

FACULTY OF PHARMACY

M. Pharmacy (Common paper for all Specialization) I-Semester (PCI) (Suppl.)
Examination, August 2019

Subject : Modern Pharmaceutical Analytical Techniques

Time: 3 Hrs

Max. Marks: 75

Note: Answer any five questions. All questions carry equal marks.

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| 1 a) Write Beer-Lambert's law and derive the expression | 5 |
| b) Mention the different methods of quantitative analysis by uv-visible spectroscopy. Explain any one method in detail. | 10 |
| 2. a) Explain the interpretation procedure of IR spectra of different organic compounds in detail. With examples of schematic IR spectra. | |
| b) What is fluorescence? Write the factors affecting fluorescence. | 5 |
| 3. a) What is chemical shift? Write the factors influencing chemical shift? | 8 |
| b) Write a note on FT-NMR | 7 |
| 4. a) Explain the instrumentations and working of mass spectrometer with schematic diagram. | 8 |
| b) Write the fragmentation patterns of different organic compounds observed in mass spectroscopy. With the help of schematic mass spectra of a few compounds | 7 |
| 5. Describe the components and working procedure of HPLC with a neat labeled block diagram. | 15 |
| 6. a) Write the principle, instrumentation and working of zone electrophoresis. | 8 |
| b) Write the principle and theory of X-ray diffraction study using Bragg's law | 7 |
| 7. a) Write the principle and instrumentation of flame photometry | 7 |
| b) Write notes on any two GC detectors | 8 |
| 8. Explain the principle, equipment, procedure, advantages and applications of IR Spectrophotometer | 15 |
