Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. - SEMESTER - V • EXAMINATION - WINTER • 2016

Subject Code: 2250003			Date: 28-11-2016	
_		Name: Pharmaceutical Analysis - III :30 am - 01:30 pm Total Mark	ks: 80	
1	nstru	 Attempt any five questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. 		
Q.1	(a) (b)	What is Electro magnetic radiation? Discuss properties of EMR. Explain following terms: Wavelength, frequency, line spectra, Amplitude in wave, wave number.	06 05	
Q.2	(c) (a) (b) (c)	Write brief note on: Beer Lambert's Law. Discuss the deviations of Beer Lambert's law. Explain Bathochromic shift and Hypsochromic shift. What is the significance of Woodward Fieser Rule? Explain with example. Draw the flow diagramme of UV-visible spectrophotometer. Discuss briefly about monochromators used in UV spectrophotometers.	05 06 05 05	
Q.3	(a) (b) (c)	What is Fluorescence and Phosphorescence? Explain Jablonski Diagramme. Discuss the Instrumentation of Fluorescence spectroscopy. Write note on FT-IR spectroscopy.	06 05 05	
Q.4	(a) (b) (c)	Discuss theory of IR spectroscopy? Explain stretching and bending vibrations in brief. Discuss the calibration of IR spectrophotometer. What is Atomic spectroscopy? Discuss interferences observed in atomic absorption spectroscopy.	06 05 05	
Q.5	(a)(b)(c)	Explain: Base peak, Mc lafferty rearrangement, Nitrogen rule in mass spectroscopy. Discuss the radiation sources used in atomic spectroscopy. What are different ionization techniques used in Mass spectrometry? Explain any one in detail.	06 05 05	
Q. 6	(a) (b) (c)	What is chemical shift in NMR? Discuss factors affecting chemical shift. Enlist various mass analysers? Write note on Quadrupole mass analyser. What are different information obtained from NMR signal.	06 05 05	
Q.7	(a) (b) (c)	Discuss the instrumentation of NMR spectrometer. What is spin spin coupling explain with example? Write note on C ¹³ NMR. How it differs from H ¹ NMR?	06 05 05	
