

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.

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| 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 note on FTIR. | 05 |
| | (c) | Write a short note 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 Quadrupole 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 |
