

B

1130

M.Sc. (Applied Chemistry)
(Semester-III) EXAMINATION, 2016

Paper-M3 AC 11-CC-09

SEPARATION TECHNIQUES

Time allowed: Three hours

Maximum marks : 40

Part-A (Compulsory) {Marks : 8}

Answer all eight questions (20 words each). Each question carries equal marks.

Part-B (Compulsory) {Marks : 8}

Answer all four questions (50 words each). Each question carries equal marks.

Part-C {Marks : 24}

Answer any three questions (400 words each), selecting one from each unit. Each question carries equal marks.

1. What are ion exchangers ?
 2. What is Distribution Law ?
 3. Define Retention Time.
 4. Write two differences between Gas Chromatography and High Performance Liquid Chromatography.
 5. What is Super Critical Fluid ?
 6. What is the principle of Paper Chromatography ?
 7. Give two applications of Size Exclusion Chromatography.
 8. Give one example of each Cation Exchanger and Anion Exchanger. <https://www.mdsuonline.com>
- Part-B (Compulsory) 2×4
9. Explain Craig's technique.
 10. What is the relationship between Retention Time and Partition Coefficient ?

11. Define principle of Gas Chromatography.

12. Write down the applications of Ion exchangers.

Part-C

3x8

Unit-I

13. Write short notes on the following :

(i) Mechanism of extraction

(ii) Classification of solvent extraction system

4+4

Or

Explain the preparation and action of Ion exchangers. 8

Unit-II

14. Write short notes on the following :

(i) Classification of Chromatographic Techniques

(ii) Applications of TLC

4+4

Or

Explain the basic principle of Column Chromatography. Also define band broadening and column efficiency. 8

15. Explain the instrumentation of HPLC with special reference to pump and detectors. 8

Or

Write short notes on the following :

(i) Affinity chromatography

(ii) Ion chromatography

4+4