Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BPHARM – SEMESTER II • EXAMINATION – WINTER • 2014

Subject code: 2220003 Date: 01-12-2014

Subject Name: Pharmaceutical Analysis-II

Time: 02:30 pm - 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)	Classify electro-analytical methods. Discuss about advantages and limitation of instrumental method of analysis.	**06**
	(b)	Explain Validation parameters in detail.	**05**
	(c)	What is S/N ratio? Explain the source of noise in instrumental analysis.	**05**
Q.2	(a)	Define and classify chromatography. Enlist the theories of chromatography. Describe any one in detail.	**06**
	(b)	What are the retention mechanisms involved in chromatography? Explain any two mechanisms in detail.	**05**
	(c)	What is band broadening? Explain the factors causing band broadening.	**05**
Q.3	(a)	Enlist various electrodes used in potentiometry. Explain any two in detail.	**06**
	(b)	Enlist the factors affecting conductance & applications of Conductometry. Explain effect of dilution on different types of conductance.	**05**
	(c)	Write a short note on Polarimetery.	**05**
Q.4	(a)	i) Write an explanatory note on stripping voltametry. ii) Write a brief note on biamperometric titrations.	**06**
	(b)	Write a note on ORD and CD.	**05**
	(c)	Write a short-note on NPP and DPP.	**05**
Q.5	(a)	What is calorimetry? Describe in detail thermogravimetric analysis.	**06**
	(b)	What is the difference between DSC and DTA?	**05**
	(c)	Write in detail about dropping mercury electrode.	**05**
Q. 6	(a)	i) Give a detailed account of Oxygen Flask Combustion method. ii) Paracetamol containing p- amino phenol as impurity is separated on LC column. The retention times are 5.98 and 7.12 min. respectively and width of the two peaks are 0.78 and 069 min. respectively. Compute resolution of the separation.	**06**
	(b)	Acetanilide has Partition Coefficient 5 between ether and water system. 120 ml Of aqueous solution of aspirin is extracted 10 times with 25 ml of ether (Fresh ether each time). What will be the % of acetanilide extracted after 10 times Extractions?	**05**
	(c)	i) A glass electrode-SCE pair is calibrated at 250 C with pH 4.01 std. buffer, the measured voltage being 0.81V.What voltage would be measured in 0.001 M acetic acid solution? Ka=1.79 x 10.	**05**

ii) If the specific conductance of 0.1N HCl (36.5) is 0.00792 mho. What is its equivalent conductance.

Q.7 (a) Describe any one continuous extraction method. **06**

(b) Describe multiple extraction technique. How pH affect extractability of the drugs. **05**

(c) Explain the terms: **05**

1. Specific Conductance
2. Diffusion Current
3. Kohlrausch law
4. Resolution
5. Residual current

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