Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 240004 **Date: 18-05-2013**

Subject Name: Pharmaceutical Analysis - II

Time: 10.30 pm - 01.30 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)	What is S/N ratio? Explain the source of noise in instrumental analysis.	**06**
	(b)	What are the advantages of instrumental analysis over volumetric analysis? Describe classification of instrumental method of analysis.	**05**
	(c)	What is validation? Explain analytical parameters to be validated.	**05**
Q.2	(a)	Which retention mechanisms are involved in chromatography? Explain any two mechanisms in detail.	**06**
	(b)	Describe techniques of coating and development of TLC plates.	**05**
	(c)	Discuss the factors affecting column efficiency.	**05**
Q.3	(a)	Describe the principle and types of paper chromatography. Write the advantages and limitations of paper chromatography.	**06**
	(b)	Give difference between [any two] (i) Stationary phase and mobile phase (ii) Optically active compound and optically inactive compound (iii)Specific conductance and Equivalent conductance	**05**
	(c)	Discuss biamperometric titration in detail.	**05**
Q.4	(a)	Explain the principle and working of glass electrode. Write the limitation and use of glass electrode.	**06**
	(b)	Describe briefly the working and application of potentiometer.	**05**
	(c)	Write the factors affecting limiting current and diffusion current.	**05**
Q.5	(a)	Explain principle of polarography and working of dropping mercury electrode.	**06**
	(b)	How will you determine the pKa values of acetic acid using pH meter.	**05**
	(c)	Explain the following terms. (i) Specific rotation (ii) Pulse polarography (iii) Tailor made compound (iv)Stripping voltametry (v) Standard reduction potential	**05**
Q. 6	(a)	Draw and labeled diagram of polarimeter and discuss its applications.	**06**
	(b)	Write note on TGA.	**05**
	(c)	Differenceate DTA and DSC. Write application of both techniques.	**05**
Q. 7	(a)	Discuss principle and application of Kohlrauch's law.	**06**
	(b)	Write application of conductometric titration.	**05**
	(c)	Calculate the equivalent conductance at 20° of NH_4OH at infinity dilution. $\wedge^{\infty}(N\ H_4Cl) = 130$ $\wedge^{\infty}(OH^-) = 174$ $\wedge^{\infty}(Cl^-) = 66$	**05**

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