Seat No.: _____ *Enrolment No._____*

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharmacy Sem-IV Remedial Examination Nov/Dec. 2010

Subject code:240004 Subject Name: Pharmaceutical Analysis-II

Date: 07 / 12 / 2010 **Time: 02.30 pm – 05.30 pm**

Instructions: **Total Marks: 80**

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	(a)	Explain : Validation, S/N ratio. Give advantages and limitations of Instrumental methods of analysis.	**06**
	(b)	Explain Plate and Rate theory of chromatographic separation.	**05**
	(c)	Write Short Notes (ANY TWO) (i) TGA (ii) Polarimeter (iii) Resolution	**05**
Q.2	(a)	Define: Chromatography. Give a suitable classification of various chromatographic techniques and explain them in brief.	**06**
	(b)	Give a detailed account of Glass Electrode.	**05**
	(c)	Describe various development techniques of Thin Layer Chromatography.	**05**
Q.3	(a)	Justify the followings: (i) Calcium sulphate is used as an adsorbent to hold silica gel firmly on TLC plate. (ii) If HETP value is low, the efficiency of the column is higher. (iii) Concentration of a racemic mixture can not be found out by polarimeter.	**06**
	(b)	Define: Thermogravimetry. Give a suitable classification of the same. Discuss the factors affecting thermogravimetric curve.	**05**
	(c)	Enlist characteristics of an ideal reference electrode used in potentiometry. Give a brief account of various reference electrodes.	**05**
Q.4	(a)	Discuss the factors which influence efficiency of column in chromatography.	**06**
	(b)	Write short notes : (i) DSC (ii) Biamperometric titrations.	**05**
	(c)	(i) Acetyl salicylic acid containing salicylic acid as impurity is separated on LC column. The retention times are 7.42 and 8.92 min. respectively and width of the two peaks are 0.87 and 0.91min. respectively. Compute resolution of the separation. (ii) A glass electrode-SCE pair is calibrated at 25^0C 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^{-5}.	**05**

Q.5	(a)	Enlist various electrochemical methods. Define: Specific resistance, Equivalent conductivity. Add a note on Conductivity cell.	**06**
	(b)	Discuss in detail various electrode pairs used in Potentiometric titrations.	**05**
	(c)	How is Glass electrode calibrated? Explain various errors encountered in pH measurement using glass electrode.	**05**
Q. 6	(a)	What is band broadening in chromatography? Explain the factors leading to band broadening and its minimization.	**06**
	(b)	Give a detailed account of different conductometric titrations.	**05**
	(c)	Discuss the basic principle of Polarography. Explain typical current-voltage curve.	**05**
Q.7	(a)	State and explain Kohlrausch Law. Give its applications. Describe in brief factors affecting electrolytic conductance.	**06**
	(b)	Discuss the factors which influence limiting current in Polarography.	**05**
	(c)	Write an explanatory note on amperometric titrations.	**05**

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