

1127

B.A./B.Sc.(General)-5<sup>th</sup> Semester**Industrial Chemistry**

Paper – A

Time allowed: 3 Hours

Max. Marks: 75

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

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I. Attempt the following: -

- (a) List the precautions to be used while sampling and handling of liquid materials.
- (b) Discuss briefly about materials management.
- (c) What is 'profitability criteria'?
- (d) Distinguish giving three points between TLC and paper chromatography.
- (e) What are ion-selective electrodes? (5×3)

**UNIT – I**

- II. (a) Explain the factors which are involved in project cost estimation.
- (b) Explain the aspects of marketing and pricing policy. (7½+7½)
- III. (a) What are various methods that are employed in capital investment? Explain.
- (b) Write an account of the variation of cost with capacity Break-Even point. (7½+7½)

**UNIT – II**

- IV. (a) What are the functions of management in control and decision making?
- (b) Write a detailed account of 'Management of Human Resource'. (7½+7½)
- V. Write short notes on the following: -
  - (a) Materials management
  - (b) Selection Incentives
  - (c) Welfare and safety (15)

**UNIT – III**

- VI. Explain how the sampling of solids, liquids and gases is done. Describe the techniques involved in support of your answer. (15)

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(2)

- VII. (a) What is the principle governing paper chromatography? How are the components of a mixture identified using paper chromatography.
- (b) What are pre-column and analytical column used in HPLC technique? Write important applications of HPLC. (8+7)

#### UNIT-IV

VIII. Discuss the following techniques briefly: -

- (a) NMR Spectroscopy
- (b) UV-Visible Spectroscopy (7½+7½)

- IX. (a) Discuss the principle, method and instrumentation of Neutron Diffraction Technique.
- (b) What is X-Ray Fluorescence method of analysis? Write its industrial applications. (9+6)

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