Roll No. | | | | | | | | | | | | |

Total No. of Pages : 01

Total No. of Questions : 06

M.Pharmacy (Pharmacogonosy) (2017 & Onwards) (Sem.–1)

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Subject Code : MPG-101T

Paper ID : [74669]

Time : 3 Hrs. Max. Marks : 75

INSTRUCTIONS TO CANDIDATES :

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

1. a. Discuss types of electronic transition in UV spectroscopy. (5)

   b. Describe fundamental mode of molecular vibrations responsible for signals in IR. (5)

   c. Describe characteristic features of a molecule responsible for fluorescence. (5)

2. a. Give labeled diagram for basic elements of classical NMR spectrometer. (5)

   b. What is the principle of ^{13}C NMR? (5)

   c. Draw structure of TMS and comment on its suitability to be an internal standard in ^{1}H NMR. (5)

3. a. Describe construction and working of double focused mass spectrometer. (10)

   b. Describe the application of mass spectrometry in determination of molecular mass and molecular formula. (5)

4. a. Describe construction of capillary column used in GC. (5)

   b. What is the principle of Gel chromatography? (5)

   c. Give brief account of stationary phases which are commonly used in TLC and their specific applications. (5)

5. a. Describe the principle of Gel electrophoresis. (5)

   b. Describe the pharmaceutical applications of Capillary electrophoresis. (5)

   c. Describe the fundamental principle of X-ray crystallography. (5)

6. a. What is modulated DSC? Describe its advantages and disadvantages. (7.5)

   b. Describe the construction of thermobalance in Thermal Gravimetric Analysis. (7.5)