

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. – SEMESTER – IV (OLD Syllabus) • EXAMINATION – SUMMER • 2015

Subject Code: 240004

Date: 01-06-2015

Subject Name: Pharmaceutical Analysis - II

Time: 10:30 am - 01:30 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) | Explain the terms: (i) Half wave potential
(ii) Signal to noise ratio
(iii) Stripping voltammetry | 06 |
| | (b) | Discuss the advantages and limitations of instrumental methods of analysis.
Classify the different instrumental methods. | 05 |
| | (c) | Describe briefly the validation parameters for analytical method. | 05 |
| Q.2 | (a) | Discuss the advantages and limitations of amperometric titrations. | 06 |
| | (b) | Discuss the principle behind polarography. | 05 |
| | (c) | Describe the construction and working of dropping mercury electrode. | 05 |
| Q.3 | (a) | Define specific conductance, equivalent conductance and cell constant. | 06 |
| | (b) | Discuss the different types of conductimetric titration curves. | 05 |
| | (c) | Write a note on Kohlrausch law. | 05 |
| Q.4 | (a) | Discuss the applications of differential thermal analysis. | 06 |
| | (b) | Explain the principle and instrumentation of thermogravimetry. | 05 |
| | (c) | Describe the principle and applications of thin-layer chromatography. | 05 |
| Q.5 | (a) | Define the terms: (i) Retardation factor (ii) Theoretical plates
(iii) Resolution (iv) Asymmetry factor | 06 |
| | (b) | What is chromatography? Explain the different chromatography techniques. | 05 |
| | (c) | Describe the principle and various development techniques in paper chromatography. | 05 |
| Q. 6 | (a) | What is Nernst equation? Describe the various reference electrodes used in potentiometry. | 06 |
| | (b) | Discuss the different types of potentiometric titrations. | 05 |
| | (c) | Describe the construction and working of glass electrode. | 05 |
| Q. 7 | (a) | Explain briefly the plate and rate theories of chromatographic separation. | 06 |
| | (b) | Describe with the help of a diagram, the construction of a polarimeter. | 05 |
| | (c) | Calculate the specific optical rotation of a one gram of substance dissolved in 50 ml of water, which read $+2.676^\circ$ in a 20 cm polarimeter tube. | 05 |
