

**GUJARAT TECHNOLOGICAL UNIVERSITY****B.Pharm - SEMESTER-V- (NEW SYLLABUS) EXAMINATION – SUMMER-2015****Subject Code: 2250003****Date: 02/05/2015****Subject Name: Pharmaceutical Analysis-III****Time:2:30 pm to 5:30 pm****Total Marks: 80****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Discuss the radiation sources and detectors used in UV visible spectrophotometer. **06**
- (b) Explain wave properties of EMR and Give various regions of electromagnetic spectrum. **05**
- (c) Discuss the effect of solvent and pH on spectral characteristic in UV visible spectroscopy. **05**
- Q.2** (a) Explain the types of vibration in IR spectroscopy. Discuss in brief about factors affecting vibrational frequencies. **06**
- (b) Write a short not on FTIR. **05**
- (c) Write a short not on IR detectors **05**
- Q.3** (a) Discuss the factors affecting fluorescence intensity. **06**
- (b) What is fluorescence? Explain the principle of fluorescence spectroscopy. **05**
- (c) State Beer's law. Give the factors that cause deviation from beer's law. **05**
- Q.4** (a) Write a short note on interferences in AAS. **06**
- (b) Explain the principle of AES. Give its application. **05**
- (c) Write a short note on Flame photometer. **05**
- Q.5** (a) Give the advantages and applications of UV visible spectroscopy. **06**
- (b) Discuss various sample handling techniques in IR spectroscopy. **05**
- (c) Enlist various Mass analyzers. Explain in detail about Quadruple mass analyzer. **05**
- Q. 6** (a) What is a chemical shift? Describe the factors affecting chemical shift. **06**
- (b) Discuss application of NMR spectroscopy. **05**
- (c) Explain principle and instrumentation of NMR spectroscopy. **05**
- Q.7** (a) Classify Ionization techniques in Mass spectroscopy. Explain in detail about MALDI and ESI. **06**
- (b) Write a short note on principle of Mass spectroscopy. Draw a well labeled diagram of Mass spectrometer. **05**
- (c) Discuss the types of Ions and their significance in Mass spectra. **05**

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