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SUBJECT CODE NO:- B-2001
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y. (Sem-I)
Examination November/December- 2022
Chemistry Paper-I
(Inorganic Chemistry)

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

- N.B
1. Attempt all questions.
 2. All questions carries equal marks.
 3. Illustrate your answer with suitable labeled diagram.
- Q. 1
- a) State and explain Aufbau & Pauli's exclusion principle? 10
 - b) Define electronegativity? Explain its application in predicting and explaining the chemical behavior? 10
- OR**
- c) What is diagonal relationship? Explain diagonal relationship between Li and Mg 10
 - d) i) Explain the trends of electron affinity in periodic table 10
 ii) Explain why size of cation is smaller than its parent atom.
- Q. 2
- a) Explain the hydrides and oxides of 14th group elements. 10
 - b) Define atomic orbitals? Explain in detail the shapes of S, P and d orbitals 10
- OR**
- Write notes on any four of the following 20
- a) Electronic configuration of halogen family
 - b) Ionization potential
 - c) Salient features of hydrides of alkali metals
 - d) Flame colouration of alkaline earth metals.
 - e) Oxides of 13th group elements.
 - f) Structure and bonding in Diborane

Q. 3 Choose the correct option from the given multiple choices.

10

1. The number of electrons in outermost orbital of alkali metals are
a) 02 b) 01 c) 03 d) 04
2. In the periodic table, from top to bottom in a group the ionization potential _____
a) Increase b) Decrease c) Constant d) None
3. The general electronic configuration of VIIth A group element is
a) $ns^2 np^3$ b) $ns^2 np^2$ c) $ns^2 np^4$ d) $ns^2 np^5$
4. In N_2O_5 , the oxidation state of nitrogen is _____
a) +5 b) +3 c) +10 d) +2
5. When the value of azimuthal quantum number is 3, then the value of m can be _____
a) 2 b) 3 c) 7 d) 4
6. _____ element is a constituent of chlorophyll
a) Na b) Mg c) K d) Ca
7. The important element required for the formation of the bone and teeth is _____
a) Mg b) Na c) Ca d) K
8. The atomic number of Zn metal is _____
a) 20 b) 30 c) 10 d) 29
9. Among the following Interhalogen compound is _____
a) KCl b) NaCl c) HCl d) ICl₃
10. Diagonal relationship present between _____
a) B and Al b) Li and Na c) C and Si d) B and Si