

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM – SEMESTER – 4- EXAMINATION –WINTER - 2018

Subject Code: 240004**Date: 06/12/2018****Subject Name: Pharmaceutical Analysis - II****Time:02:30 PM TO 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) | Explain the following terms in brief: 1. Validation 2. Accuracy 3. Signal to Noise ratio 4. Cell constant 5. Supporting analyte 6. Cell potential | 06 |
| | (b) | Write detailed note on Kohlrausch's law along with applications. | 05 |
| | (c) | Explain applications of potentiometry in pharmaceuticals. Enlist the methods to detect the end point in potentiometry. | 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) | Differentiate the following pairs: 1. Stationary Phase and Mobile phase 2. Equivalent conductance and specific conductance | 05 |
| | (c) | Explain Van Deemter equation. Discuss the factors affecting chromatographic peak broadening. | 05 |
| Q.3 | (a) | Write note on classification of chromatographic techniques. Enlist the theories of chromatography. Describe any one in detail. | 06 |
| | (b) | Write a short note on Amperometric titrations. | 05 |
| | (c) | What is standard electrode potential? Describe in detail classification of electroanalytical methods. | 05 |
| Q.4 | (a) | Discuss in detail different components of polarogram. | 06 |
| | (b) | Write detailed note on dropping mercury electrode with well labeled diagram. | 05 |
| | (c) | Describe the factors affecting diffusion current in detail. | 05 |
| Q.5 | (a) | What is calorimetry? Write note on principle and applications of DSC in detail. | 06 |
| | (b) | Write detailed note on instrumentation of polarimetry. | 05 |
| | (c) | Define optical activity and specific rotation. Explain in detail about qualitative and quantitative applications of polarimetry. | 05 |
| Q.6 | (a) | What is indicator and reference electrode?. Describe construction, working, advantages, disadvantages of glass electrode in detail. | 06 |
| | (b) | Write a short note on Thin layer chromatography. | 05 |
| | (c) | Define the following terms 1. Stripping Voltametry 2. Asymmetric factor 3. Resolution 1. Retention time 5. Conductance | 05 |
| Q.7 | (a) | Describe principle, advantages, disadvantages, applications of paper chromatography alongwith its various development techniques. | 06 |
| | (b) | Describe the factors affecting conductance in detail. | 05 |
| | (c) | Discuss in detail principle, instrumentation and applications of thermogravimetric analysis. | 05 |
