

B.Sc. - III (CBCS Pattern) Semester-VI
CHT13 - Chemistry Paper-I : DSE - Chemistry V : Inorganic Chemistry

P. Pages : 2

Time : Three Hours



GUG/S/25/13341

Max. Marks : 50

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- Notes : 1. All five questions are compulsory and carry equal marks.
2. Write chemical equation and draw diagram whenever necessary.

1. a) What is error? Discuss various types of errors with suitable examples. 5
b) Explain instrumentation and working principle of flame photometer with neat diagram. 5

OR

- c) Explain T-test with example. 2½
d) Write the rule to decide significant figure. Find out significant figure in 6.023×10^{23} 2½
e) Write a note on total consumption burner. 2½
f) Write various application of flame photometry. 2½
2. a) Describe principle and technique involved in column chromatography. Explain various application of column chromatography. 5
b) What are fertilizers? Discuss the classification of fertilizers with suitable example. 5

OR

- c) Write a short note on Entisols. 2½
d) What is ion-exchange chromatography? Discuss types of ion exchangers. 2½
e) Explain how soil pH is determine. 2½
f) Give the advantages of manures over chemical fertilizer. 2½
3. a) What are organometallic compounds? Give their classification with suitable examples. 5
b) Define nanomaterial. Explain synthetic method for preparation of Gold and silver nanomaterial. 5

OR

- c) Write a note on bioinorganic nanomaterial. 2½
d) Give any two method of preparation of di-alkyl mercury. 2½
e) Write a note on homogeneous hydrogenation. 2½
f) Explain in detail carbon nanotubes. 2½

4. a) Describe primary and secondary treatment method for industrial effluent. 5
- b) Explain various water treatment and purification process. 5

OR

- c) Explain treatment method used for agro effluent. 2½
- d) Explain impact of water pollution on hydrological and ecosystem. 2½
- e) What are the water qualities for parameter for domestic water? 2½
- f) Explain ion exchange method of water purification. 2½
5. Attempt **any ten** questions. 1x10
=10
- i) Define confidence limit.
- ii) Write two limitation of flame photometry.
- iii) Define Accuracy and Precision.
- iv) What is R_f value?
- v) Explain Vertisol.
- vi) What is compost?
- vii) Give name of organometallic compounds.
a) C_2H_5BeH b) CH_3MgI
- viii) What is the size of nanomaterial?
- ix) Define synergistic bonding.
- x) What is sedimentation?
- xi) What do you mean by TDS?
- xii) Define Hydrological cycle.
