

Roll No.

Total No. of Pages : 01

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M.Pharmacy (Pharmacognosy) (Sem.-1)
MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Subject Code : MPG-101T

M.Code : 74669

Date of Examination : 17-01-23

Time : 3 Hrs.

Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of SIX questions.
2. Each question carries EQUAL marks.

- What are the pre-requisites for a molecule to exhibit fluorescence? Discuss the factors affecting fluorescence efficiency of a molecule.
 - Recall various types of interferences possible in flame photometry.
- How will you differentiate between salicylic acid and *p*-hydroxybenzoic acid on the basis of their $^1\text{H-NMR}$ spectra?
 - Define the term chemical shift. What advantage it offers over the frequency scale? Give a detailed description of various factors affecting it.
- Predict the mass fragmentation pattern of benzyl propionate in EI mode.
 - Write a descriptive note on various analyzers used in mass spectrometer.
- What are various mechanisms involved in chromatographic separation? Give the specific applications of different chromatographic techniques.
 - Elaborate on various detectors used in GC.
- Discuss the principle, instrumentation and applications of moving boundary electrophoresis.
 - What is the principle of X-ray spectroscopy? Give its applications.
- Give the working of different types of DSC instruments.
 - What is the principle of DTA? Enumerate its limitations and advantages over DSC.
 - Write a descriptive note on different reference electrodes.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.