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Total No. of Questions: 09

B.Sc. (Non Medical) (2018 Batch) (Sem.-2) INORGANIC CHEMISTRY-II

Subject Code : BSNM-201-18 M.Code : 76299

Time: 3 Hrs. Max. Marks: 50

INSTRUCTIONS TO CANDIDATES:

- 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 symbiosis?
- c) What are chelates?
- d) Explain why Cu^{2+} is colored and paramagnetic while Zn^{2+} is colorless and diamagnetic?
- e) What are non aqueous solvents?
- f) What is inorganic benzene?
- g) What are silicates?
- h) Explain Cu²⁺ is more stable than Cu⁺.
- i) Why Sc^{3+} is more stable than Sc^{2+} ? Why?
- j) Explain the inert pair effect.

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SECTION-B

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

$$BBr_3 > BCl_3 > BF_3$$

- 3) What are interhalogen compounds? Why these compounds are more reactive than corresponding halogens?
- 4) Write a short note on $p\pi$ $p\pi$ and $p\pi$ -d π bonding.
- 5) What are Lewis bases? Arrange the following in the order of decreasing base strength of NH₃, PH₃ and AsH₃.
- 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, LU³⁺ and Ce³⁺, will be more hydrated? Give reasons.
- 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.

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