

GUJARAT TECHNOLOGICAL UNIVERSITY

B.PHARM – SEMESTER – VII • EXAMINATION – WINTER – 2015

Subject Code: 270004

Date: 11/12/2015

Subject Name: Pharmaceutical Analysis – III

Time: 10.30 AM to 1.30 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) Write a note on Instrumentation and application of Fluorescence spectroscopy. **06**
(b) What is quenching? Explain types of quenching. **05**
(c) Discuss factors affecting fluorescence intensity. **05**
- Q.2** (a) State Beer's law. Enlist various types of deviation and explain any one in detail. **06**
(b) Write a note on application of UV-Visible spectroscopy. **05**
(c) Explain: Chromophore, Bathochromic shift, hyperchromic effect, stray light, and Auxochrome. **05**
- Q.3** (a) Write a note on spectroscopy as a tool in structure elucidation with suitable illustrations. **06**
(b) Discuss the Principle and instrumentation of NMR spectroscopy. **05**
(c) Write a note on: **05**
1. Coupling constant
2. TMS as an internal standard.
- Q.4** (a) Enlist fuel and oxidants used in Flame photometry. Draw a well-labeled diagram of Flame emission photometer and explain function of each component. **06**
(b) Write a brief note on interferences in AAS. **05**
(c) Write a note on instrumentation of Atomic Emission Spectroscopy. **05**
- Q.5** (a) Give basic principle of mass spectroscopy. Enlist the ionization techniques used in MS. Explain Chemical ionization technique in detail. **06**
(b) Explain in brief various fragmentation rules in MS. **05**
(c) Draw a well labeled diagram of a Mass Spectrometer. Discuss Quadrupole analyzer. **05**
- Q.6** (a) What are the advantages of FTIR over conventional IR? Explain working of FTIR. **06**
(b) Write a note on detectors used in IR spectroscopy. **05**
(c) Enlist sample handling methods in IR spectroscopy. Discuss any two method in detail **05**
- Q.7** (a) Write a note on detectors and monochromators used in UV – VIS spectrophotometer. **06**
(b) Write a short note on Woodward Fieser's rule. **05**
(c) Discuss wave properties of Electromagnetic radiation. **05**
