

**T.Y.B.PHARM. SEMESTER-V (CBCS - 2015 Course) : SUMMER -
2019**

SUBJECT: PHARMACEUTICAL ANALYSIS-III

Day: Saturday
Date: 27/04/2019

S-2019-4395

Time: 10.00 A.M. TO 01.00 P.M.
Max. Marks: 60

N.B:

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining solve **ANY TWO** questions each from Section-I and Section-II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answer to the both section should be written in **SEPARATE** answer book.

SECTION-I

- Q.1** Attempt **ANY FIVE** of the following: (10)
- a) Give the different sources of zone broadening.
 - b) Why is it necessary to cover the developing chamber during the Paper chromatography?
 - c) How is Column chromatography used to separate compounds?
 - d) What are essential criteria for selection of suitable solvents for Paper chromatography?
 - e) What is the principle of Column chromatography?
 - f) What are the limitations of Paper chromatography?
- Q.2** a) Explain in detail Applications of Paper chromatography. (07)
b) How column diameter does affect Column chromatography? (03)
- Q.3** a) Describe in detail column packing techniques in Column chromatography. (07)
b) Why is alumina used in column chromatography? (03)
- Q.4** Write short notes on **ANY TWO** of the following: (10)
- a) Development techniques in Paper chromatography
 - b) Advantages and disadvantages of Column chromatography
 - c) Plate theory and Rate theory

SECTION-II

- Q.5** Attempt **ANY FIVE** of the following: (10)
- a) What is temperature programming in Gas chromatography?
 - b) What do you mean by Pre and Post column derivatization in Chromatography?
 - c) What is Gel permeation chromatography? Enlist its applications.
 - d) What do you mean by Ion exchange capacity of resins?
 - e) Give the factors affecting the separation in Ion exchange chromatography.
 - f) Give the types of carrier gases used in Gas chromatography.
- Q.6** a) Discuss in detail the columns used in Gas chromatography. (07)
b) Give the assay procedure for the determination of Hyoscyne hydrobromide injection. (03)
- Q.7** a) Discuss the principle and methods of column packing in Gel permeation chromatography. (07)
b) Give the comparison between Gel permeation chromatography and Ion exchange chromatography. (03)
- Q.8** Write short notes on **ANY TWO** of the following: (10)
- a) Types of Resins used in Ion exchange chromatography
 - b) Flame Ionization Detector and Thermal Conductivity Detector
 - c) Applications of Ion exchange chromatography