

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: **06**
1. Validation 2. Robustness 3. Stripping voltammetry
4. Cell constant 5. Alkaline error 6. Cell potential
- (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. **06**
2. Write note on effect of dilution on different types of conductances.
- (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: **06**
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,
- (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. **06**
2. Discuss the different methods to locate the end point in potentiometry.
- (b) 1. Describe various chromatographic development techniques of TLC. **05**
2. Explain in detail the factors affecting diffusion current.
- (c) Define the following terms **05**
1. Capacity factor 2. Asymmetric factor 3. Resolution
1. Retention time 5. Dead volume
- Q.7** (a) Differentiate the following pairs: **06**
1. DSC and DTA 2. Equivalent conductance and specific conductance
- (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**
