

M-6313

M.Sc. (Ist Semester) Examination, 2020

CHEMISTRY

(Analytical Chemistry)

Time Allowed : Three Hours

Maximum Marks : 70

Note : Attempt all the five questions. One question from

each unit is compulsory. Marks are indicated

against the questions.

Unit-I

Q. 1. Discuss linear regression, student 't' test and

ANOVA. **14**

OR

Describe the following :

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P.T.O.

(2)

(i) Calibration curve and correlation coefficient **8**

(ii) Accuracy and Precision **6**

Unit-II

Q. 2. Discuss the importance and role of dithiocarbamates and diketones in solvent extraction. **14**

OR

Write notes on :

(i) Determination of Nickel **7**

(ii) Synergistic extraction **7**

Unit-III

Q. 3. Discuss the basic features of ion exchange reactions. Which factors affects the selectivity of ion exchange resins ? **14**

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(3)

OR

Describe the following :

- (i) Ion selective electrodes **8**
- (ii) Ion exchange capacity **6**

Unit-IV

- Q. 4.** Discuss the principle, methodology and applications of gel filtration and gel permeation techniques. **14**

OR

Discuss the following :

- (i) Electrophoresis **7**
- (ii) Ion exchange chromatography **7**

Unit-V

- Q. 5.** Discuss the principle, instrumentation and applications of AAS. **14**

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P.T.O.

(4)

OR

Write notes on :

- (i) Principles of flame photometry **7**
- (ii) Applications of fluorescence spectroscopy **7**

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