Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.Pharm – SEMESTER – IV - EXAMINATION – SUMMER- 2016

Subject Code: 240004 **Date: 30/05/2016**

Subject Name: Pharmaceutical Analysis - II

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)**	Define the term chromatography. Give the detailed classification and discuss paper and column chromatography in brief.	**06**
	(b)	Enlist various theories of chromatography and discuss how plate and rate phenomenon associated with chromatographic separation.	**05**
	(c)	Define following term 1) Zone broadening 2) Retention time 3) Resolution 4) Chromatogram 5) Peak symmetry	**05**
Q.2	**(a)**	What is the difference between analytical method and instrumental analytical method? Give the advantages and limitations of instrumental analytical method.	**06**
	(b)	What is validation? Give the significance of validation with respect to instrumental method of analysis.	**05**
	(c)	Discuss the pharmaceutical applications of thin layer chromatography.	**05**
Q.3	**(a)**	Explain the following terms. 1) Specific conductance 2) Conductivity cell 3) Equivalent conductance	**06**
	(b)	Discuss the pharmaceutical application of conductometric methods.	**05**
	(c)	Factors affecting conductometric measurement. Discuss	**05**
Q.4	**(a)**	Classify the different electroanalytical methods. Expalin the term refernce electrode and indicator electrode with suitable example.	**06**
	(b)	What is the difference between potential and pH. Discuss the principle and working of potentiometer.	**05**
	(c)	How do you calibrate the potentiometer? Briefly discuss the different electrodes used in potentiometry.	**05**
Q.5	**(a)**	What is a polarographic technique? Classify the technique and draw a labeled diagram of DME. Give advantages and disadvantages of DME.	**06**
	(b)	What is half wave potential? Give the analytical differences between pulsed and differential pulse polarographic technique.	**05**
	(c)	Write an informative note on different currents of polarographic technique.	**05**
Q. 6	**(a)**	What is thermal method of analysis? Draw a labeled diagram and discuss the principle and working of DSC.	**06**
	(b)	Give the working principle of TGA. Discuss how TGA and DSC used as integral techniques in research and development in pharmaceutical industries?	**05**
	(c)	Draw a labeled diagram of Polarimeter and give the application of Polarimeter.	**05**
Q.7	**(a)**	Describe the principle, advantages and disadvantages of the technique used for Optical active pharmaceuticals. How such instrument is calibrated?	**06**
	(b)	Answer the following. 1) Characteristics of stationary phase and mobile phase 2) Working and applications of stripping voltametry	**05**
	(c)	Write a note on Amperometric titration and its pharmaceutical applications.	**05**

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