## GUJARAT TECHNOLOGICAL UNIVERSITY

## B. Pharm. – SEMESTER – IV • EXAMINATION – WINTER • 2014

Subject Code: 240004 Date: 24-12-2014				
Subj Time Instri	e: 02:3	0 pm - 05:30 pm Total Marks: 80		
mstru	1. At 2. M 3. Fig	tempt any five questions. ake suitable assumptions wherever necessary. gures to the right indicate full marks.		
Q.1	(a)	Write a note on advantages and disadvantages of instrumental methods vs conventional methods of analysis	06	
	(b)	What is signal to noise ratio? How is this ratio important while performing analysis & validation?	05	
	(c)	Describe importance & methods for determination of melting point in pharmaceutical analysis.	05	
Q.2	(a)	Explain theory of chromatographic separation using Van De Meter equation.	06	
	(b)	Describe stationery and mobile phases used in column and thin layer chromatography	05	
	(c)	Explain retention & separation mechanism in column /thin layer chromatography.	05	
Q.3	(a)	Describe the factors affecting chromatographic efficiency and resolution	06	
	(b)	Describe the types of paper chromatography and its applications in pharmaceutical analysis	05	
	(c)	Describe application of TLC for identification and purity test in pharmaceutical analysis.	05	
Q.4	(a)	Define the followings: i. Electrochemical methods ii. Standard reduction potential iii. Cell potential	06	
	(b)	Explain with diagram one reference and one indicator electrode used in potentiometric /pH metric analysis	05	
	(c)	Describe applications of potentiometric methods in pharm analysis giving with two examples.	05	
Q.5	(a)	Explain theory of polarography showing significance of half wave potential and diffusion current.	06	
	(b)	Explain the working of dropping mercury electrode with a diagram	05	
	(c)	Describe the parameters of accuracy, precision and specificity /selectivity in analytical method validation.	05	
Q. 6	(a)	What is specific conductance, describe factors affecting conductance.	06	
	(b)	Describe types of empirometric titration and its application in pharm analysis.	05	
	(c)	Explain the structure and functioning polarimeter.	05	

Q.7	(a)	Explain the difference between differential thermal analysis and	06
		differential scanning calorimetry.	
	(b)	Explain the principles and application of thermogravimetric	05
		analysis.	
	(c)	Illustrate different physical and chemical transitions that can be	05
		studied using differential thermal analysis and differential scanning	
		calorimetry.	

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