

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – IV • EXAMINATION – WINTER • 2014

Subject Code: 240004

Date: 24-12-2014

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.

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|-------------|---|-----------|
| Q.1 | (a) Write a note on advantages and disadvantages of instrumental methods vs conventional methods of analysis. | 06 |
| | (b) What is signal to noise ratio? How is this ratio important while performing analysis & validation? | 05 |
| | (c) Describe importance & methods for determination of melting point in pharmaceutical analysis. | 05 |
| Q.2 | (a) Explain theory of chromatographic separation using Van De Meter equation. | 06 |
| | (b) Describe stationary and mobile phases used in column and thin layer chromatography. | 05 |
| | (c) Explain retention & separation mechanism in column /thin layer chromatography. | 05 |
| Q.3 | (a) Describe the factors affecting chromatographic efficiency and resolution. | 06 |
| | (b) Describe the types of paper chromatography and its applications in pharmaceutical analysis. | 05 |
| | (c) Describe application of TLC for identification and purity test in pharmaceutical analysis. | 05 |
| Q.4 | (a) Define the followings:
i. Electrochemical methods
ii. Standard reduction potential
iii. Cell potential | 06 |
| | (b) Explain with diagram one reference and one indicator electrode used in potentiometric /pH metric analysis. | 05 |
| | (c) Describe applications of potentiometric methods in pharm analysis giving with two examples. | 05 |
| Q.5 | (a) Explain theory of polarography showing significance of half wave potential and diffusion current. | 06 |
| | (b) Explain the working of dropping mercury electrode with a diagram | 05 |
| | (c) Describe the parameters of accuracy, precision and specificity /selectivity in analytical method validation. | 05 |
| Q. 6 | (a) What is specific conductance, describe factors affecting conductance. | 06 |
| | (b) Describe types of empirometric titration and its application in pharm analysis. | 05 |
| | (c) Explain the structure and functioning polarimeter. | 05 |

Q.7	(a)	Explain the difference between differential thermal analysis and differential scanning calorimetry.	06
	(b)	Explain the principles and application of thermogravimetric analysis.	05
	(c)	Illustrate different physical and chemical transitions that can be studied using differential thermal analysis and differential scanning calorimetry.	05
