Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – IV • EXAMINATION – SUMMER • 2014

Subject Code: 240004 **Date: 22-05-2014**

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)	Explain the following terms in brief: 1. Validation 2. Robustness 3. Stripping voltammetry 4. Cell constant 5. Alkaline error 6. Cell potential	**06**
	(b)	Write detailed note on Kohlrausch's law along with applications.	**05**
	(c)	What is reference electrode ? Mention the types of reference electrodes. Describe in detail standard hydrogen electrode.	**05**
Q.2	(a)	Write the advantages and disadvantages of Instrumental methods of Analysis. Write brief note on different types of instrumental noise.	**06**
	(b)	Write a detailed note on paper chromatography.	**05**
	(c)	Discuss in details the parameters responsible for chromatographic peak broadening. Mention the way to reduce the peak broadening briefly.	**05**
Q.3	(a)	What is chromatography? Write note on classification of chromatographic techniques. Enlist the separation mechanisms in chromatography.	**06**
	(b)	Write a short-note on amperometric titrations.	**05**
	(c)	Discuss in detail different components of polarogram.	**05**
Q.4	(a)	1. Write note on classification of electroanalytical methods. 2. Write note on effect of dilution on different types of conductances.	**06**
	(b)	Write detail note on dropping mercury electrode.	**05**
	(c)	What is calorimetry? Write in detail various types of calorimetric techniques**.**	**05**
Q.5	(a)	Comment on following statements: 1. If the HETP value is low, the efficiency of the column is higher. 2. As temperature increases, conductance increases. 3. The maxima suppressor is added into the analyte solution in polarography,	**06**
	(b)	Write detailed note on instrumentation of polarimetry.	**05**
	(c)	What is polarimetry? Discuss in detail applications of polarimetry.	**05**
Q. 6	(a)	1. Write note on standard reduction potential. 2. Discuss the different methods to locate the end point in potentiometry.	**06**
	(b)	1. Describe various chromatographic development techniques of TLC. 2. Explain in detail the factors affecting diffusion current.	**05**
	(c)	Define the following terms 1. Capacity factor 2. Asymmetric factor 3. Resolution 1. Retention time 5. Dead volume	**05**
Q. 7	(a)	Differentiate the following pairs: 1. DSC and DTA 2. Equivalent conductance and specific conductance	**06**
	(b)	The conductance of silver ion at 20°C is 56 and of the nitrate ion 61. If the specific conductance of 0.1N silver nitrate at 20°C is 0.001 mhos. What will be the percentage of dissociation of the salt at this concentration?	**05**
	(c)	Discuss in detail principle, instrumentation and applications of thermogravimetric analysis.	**05**

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