Seat No.: _____ Enrolment No._____

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: 1. Coupling constant 2. TMS as an internal standard.	**05**
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**

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