

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

P. Pages : 2

Time : Three Hours



GUG/S/23/13341

Max. Marks : 50

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

1. a) What is error? Give Classification of errors with examples. 5
- b) Explain instrumentation and working principle of flame photometer with neat diagram. 5

OR

- c) Write the rule to decide significant figure. Find out significant figure in 6.023×10^{23} . 2½
- d) Analysis of sample of Iron ore gave following percentage value for the iron content 7.08, 7.12, 7.21, 7.09, 7.14, 7.16, 7.18 and 7.11 calculate mean and standard deviation. 2½
- e) Write a note on effect of solvent in flame photometry. 2½
- f) Write a note on total consumption burner. 2½
2. a) Describe principle and technique involved in column chromatography. Explain various application of column chromatography. 5
- b) What is Fertilizer? Discuss classification of fertilizer with example. 5

OR

- c) Describe various factors affecting extraction efficiency. 2½
- d) What is ion-exchange chromatography? Discuss types of ion exchangers. 2½
- e) How soil sample are collected for the chemical analysis. 2½
- f) Give the advantages of manures over chemical fertilizer. 2½
3. a) What is organometallic compound? Explain nature of bonding and structure in metal ethylenic complexes. 5
- b) Define nanomaterial. Explain synthetic method for preparation of Gold and silver nanomaterial. 5

OR

- c) Give any two method of preparation of dialkyl mercury. 2½

- d) Explain homogeneous hydrogenation. 2½
- e) Write a note on bioinorganic nanomaterial. 2½
- f) Explain the term carbon nanotubes. 2½
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) Write a note on hydrological cycle. 2½
- d) Explain impact of water pollution on hydrological and ecosystem. 2½
- e) Write a note on reverse osmosis. 2½
- f) What are the water quality for parameter for industrial and domestic water? 2½
5. Attempt **any ten**. 10
- i) Define confidence limit.
- ii) Write two advantages of flame photometry.
- iii) Define Accuracy and Precision.
- iv) Explain Vertisol.
- v) Write any two soil group found in India.
- vi) What is mean by compost?
- vii) Name following organometallic compound.
- i) C_2H_5BeH ii) CH_3MgI
- viii) Give any two application of organometallic compound.
- ix) What is the size of nanomaterial.
- x) Define Oxidation Pond.
- xi) What is aerated lagoons.
- xii) What is hydrological cycle.
