

St. Mary's P.G. College , Vidisha { M.P. }

B. Sc. 1st Year (Chemistry)

Paper- 2nd : Inorganic – Chemistry

Q.{01} : - Write short notes on the following –

(A) Heisenberg's Uncertainty Principle .

(B) De – broglie's equation and dual behaviour of matter .

(C) [n+l] rule . (D) Pauli Exclusion Principle . (E) Effective Nuclear Charge .

Q. {02} : - Write down the electronic configurations of Cu and Cr ? and explain ?

Q. {03} : - What do you understand by Quantum Numbers ? Discuss different type of Quantum Numbers ?

Q. {04} : - What do you mean by Periodicity ? Give the name of four periodic properties. What are the factors which affect periodic properties ?

Q. {05} : - Define Hybridisation ? Describe with examples the different types of Hybridisation ?

Q. {06} : - What is Valence Shell Electron Pair Repulsion theory ? Explain on its basis the Shape of H₂O and NH₃ molecules ?

Q. {07} : - Write short notes on the following –

(I) Molecular Orbitals . (II) Bond Order and its applications .

(III) Hydrogen Bond . (IV) Bond Parameter .

Q. {08} : - Discuss the following –

(A) Radius ratio rule and Coordination Number . (B) Crystal Defects .

(C) Lattice energy and Born – Haber Cycle .

(D) Polarisation and Fajan's rule .

Q. {09} : - Describe the methods of preparation , properties and structure of Xe – compounds ?

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Q. {10} : - What do you understand by Diagonal Relationship ? Explain with example ?

Q. {11} : - Discuss the role of Na^+ , K^+ , Mg^{2+} and Ca^{2+} ions in biological system ?

Q. {12} : - What do you mean by alkali and alkaline earth metals ? Discuss the comparative study of their properties ?

Q. {13} :- Explain the following –

(I) Crown Compounds .

(II) Oxy – acids of Chlorine .

(III) Oxides of Nitrogen and Phosphorous . (IV) Application of Noble gases .

Q. {14} : - Write short notes on the following –

(A) Inorganic – Benzene .

(B) Fullerenes .

(C) Di – Boron .

(D) Chloro – Fluoro Carbon .

(E) Inter Halogen Compound .