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

Total No. of Questions : 09

B.Sc. (Non Medical) (2018 Batch) (Sem.–2)

INORGANIC CHEMISTRY-II

Subject Code : BSNM-201-18

M.Code : 76299

Date of Examination : 05-07-22

Time : 3 Hrs. **Max. Marks : 50**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying ONE 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) Write briefly :

a) What are crown ethers?

b) What is allotropy?

c) What are chelates?

d) Explain the chelation of EDTA with calcium.

e) Out of trimethyl amine and ammonia, which is stronger base, and why?

f) Which out of CI and F have higher electron affinity and why?

g) Why nitrogen is gas whereas phosphorus is a solid at room temperature?

h) What are carbides?

i) Explain Cu^{2+} is more stable than Cu^{+}.

j) Why Sc^{3+} is more stable than $Sc2^{+}$. Why?

SECTION-B

2) Acidic character of halides of boron is the following order :

$BBr_3 > BC1_3 > BF_3$

3) What are interhalogen compounds? Why these compounds are more reactive than corresponding halogens.

4) Write a short note on pπ- pπ and pπ-dπ bonding.

5) What are Lewis bases? Arrange the following in the order of decreasing base strength of NH_3, PH_3 and AsH_3.

6) Why Zn, Cd and Hg salts are colourless?

SECTION-C

7) Explain the HSAB principle. Discuss its applications.

8) a) Explain the paramagnetisms and ferromagnetism.

   b) Which out of the two lanthanides ion, Lu^{3+} and Ce^{3+}, will be more hydrated? Give reasons for this.

9) Explain the structure of N_2O, NO, N_2O_3, N_2O_4 and N_2O_5.

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.