Roll No. ☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 01

Total No. of Questions : 06

M.Pharmacy(Pharmaceutical Quality Assurance) (2017 & Onwards) (Sem.–1)

MODERN PHARMACEUTICAL ANALYTICAL TECHNIQUES

Subject Code : MQA-101T
M.Code : 74699

Time : 3 Hrs.   Max. Marks: 75

INSTRUCTIONS TO CANDIDATES :
1. **Attempt any FIVE questions out of SIX questions.**
2. **Each question carries FIFTEEN marks.**

1. Answer the following questions in brief :

   A. Beer-Lambart's law   5

   B. Factors affecting vibrational frequencies   5

   C. Coupling constant   5

2. A. Discuss principle, instrumentation and applications of flame emission spectroscopy. 8

   B. Discuss briefly the principle of FT-NMR and ^{13}C-NMR   7

3. A. Write about principle, instrumentation and pharmaceutical applications of differential scanning calorimetry (DSC).   8

   B. Elaborate on SDS-PAGE gel electrophoresis technique.   7

4. A. What is Bragg's law in X-ray crystallography? Discuss about different X-ray diffraction methods.   8

   B. Discuss about different detectors used in gas chromatography.   7

5. Write short notes on following :

   A. Isoelectric focusing   5

   B. Factors influencing chemical shift   5

   C. Explain derivative differential thermal analysis   5

6. A. Discuss different types of mass analyzers used in mass spectroscopy.   8

   B. Write about principle, working and applications of potentiometry.   7

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.