ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

FOR GOD AND COUNTRY

WORKSHEET-20(CLASS-11)

TOPIC-STRUCTURE OF ATOM

SUBTOPIC-ELECTRONIC CONFIGURATION (PART-1)

SUBJECT – CHEMISTRY
DURATION – 30 mins

F.M. - 15
DATE -08.07.20

1.1 **Which principle states that electrons fill orbitals with lower energy before moving on to higher energy orbitals?**

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

1.**2 Electronic configuration of the outer shell of the element Gd with atomic number 64 is:**

(a)[Xe] $4f^1\,5d^1\,6s^2$ **(b)**[Xe] $4f^1\,6s^3$ **(c)** [Xe] $4f^4$ **(d)** [Xe] $4f^2\,6s^2$

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

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

1.4 **The quantum number that determines the orbital angular momentum-**

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

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

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

1.6 **If the electronic structure of any transition element is governed mainly by:**

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

1.7 **Which quantum number(s) do $2p_x$ and $2p_y$ orbitals have in common?**

(a) n and l (b) n(c) l and m_l (d) l

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

a) n^2b) n+ 1 c) 2n d) n

1.9 **Which among the following requires determination of Spin multiplicity-**

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

1.10**Element Z has the ground state electronic configuration $1s^2 2s^2 2p^5$. In which group does it belong?**

(a) 5 (b) 15 (c) 17(d) 13

1.11 **A set of orbitals for which the quantum number l = 1 is:**

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

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

1.13 **The electronic configuration of Ag is:**
(a)[Kr] $4d^{10}5s^1$b) [Kr] $4d^8 5s^2$ c) [Kr] $4d^9 5s^2$ d)None of these

1.14 **The electronic configuration of Nb is:**
a) [Kr] $4d^4\ 5s^1$b) [Kr] $4d^5$c) [Kr] $4d^3\ 5s^2$d) [Kr] $4d^5 6s^1$

1.15**Find the number of unpaired electrons present in Cr^{3+}:**
(a) 6b) 4c) 5d)3

PREPARED BY: MR. ARNAB PAUL CHOWDHURY