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Total No. of Pages : 02

Total No. of Questions : 08

M.Pharmacy (Pharmacology) (2017 & Onwards) (Sem.-1)
MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES
Subject Code : MPL-101T
M.Code : 74675

Time : 2 Hrs.

Max. Marks : 37.5

INSTRUCTIONS TO CANDIDATES :

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

1.
 - a. Discuss deviation in Beer-Lambert's law.
 - b. Give block diagram of single beam atomic absorption spectrometer.
2.
 - a. Describe magnetic anisotropy in ^1H NMR by suitable example.
 - b. Briefly explain shielding-deshielding effect and spin-spin splitting.
3.
 - a. Describe principle and construction of TOF mass analyzer.
 - b. Compare ESI, EI and CI mode of ionization in mass spectrometry.
4.
 - a. Give brief account of selection of stationary phase for GLC.
 - b. Explain isocratic and gradient elution in HPLC.
5.
 - a. Give application of gel electrophoresis.
 - b. Describe the limitations of isocratic focusing.
6.
 - a. Explain the principle of potentiometry.
 - b. Discuss derivative differential thermal analysis and its specific applications.
7.
 - a. Comment on sampling handling in IR.
 - b. Use the N+1 rule to predict splitting pattern in following compounds :
 - a) $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$
 - b) $\text{CHBr}_2\text{CH}_2\text{Br}$
8.
 - a. Describe various type of pumps used in HPLC.
 - b. Name various X-ray diffraction methods. Briefly describe any one of them.

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