

SECTION—C

9. (a) What is physical significance of ψ and ψ^2 ?
(b) Define electronegativity. How does it govern nature of bonding between two atoms ?
(c) Why xenon forms compounds only with F_2 and O_2 ?
(d) Explain the directional character of a covalent bond.
(e) Discuss bond order and how it is related to bond energy.

5×2=10

Roll No.

Total No. of Pages : 2

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INORGANIC CHEMISTRY (CHEB 1101T)

Semester—I

Time Allowed : 3 Hours]

[Maximum Marks : 26

Note :— Candidates are required to attempt *two* questions each (4 marks each) from Sections A and B. Section C is compulsory (2 marks each question).

SECTION—A

- (a) Discuss and derive de Broglie relationship.
(b) Discuss shapes of s and p orbitals.
- Discuss quantum numbers in detail.
- Define ionization energy and electron affinity. How do these vary in the periodic table as the atomic number increases ?
- Discuss preparation, properties, structure and geometry of XeF_6 .

2×4=8

SECTION—B

- Discuss Valence bond theory and its limitations in detail.
- Explain hybridization and its importance. Discuss geometry of SF_6 and IF_7 .
- Draw molecular orbital energy level diagram of CO molecule. Discuss bond order and magnetic character of this molecule.
- Using VSEPR theory, explain ClF_3 is T-shaped and SF_4 is see saw-shaped.

2×4=8