l = 0 is:**

(a) 7-fold degenerate b) non-degenerate c) 3-fold degenerate d) 5-fold degenerate

Ans. b

1.12 **For the principal quantum number n = 6, it is possible to have:**

(a) only s and p orbitals b) only s, p, d and f orbitals c) only an s orbital d) only s, p and d orbitals

Ans. b

1.13 **The electronic configuration of Ce is:**

(a) [Xe] $4f^1 3d^1 6s^2$ b) [Xe] $4f^3 3d^1$ c) [Xe] $4f^4$ d) None of these

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 Cr^{3+}:**

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

Ans. c

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