

GUJARAT TECHNOLOGICAL UNIVERSITY
B. PHARM. - SEMESTER – IV • EXAMINATION – WINTER 2012

Subject code: 240004**Date: 01/01/2013****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.

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| Q.1 | (a) Define and classify chromatography. Enlist the theories of chromatography. Describe any one in detail. | 06 |
| | (b) Explain the following terms:
(i) Retention time (ii) Retention volume (iii) Dead volume
(iv) Resolution (v) Band width | 05 |
| | (c) Write a brief note on column chromatography. | 05 |
| Q.2 | (a) How do you validate an instrumental analytical method? What are the advantages of validation? | 06 |
| | (b) Describe the factors affecting conductance. | 05 |
| | (c) Describe the applications of conductometry. | 05 |
| Q.3 | (a) What is calorimetry? Describe in detail thermogravimetric analysis. | 06 |
| | (b) What is the difference between DSC and DTA? | 05 |
| | (c) What are the applications of DSC? | 05 |
| Q.4 | (a) Draw a neat and labelled diagram of polarimeter. Describe the applications of polarimetry. | 06 |
| | (b) What is standard electrode potential? Write the classification of electroanalytical methods. | 05 |
| | (c) Write a note on electrodes used in potentiometry. | 05 |
| Q.5 | (a) Draw a well labeled diagram of DME. Explain the following terms: (i) Diffusion current (ii) Half wave potential. | 06 |
| | (b) Write an explanatory note on pulse polarography. | 05 |
| | (c) Write a brief note on amperometric titrations. | 05 |
| Q. 6 | (a) Describe in detail the various forms of TLC. | 06 |
| | (b) What is band broadening? Explain the factors causing band broadening. | 05 |
| | (c) Describe the factors affecting diffusion current. | 05 |
| Q. 7 | (a) Explain the following terms:
(i) Specific conductance (ii) Equivalent conductance (iii) Kohlraush law | 06 |
| | (b) Describe the process used to calibrate a glass electrode. | 05 |
| | (c) How is a pH meter useful to pharmacist? | 05 |
