

**T.Y.B.PHARM. SEMESTER-V (2011 COURSE) : SUMMER - 2018**

**SUBJECT: PHARMACEUTICAL ANALYSIS - III**

Day: **Tuesday**  
Date: **24/04/2018**

**S-2018-3964**

Time: **10.00 AM TO 01.00 PM**  
Max. Marks: 80

**N.B.:**

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

**SECTION-I**

- Q.1** Answer any **FIVE** of the following: (10)
- a) Enlist variables that lead to band broadening.
  - b) Explain briefly column resolution and retention time.
  - c) Enlist characteristics of an ideal Gas chromatographic detector.
  - d) Discuss in brief Rota meter.
  - e) Explain the term 'HETP'.
  - f) Give the relation between Rf and Rx values.
- Q.2** a) Enlist all the detectors used in GC. Explain in detail any two. (08)  
b) Explain in detail Plate Theory and Rate Theory. (07)
- Q.3** a) Write a detail columns used in GC. (07)  
b) Discuss the various elution techniques used in chromatography. Add a note on applications of GC. (05)
- Q.4** Write short notes on any **THREE** of the following: (15)
- a) Classification of chromatographic methods
  - b) Temperature programming in GC
  - c) Types of carrier gas in GC
  - d) Advantages of GC

**SECTION-II**

- Q.5** Solve any **FIVE** of the following: (10)
- a) What are the various techniques used for detecting colourless spots in paper chromatography.
  - b) Give types of solvents used in paper chromatography.
  - c) What are the advantages offered by paper chromatography?
  - d) Importance of Rf value in chromatography.
  - e) Give preparation of gels in gel permeation chromatography.
  - f) Give physical properties of Ion exchange resins.
- Q.6** a) Explain different development modes in Paper chromatography. (08)  
b) Describe principle of separation in Ion exchange chromatography. Explain with suitable example. (07)
- Q.7** a) Explain the mechanism of Gel permeation chromatography. Add a note on applications of Gel Permeation chromatography. (08)  
b) What are the various types of separation by electrophoresis? Explain any one. (07)
- Q.8** Write short notes on any **THREE** of the following: (15)
- a) Sketch of schematic of capillary electrophoresis system and label major components
  - b) Advantages of Gel chromatography
  - c) Pharmaceutical Applications of Ion- Exchange chromatography
  - d) Explain the principle of separation by Paper chromatography

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