

B.Pharm. Seventh Semester (C.B.S.) Examination
PHARMACEUTICAL ANALYSIS—III (Separation Techniques)

Paper—3

Time : Three Hours]

[Maximum Marks : 80

- Note :—** (1) Question No. 1 is compulsory.
(2) Attempt any **FOUR** questions from the remaining.
(3) Draw neat labeled diagram wherever necessary.

1. Solve any **FIVE** of the following :— 5×4=20
- (a) Define chromatography and give its classification.
 - (b) Define :
 - (i) Reverse phase Chromatography
 - (ii) Normal phase Chromatography
 - (iii) Isocratic elution
 - (iv) Gradient elution.
 - (c) Describe the factors affecting ion-exchange.
 - (d) Enlist types of column used in HPLC.
 - (e) Explain factors affecting solvent extraction.
 - (f) What is retention factor and enlist factors affecting it.
 - (g) What are the applications of HPTLC ?
2. Write the principle, instrumentation and applications of gas chromatography. 15
3. (a) Define electrophoresis and explain requirements of electrophoretic chamber. 8
(b) Explain mechanism of ion-exchange process. 7
4. Explain in detail the development techniques used in paper chromatography and its applications. 15
5. (a) Explain the advantages of TLC over paper chromatography. 6
(b) What are different development techniques in column chromatography and explain factors affecting column efficiency. 9
6. What is solvent extraction ? Write different techniques used in solvent extraction and explain in detail counter current distribution with its applications. 15
7. Write notes on (any **THREE**) :—
- (i) Adsorption Isotherms.
 - (ii) Adsorption and partition chromatography.
 - (iii) Choice of filter papers in paper chromatography.
 - (iv) Preparation of plates in HPTLC. 5×3=15