ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

FOR GOD AND COUNTRY

WORKSHEET-21(CLASS-11)

SOLUTION- STRUCTURE OF ATOM

SUBTOPIC-ELECTRONIC CONFIGURATION (PART-2)

SUBJECT – CHEMISTRY **F.M. - 15**

DURATION – 30 mins **DATE -09.07.20**

1.1 **Which principle states that no two electrons can have the same set of all four quantum numbers-**

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

Ans. b

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

(a)[Xe] $4f^{14}\,5d^{9}\,6s^{1}$ **(b)**[Xe] $4f^{13}\,5d^{10}\,6s^{1}$ **(c)** [Xe] $4f^{12}\,5d^{9}\,6s^{2}$ **(d)** [Xe] $4f^{14}\,5d^{10}\,6s^{2}$

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 the rotation property of an electron-**

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

(d) Principal quantum number

Ans. a

1.5**Number of unpaired electrons in Zn^{2+}:**

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

Ans. d

1.6 **Which among the following can also be considered as (n+l) rule?**

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

Ans. c

1.7 **Degeneracy is not observed for-**

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

Ans. a

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

a) n^2b) n+ lc) 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 $1s^2 2s^2 2p^4$. 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 = 3 is:**

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

Ans. a

1.12 **For the principal quantum number n = 5, it is possible to have:**

(a) only s and p orbitalsb) only s, p, d and f orbitals c) only an s orbitald) only s, p and d orbitals

Ans. b

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

(a)[Kr] $4d^{10}$b) [Kr] $4d^7 5s^3$c) [Kr] $4d^8 5s^2$ d)None of these

Ans. a

1.14 **The electronic configuration of is:**

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

Ans. d

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

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

Ans. c

PREPARED BY: MR. ARNAB PAUL CHOWDHURY