

Total No. of Questions : 6]

SEAT No. :

**P2004**

**[5145]-702**

[Total No. of Pages : 2

**F.Y.B.Pharmacy**

**472 : 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)** Explain principle of IR spectroscopy and factors affecting vibrational frequencies. **[10]**

OR

Describe principle, instrumentation and applications of SEM technique.

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

- a) Compare Raman and IR techniques.
- b) What are the advantages of NIR techniques?
- c) Compare SEM and TEM techniques.
- d) Explain principle of TEM.
- e) Explain group frequency IR region.
- f) Explain types of molecular vibrations and energy associated with it.
- g) Explain mechanism of Rayleigh scattering.

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

- a) Write about interactions in SEM.
- b) Discuss non dispersive IR instrument.
- c) Describe applications of Raman techniques.
- d) Provide comparative of Near, MID and FAR IR regions.

**P.T.O.**

## SECTION - II

**Q4)** Describe the different detectors used in Gas Chromatography with suitable diagram. Give their characteristics, merits and demerits. **[10]**

OR

Discuss the instrumentation, working and applications of Super Critical Fluid Chromatography.

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

- a) Why GLC is more sensitive method than HPLC?
- b) Discuss the applications of Atomic Emission Spectroscopy.
- c) Explain derivatization in GC.
- d) Give Applications of Flash Chromatography.
- e) Write principle of Super Critical Fluid Chromatography.
- f) Explain WCOT.
- g) Write the theory of Atomic Emission Spectroscopy.

**Q6)** Write a note on Any two of the following: **[10]**

- a) Van Deemter equation and its application.
- b) Instrumentation and working of Flash Chromatography.
- c) Compare Flash and Super Critical Fluid Chromatography.
- d) Instrumentation of Atomic Emission Spectroscopy.

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