Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – VII • EXAMINATION – SUMMER 2013

Subject Code: 270004 Date: 23-05-2013

Subject Name: Pharmaceutical Analysis-III

Time: 02.30 am - 05.30 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)	Define UV Spectroscopy. Discuss UV spectra. Give details about the wave Properties of Electromagnetic radiation.	**06**
	(b)	Give an account of the detectors used in UV VIS spectrophotometer.	**05**
	(c)	Discuss application of UV-Visible spectroscopy	**05**
Q.2	(a)	Why IR spectroscopy is most widely used for identification of pharmaceuticals. clarify qualitative application of IR spectroscopy.	**06**
	(b)	Explain types of stretching and bending vibration in IR spectroscopy. Explain Fingerprint Region.	**05**
	(c)	Differentiate dispersive IR and FTIR. What are advantages of FTIR compared to dispersive IR spectrophotometers?	**05**
Q.3	(a)	Write a note on factors affecting fluorescence intensity.	**06**
	(b)	Give explanation about advantages and limitations of fluorescence spectroscopy. Draw a well labeled diagram of fluorimeter.	**05**
	(c)	Present pharmacopoeial applications of fluorimetry.	**05**
Q.4	(a)	Discuss in detail the principle of NMR. Explain instrumentation in NMR.	**06**
	(b)	Define chemical Shift? Describe the factors affecting the chemical Shift in NMR spectroscopy	**.05**
	(c)	Discuss applications of NMR spectroscopy.	**05**
Q.5	(a)	Write a note on principles of Mass spectrometry.	**06**
	(b)	Enlist Ionization techniques of Mass spectrometry. Explain Chemical Ionization.	**05**
	(c)	Draw a well labeled diagram of a Mass Spectrometer. Discuss Quadrupole analyzer.	**05**
Q. 6	(a)	Write principle of Atomic absorption Spectroscopy. Give its applications.	**06**
	(b)	Write short note on Flame Photometer	**05**
	(c)	Give Differences between AAS and AES	**05**
Q.7	(a)	Discuss use of spectroscopy in structure elucidation.	**06**
	(b)	Explain IR detectors	**05**
	(c)	Discuss Mass Spectra and Types of Peak in Mass Spectra	**05**

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