

Total No. of Questions : 6]

SEAT No. :

**P1465**

**[5049]-702**

[Total No. of Pages :2

**F.Y.B.Pharmacy**  
**PHARMACEUTICAL ANALYSIS-V**  
**(2013 Pattern) (Semester-VII)**

*Time : 3 Hours]*

*[Max. Marks : 70*

*Instructions to the candidates:*

- 1) *All questions are compulsory.*
- 2) *Answers to the two sections should be written in separate answer books.*
- 3) *Figures to the right indicate full marks.*

**SECTION-I**

**Q1)** Describe principle, instrumentation and applications of Raman spectroscopy. **[10]**

OR

Describe principle, instrumentation and applications of TEM technique.

**Q2)** Attempt any five of the following: **[15]**

- a) Compare NIR and MID IR techniques
- b) What are the advantages of Raman techniques?
- c) What are the applications of NIR
- d) Explain principle of SEM
- e) Explain ATR in IR instrumentation
- f) Explain use of molecular vibrations in IR interpretation.
- g) Compare scanning IR and FTIR techniques

**Q3)** Attempt any two of the following: **[10]**

- a) Explain characteristic IR bands of alkanes and alkenes.
- b) Discuss dispersive IR instrument
- c) Describe SEM instrumentation in brief.
- d) Discuss in brief FTIR.

**P.T.O.**

## SECTION-II

**Q4)** Describe the different stationary and mobile phases used in Gas Chromatography. Give the applications of Gas chromatography [10]

OR

Discuss the principle, instrumentation, working and applications of Flash Chromatography

**Q5)** Attempt any five of the following: [15]

- a) Discuss the working of Atomic Emission Spectroscopy.
- b) How derivatization is carried out in GC?
- c) Give the principle of Atomic Emission Spectroscopy.
- d) Give the applications of Atomic Emission Spectroscopy
- e) What are the ideal characteristics of detection system used in Gas Chromatography?
- f) Write the theory of Super Critical Fluid Chromatography
- g) Give the importance of Van Deemter equation.

**Q6)** Write a note on any Two of the following: [10]

- a) Sample handling technique used in Gas Chromatography.
- b) Differential thermal conductivity and Thermoionic detectors
- c) Instrumentation and working of super Critical Fluid Chromatography.
- d) Super Critical Fluid Extraction Technique.

