

GUJARAT TECHNOLOGICAL UNIVERSITY**BPHARM – SEMESTER I • EXAMINATION – SUMMER - 2013****Subject code: 2220003****Date: 29-05-2013****Subject Name: Pharmaceutical Analysis-II****Time: 02:30 pm to 05:30 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) Write note on classification of chromatographic techniques. Enlist the separation mechanisms in chromatography. **06**
(b) Write a detailed note on thin layer chromatography. **05**
(c) What is electroanalytical method? Write note on classification of electroanalytical methods. **05**
- Q.2** (a) What is reference electrode? Mention the types of reference electrodes. Describe in detail saturated calomel electrode. **06**
(b) Write note on Oxygen combustion flask method. **05**
(c) What is chromatographic peak broadening? Explain the factors responsible for the same in details. **05**
- Q.3** (a) Define the following terms **06**
1. Capacity factor 2. Accuracy 3. Resolution
1. Stripping voltammetry 5. Dead volume 6. Robustness
(b) Write a short-note on amperometric titrations. **05**
(c) What is calorimetry? Write in detail various types of calorimetric techniques. **05**
- Q.4** (a) What is S/N ratio? Explain the source of noise in instrumental analysis. Write the advantages and disadvantages of Instrumental methods of Analysis. **06**
(b) Write detail note on dropping mercury electrode. **05**
(c) Discuss in detail different components of polarogram. **05**
- Q.5** (a) Comment on following statements: **06**
1. If the HETP value is low, the efficiency of the column is higher.
2. Multiple extractions are better than single extraction.
3. The maxima suppressor is added into the analyte solution in polarography.
(b) Explain specific conductance. Enlist the factors affecting the conductance. Explain any four in details. **05**
(c) Discuss in detail principle, instrumentation and applications of thermogravimetric analysis. **05**
- Q. 6** (a) 1. Write note on standard reduction potential. **06**
2. Write note on the factors affecting diffusion current.
(b) Differentiate the following pairs: **05**
1. DSC and DTA
2. Equivalent conductance and specific conductance
(c) Write detail note on chromatographic theories. **05**
- Q.7** (a) 1. Discuss the different methods to locate the end point in potentiometry. **06**

2. Write brief note on effect of pH on extractability of drugs.

- (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 0.01 mhos. What will be the percentage of dissociation of the salt at this concentration? **05**
- (c) What is polarimetry? Discuss in detail applications of polarimetry. **05**
