2021
B.A./B.Sc.
First Semester
CORE – 1
CHEMISTRY
Course Code: CHC 1.11
(Inorganic Chemistry - I)

PART–B
Total Mark: 30

Answer the following questions.

1. (a) Derive Schrodinger wave equation. Give one significant of wave function ψ in the equation.

    3+1=4

   (b) Define Hund's rule of multiplicity. Apply this rule to show th eelectronic configuration of nitrogen.   2

2. (a) Van der Waal's radius of chlorine is greater than the covalent radius of chlorine. Explain.   2
   (b) The ionization energy of Al to form Al^+ is less than that of Mg to form Mg^+ ion. Why?   2
   (c) Define elecron affinity. Why are electron affinities of halogens so high?   2

3. (a) Briefly illustrate the effect of hydrogen bonding on solubility of a molecule.   2
   (b) Explain Born-Habers cycle and give its applications.   4

4. (a) Using VSEPR theory, find out the geometry and hybridization of BO_3^{-3} and PCl_5 2+2=4
   (b) Define resonance. Draw the resonance streucture of CO_3^{-2}.   2

5. (a) How would you account for the disproportionation of H_2O_2 with the help of a Latimer diagram? 4
   (b) Give the application of Fajan's rule.   2

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