Seat No.: _____ Enrolment No. _____

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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