

**NKT/KS/17/6578**

**B. Pharm. Seventh Semester (C.B.S.) Examination**  
**PHARMACEUTICAL ANALYSIS-III (SEPARATION TECHNIQUES)**

**Paper-3**

Time : Three Hours]

[Maximum Marks : 80

**N.B. :—** (1) Question No. 1 is compulsory.(2) Attempt any **FOUR** questions from remaining.

(3) All questions carry equal marks.

(4) Draw neat labelled diagram wherever necessary.

(5) Assume suitable data wherever necessary.

(6) Discuss the reaction, mechanism wherever necessary.

(7) Use of electronic calculator, excluding programmable calculator is permitted.

1. Solve any **FIVE** :

(a) What are the different extraction techniques ? 4

(b) Write the advantages of chromatography. 4

(c) Write about the factors affecting retention factor. 4

(d) Write the classification of chromatography. 4

(e) Define paper chromatography and what are the solvents used for it ? 4

(f) Describe the factors which are affecting ion exchange. 4

2. Give detail about Gas chromatography and explain Derivatisation technique. 15

3. Discuss about Ion exchange chromatography. 15

4. Write notes on (any **THREE**) :

(a) Electrophoresis

(b) Types of columns used in Gas chromatography

(c) Factors affecting extraction process. 5×3=15

5. What is thin layer chromatography ? Give emphasis on different techniques used for TLC. 15

6. Write principle, working and application of high performance liquid chromatography. 15

7. Write notes on any **THREE** :

(a) Solvents used in extraction process

(b) Choice of filter papers in paper chromatography

(c) Write note on HPTLC. 5×3=15

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