Roll No. | | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Sc. (Ph. Chem.) (2018 Batch) (Sem.–1)

ANALYTICAL TECHNIQUES – I

Subject Code : MSPC-103

M.Code : 20502

Time : 3 Hrs. **Max. Marks : 80**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries SIXTEEN marks.**

1. What is an Error? Give its exhaustive classification? Discuss various methods to minimize the error.
2. What is Calibration? Write down the procedure of calibration of any five equipments?
3. What is Chromatography? Explain partition chromatogram. Write a note on application of chromatographic techniques operating on principle of partitioning?
4. What is Complexometric titrations? Explain complexometric methods of EDTA?
5. Give methods of preparation and precautions in the preparation of 0.1M of $Na_2S_20_3$, discuss principle and method of its standardization.
6. a) Differentiate between iodometeric and iodimeteric titrations with example.
   b) What is the pH of 0.01M solution of NaOH?
7. a) Differentiate between Accuracy & Precision.
   b) Define Significant Figures.
   c) What is Salt Effect?
   d) What is the rejection of doubtful value? Explain with example.
8. a) What do you mean by error of measurement? A milk of sample was analyzed for total fat content. The following results were obtained. 5.25%, 5.29%, 5.24%, 5.26%. Calculate standard deviation & variance.
   b) Explain in what respects is the Fajan Method superior to Volhard method for titration of chloride ions?

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.