Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Sc.(BT) (2018 & Onwards) (Sem.–1)

INORGANIC CHEMISTRY

Subject Code : BSBT-101-18

M.Code : 75324

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1) Answer briefly :

a) Define the crystal field stabilization energy.

b) "*Cu(II) ions are colored and paramagnetic whereas Zn(II) ions are colourless and diamagnetic*". Why?

c) Arrange in order of increasing size: Na^+, Li^+, Be^{2+}, B^{3+}.

d) Arrange the following in the decreasing order of electron affinity :

B, C, N, O.

e) Define Ionization energy.

f) What is coordination sphere?

g) What is the hydrogen bond?

h) What is chelate effect?

i) What are the antiferromagnetic substances? What is the effect of temperature n paramagnetic?

j) What type of hybridization occurs in the PF_6?

SECTION-B

2) How is Δ_t related to Δ_o? Why Δ_t value is less than Δ_o?

3) Explain the EAN with examples.

4) Explain the hybridization and shape of SF_6.

5) What is the difference between geometrical and optical isomerism?

6) What is the Molecular orbital theory?

SECTION-C

7) Explain the postulates of crystal field theory.

8) Explain the behaviour of Electron affinity in period as well as in group.

9) Explain the hybridization and shape of XeF_4, NH_4 and H_2O.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.