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Total No. of Pages : 02

Total No. of Questions : 08

**M.Pharmacy (Pharmaceutics) (2017 & Onwards) (Sem.-1)**  
**MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES**

Subject Code : MPH-101T

M.Code : 74657

Time : 2 Hrs.

Max. Marks : 37.5

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt any FIVE question(s), each question carries 7.5 marks.

1.
  - a. Explain the theory of Fluorescence.
  - b. Give the labelled diagram for FTIR spectrophotometer.
2.
  - a. What is the principle of atomic absorption spectroscopy?
  - b. Briefly explain following in NMR:  
Deuterium exchange, chemical shift and spin spin coupling
3.
  - a. Give comparative statements on various analyzers used in Mass spectrometry.
  - b. Briefly explain following in Mass spectrometry:  
Isotope peaks, Chemical ionization
4.
  - a. What is the principle of affinity chromatography?
  - b. Describe the factors affecting resolution in column chromatography.
5.
  - a. What is the basic principle of electrophoresis?
  - b. What is zone electrophoresis?
6. Explain the basic principle of Radio immune assay (RIA). Describe various type of RIAs used in the estimation of enzyme activity and drug in biological fluids.





7.
  - a. Discuss the effect of solvent polarity on  $\lambda_{max}$  of  $n \rightarrow \pi^*$  excitation.
  - b. Explain the principle of FT-NMR.
8.
  - a. Describe the specific applications of ion exchange chromatography.
  - b. Briefly describe generation of X-rays in X-ray crystallography.

**Note:** Any student found attempting answer sheet from any other person(s), using incriminating material or involved in any wrong activity reported by evaluator shall be treated under UMC provisions.

Student found sharing the question paper(s)/answer sheet on digital media or with any other person or any organization/institution shall also be treated under UMC.

Any student found making any change/addition/modification in contents of scanned copy of answer sheet and original answer sheet, shall be covered under UMC provisions.

