

This question paper contains 2 printed pages.

Roll No.

5633

M.Sc. (Previous) Examination - 2024

CHEMISTRY

Sixth Paper-CH-406

[Analytical Techniques]

Time Allowed: Three Hours

Maximum Marks: 50

Attempt any five questions in all selecting at least one question from each Unit. All question carry equal marks.

Note : In each question paper 10 questions will be set. Candidates have to answer 5 questions selecting at least one question from each unit.

No supplementary answer book will be given to any candidate. Hence the candidates should write the answer precisely in the main answer-book only.

All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

UNIT-I

Q.1 Explain the following -

(a) Mean and Median with proper example

[7]

(b) Indeterminate Error

[3]

OR

Q.2 (a) What is an error? Describe different types of error.

[7]

(b) What do you mean by least square method?

[3]

UNIT-II

Q.3 Explain the instrumentation and applications of solvent extraction methods in analysis.

[10]

OR

Q.4 Explain the following -

[5+5=10]

(a) High Pressure Asping Techniques (HPAT)

(b) Filtering and Gravity separation

UNIT-III

Q.5 (a) Explain conductometric titrations with suitable examples.

[6]

(b) Write a note on potentiometric titrations.

[4]

OR

- Q.6** Write notes on - **[5+5=10]**
- (a) Applications of conductometric titrations
 - (b) Selective electrodes

UNIT-IV

- Q.7** Explain the following - **[5+5=10]**
- (a) Atomic absorption spectroscopy
 - (b) Titration applications of coulometry

OR

- Q.8**
- (a) What do you mean by constant current and constant potential? **[5]**
 - (b) Write note on Grotrian diagram. **[5]**

UNIT-V

- Q.9**
- (a) Why is food analysis important? Discuss the safety of food. **[7]**
 - (b) Describe the moisture content of Butter and Ghee. **[3]**

OR

- Q.10** Write notes on - **[5+5=10]**
- (a) Gas chromatography
 - (b) Thin-layer chromatography
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