

FACULTY OF PHARMACY**M. Pharmacy (Common to All) I-Semester (PCI) (Suppl.) Examination,****August 2018****Subject: Modern Pharmaceutical Analytical Techniques****Time: 3 Hrs****Max. Marks: 75****Note: Answer any five questions. All questions carry equal marks.**

- 1 (a) Discuss the instrumentation of dble beam UV visible spectrophotometer with a neat labeled diagram. (10)
(b) What is Isobestic point? Explain with a labeled UV spectrum giving tow examples. (5)
- 2 (a) Compare the instrumentation and working a dispersive and foruier transform IR spectrometers. Write the advantages and disadvantages of the two techniques. (10)
(b) Draw a schematic IR spectrum for any one compnd and indicate the absorption wave number regions for any fr functional grps in the compnd. (5)
- 3 (a) Explain
(i) Chemical shift and factors influencing chemical shift. (6)
(ii) Spin-spin cpling and cpling constant. (6)
(b) Draw a schematic HNMR spectrum for any one compnd and explain the following:
(i) Chemical shift values (ii) Nature of protons (iii) Number of protons (3)
- 4 (a) Discuss the theory and principle of mass spectroscopy and explain the instrumentation and working of mass spectrometer with a neat labeled diagram. (10)
(b) What is fragmentation? Explain the following by taking a simple example
(i) Fragmentation peaks (ii) Molecular ion peak (iii) Base peak (5)
- 5 (a) Discuss the theory of HPLC. Describe the instrumentation and working of HPLC with a neat labelled diagram. (10)
(b) Draw a schematic HPLC chromatogram and explain
(i) Retention time (ii) Resolution (iii) Peak Asymmetry (5)
- 6 (a) Discuss the theory and principle of electrophoresis. Explain the method of capillary electrophoresis and its applications with examples. (12)
(b) What is isoelectric focusing? (3)
- 7 (a) Discuss the theory and principle of Gas chromatography. Explain the instrumentation and working of Gas chromatography and explain varis stationary and mobile phases used in GC. (11)
(b) How non voralile compnds can be analysed by GC. Explain the technique with few examples? (4)
- 8 Write a note on :
(a) Flame emission spectroscopy (6)
(b) Instrumentation and application of Florescence spectroscopy (9)
