

Time: 3 Hrs

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## **FACULTY OF PHARMACY**

## M. Pharmacy (Common to All) I-Semester (PCI) (Suppl.) Examination,

## August 2018

Subject: Modern Pharmaceutical Analytical Techniques		
Max. Mar	ks: 75	,

1	<ul> <li>Note: Answer any five questions. All questions carry equal marks.</li> <li>(a) Discuss the instrumentation of dble beam UV visible spectrophotometer with a neat labeled diagram.</li> <li>(b) What is Isobestic point? Explain with a labeled UV spectrum giving tow examples.</li> </ul>	er (10) (5)
2	<ul> <li>(a) Compare the instrumentation and working a dispersive and foruier tran IR spectrometers. Write the advantages and disadvantages of the two techniques.</li> <li>(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.</li> </ul>	nsform (10) (5)
3	<ul> <li>(a) Explain <ul> <li>(i) Chemical shift and factors influencing chemical shift.</li> <li>(ii) Spin-spin cpling and cpling constant.</li> </ul> </li> <li>(b) Draw a schematic HNMR spectrum for any one compnd and explain the following: <ul> <li>(i) Chemical shift values</li> <li>(ii) Nature of protons</li> <li>(iii) Number of protons</li> </ul> </li> </ul>	(6) (6) e ns (3)
4	<ul> <li>(a) Discuss the theory and principle of mass spectroscopy and explain the instrumentation and working of mass spectrometer with a neat labeled diagram.</li> <li>(b) What is fragmentation? Explain the following by taking a simple examp (i) Fragmentation peaks (ii) Molecular ion peak (iii) Base peak</li> </ul>	(10) le (5)
5	<ul> <li>(a) Discuss the theory of HPLC. Describe the instrumentation and working of HPLC with a neat labelled diagram.</li> <li>(b) Draw a schematic HPLC chromatomgram and explain <ul> <li>(i) Retention time</li> <li>(ii) Resolution</li> <li>(iii) Peak Asymmetry</li> </ul> </li> </ul>	(10) (5)
6	<ul><li>(a) Discuss the theory and principle of electrophoresis. Explain the method capillary electrophoresis and its applications with examples.</li><li>(b) What is isoelectric focusing?</li></ul>	l of (12) (3)
7	<ul><li>(a) Discuss the theory and principle of Gas chromatography. Explain the instrumentation and working of Gas chromatography and explain varia stationary and mobile phases used in GC.</li><li>(b) How non voralile compnds can be analysed by GC. Explain the technic with few examples?</li></ul>	(11) jue (4)
8	Write a note on : (a) Flame emission spectroscopy (b) Instrumentation and application of Florescence spectroscopy	(6) (9)

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