Examination Decem... 2003

M.Pharm First Semester

Modern Analytical Techniques

Time : 3 hrs **Max. Marks: 75**
Min. Marks: 38

Note: Attempt any four questions. All questions carry equal marks.

Q. 1. a) Explain the principle of mass spectroscopy. Give in detail various ionization techniques used in mass spectroscopy.

(b) Describe the fragmentation rules

(c) Give the fragmentation pattern of Toluene.

Q.2. a) Explain the theory behind Spectrofluorimetry. Discuss the factors affecting fluorescence intensity.

b) Give the applications of spectrofluorimetry in analysis of pharmaceuticals. Despite its simplicity spectroflourimetry is not as popular as colorimetry in pharmaceutical industry explain why?

Q.3. (a) Explain the terms HETP, Peak height, Peak area Noise & Drift, LOD, LOQ. Write in detail about different methods used for quantitative analysis by HPLC.

(b) Briefly discuss about different detectors used in HPLC

Q.4. (a) What is Chemical Shift? Discuss the factors influencing chemical shift with suitable examples.

(b) Write short notes on Spin - Spin coupling

(d) Explain the NMR splitting of

(i) $CH_3CH(OH)CH_3$ (ii) $C_6H_5\ CO\ CH_3$

Q.5. (a) Discuss in detail the principle, methodology & applications of Radioimmunoassay techniques.

(b) Write in brief about Immunoelectrophoresis

Q.6. Write short notes on ***(any three)***

a) Flowcytometry

b) FT- IR Spectroscopy

c) Liquid Scintillation counter

d) Atomic absorption Spectroscopy