Enrolment No.\_\_\_\_

**Total Marks: 80** 

## **GUJARAT TECHNOLOGICAL UNIVERSITY B.PHARM – SEMESTER – VII • EXAMINATION – WINTER – 2015** Date: 11/12/2015

Subject Code: 270004

Subject Name: Pharmaceutical Analysis – III

Time: 10.30 AM to 1.30 PM

## **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) (b) (c)	<ul> <li>Write a note on spectroscopy as a tool in structure elucidation with suitable illustrations.</li> <li>Discuss the Principle and instrumentation of NMR spectroscopy.</li> <li>Write a note on: <ol> <li>Coupling constant</li> <li>TMS as an internal standard.</li> </ol> </li> </ul>	06 05 05
Q.4	(a) (b) (c)	<ul><li>Enlist fuel and oxidants used in Flame photometry. Draw a well-labeled diagram of Flame emission photometer and explain function of each component.</li><li>Write a brief note on interferences in AAS.</li><li>Write a note on instrumentation of Atomic Emission Spectroscopy.</li></ul>	06 05 05
Q.5	(a) (b) (c)	Give basic principle of mass spectroscopy. Enlist the ionization techniques used in MS. Explain Chemical ionization technique in detail. Explain in brief various fragmentation rules in MS. Draw a well labeled diagram of a Mass Spectrometer. Discuss Quadrupole analyzer.	06 05 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

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