



New Arts, Commerce & Science College, Wardha

★ Approved by Government of Maharashtra.

★ Affiliated to Rashtrasanta Tukdoji Maharaj Nagpur University, Nagpur.

★ Recognised by U.G.C. New Delhi Under section 2(f) & 12 (b) of UGC act 1956.

Batchelor Road, Nalwadi Wardha - 442 001. (Maharashtra)

☎ : (07152) - 253093, 240152, Fax : 07152-240152

Class : BSc 1 semester - 2019

Subject : Inorganic Chemistry

Paper 1

Unit 1

1. Explain Hund's rule of maximum multiplicity
2. State Aufbau principle and explain its importance
3. Define ionization potential
4. Discuss factors affecting ionization potential and how it varies in group and period
5. Write Schrodinger wave equation and specify the terms involved in it
6. Give the values of n , l , m for 3d electron
7. Why the size of cation and anion of an element is different from its parent atom
8. Calculate the effective nuclear charge for 4s electron of Potassium
9. Define electron affinity and factors affecting it
10. Draw shapes of dx^2-y^2

Unit 2

1. Define hybridization. Discuss sp^3 and sp^3d^2 hybridization with suitable example
2. Define polarizing power of ion
3. Define polarizability of ion
4. Discuss various factors affecting polarizing power and polarizability
5. What are the postulates of VBT
6. define the term bond energy
7. What is solvation energy? How solvation energy of NaCl is determined using Born-Haber cycle
8. Discuss structure of CsCl
9. Mention two limitations of VBT
10. Draw structure of SF_6



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Unit 3

1. Write electronic configuration of s block elements
2. Compare ionization energy of s block elements
3. Discuss structure and bonding in XeF₂
4. Give one method of preparation of XeF₂ and XeF₄
5. Define hydrogen bond. How does it affect melting and boiling points of compounds
6. What is diagonal relationship
7. Discuss diagonal relationship between Lithium and Magnesium
8. Discuss structure and bonding in XeF₆
9. Define lattice energy
10. Give one example of intramolecular hydrogen bonding

Unit 4

1. Discuss the periodicity of p block elements
2. Discuss the concept of electronegativity for p block elements
3. What are boranes? Discuss the structure and bonding in diborane in detail
4. Discuss the structure of P₂O₅
5. Give method of preparation of Marshalls acid
6. Explain the structure of Caro's acid
7. Discuss diagonal relationship between Boron and silicon
8. Discuss the structure of orthophosphoric acid
9. Why first IP of nitrogen is higher than oxygen
10. What is borazine