

B.Sc. (CBCS Pattern) Semester-VI  
**CHT13 - Chemistry Paper-I : Discipline Specific Elective Chemistry V**  
**Inorganic Chemistry**

P. Pages : 2

Time : Three Hours



**GUG/W/24/13341**

Max. Marks : 50

- Notes :
1. All questions are compulsory and carry equal marks.
  2. Write chemical equations and draw diagram where necessary.

1. a) What is error? Give classification of errors with examples. 5
- b) Explain principle and various types of interference in flame photometry. 5

**OR**

- c) Explain F-test with example. 2.5
- d) Following values were obtained for percentage of manganese in a rock sample 5.66, 5.33, 5.67, 5.75, 5.77, 5.46. Calculate mean and median. 2.5
- e) Write a note on Total Consumption burner. 2.5
- f) Write a note on effect of solvent in flame photometry. 2.5
2. a) Describe principle and technique involved in paper chromatography. Explain various application of paper chromatography. 5
- b) What are commercial nitrogen fertilizers? Give its classification with suitable example. 5

**OR**

- c) Discuss factors influencing in solvent extraction. 2.5
- d) Write a note on ion-exchange capacity. 2.5
- e) Give detail, How soil pH and soil salinity is determined. 2.5
- f) Give advantages of manure over chemical fertilizer. 2.5
3. a) What is organometallic compound? Explain nature of bonding and structure in metal ethylenic complex. 5
- b) Define nanomaterial. Explain synthetic method for preparation of Gold and silver nanomaterial. 5

**OR**

- c) Give application of alkyls and aryls of Al. 2.5
- d) Explain homogeneous hydrogenation. 2.5
- e) Write a note on bioinorganic nanomaterial. 2.5
- f) What happens when Dialkyl mercury treated with 2.5
  - i) Heated at 300°C
  - ii) Treated with metallic sodium.
- 4. a) Explain various water treatment and purification process. 5
- b) What treatment methods are used for agro industry effluent? Explain ternary effluent treatment. 5

**OR**

- c) Explain secondary treatment of industrial effluent. 2.5
- d) Explain impact of water pollution on hydrological and ecosystem. 2.5
- e) Write a note reverse osmosis. 2.5
- f) Write water quality parameters in terms of physical, chemical and Biological properties. 2.5
- 5. Attempt **any ten**. 10
  - i) Define significant figure.
  - ii) Write two application of flame photometry?
  - iii) Define Accuracy and Precision.
  - iv) Define  $R_f$  value.
  - v) What is meant by antisol?
  - vi) What is fertilizer?
  - vii) Give one method of preparation of alkyls of tin.
  - viii) Define synergistic bonding.
  - ix) What is carbon nanotube?
  - x) Define Oxidation Pond.
  - xi) What is aerated lagoons?
  - xii) What is water pollution?

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