

Roll No.....

C

2070

**M.Sc. (Applied Chemistry) (Semester-III)
EXAMINATION, 2017**

Paper-M3 AC11-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 is the basic principle of solvent extraction ?
2. Give two examples of cation exchangers.
3. Give any two applications of solvent extraction.
4. What is the relation between retention time and partition coefficient ?
5. What is the principle of thin layer chromatography ?
6. Write any two differences between Gas chromatography and high performance liquid chromatography.
7. Give any two applications of super critical fluid chromatography.
8. What are the basic properties of ion exchangers ?
9. Discuss the factors affecting extraction.

Part-B (Compulsory)

2x4

Or

10. Write down the preparation of cation exchangers.
11. Discuss the basic principle of column chromatography.
12. Discuss the basic principle of size exclusion chromatography.

Part-C

Unit-I

13. Write short notes on :

- (i) Techniques of extraction
- (ii) Classification and types of solvent extraction system: 4+4

Or

What are ion exchangers ? Give its types with examples and structures. 8

Unit-II

14. Discuss the basic theory of chromatography and give its classification. 8

Write short notes on :

- (i) Method of paper chromatography
- (ii) Applications of paper chromatography 4+4

Unit-III

15. Explain the instrumentation of gas chromatography with special reference to detectors. 8

Or

Write short notes on :

- (i) Affinity chromatography
- (ii) Ion chromatography 4+4