

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – I • EXAMINATION – WINTER 2013

Subject Code: 2210003

Date: 03-01-2014

Subject Name: Pharmaceutical Analysis -I

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) | What is validation? Discuss the different validation parameters of analytical methods. | 06 |
| | (b) | Discuss the importance of quality control and quality assurance in formulation analysis. | 05 |
| | (c) | Explain types, calibration and cleaning of different glasswares. | 05 |
| Q.2 | (a) | Explain theories of acid-base indicators. | 06 |
| | (b) | Discuss hydrolysis of salts and ionic products of water. | 05 |
| | (c) | Describe Law of mass action in detail. | 05 |
| Q.3 | (a) | Describe diazotization nitrite titration. | 06 |
| | (b) | Explain in detail about Iodometry and Iodimetry titration. | 05 |
| | (c) | Justify the following comments. | 05 |
| | | 1. Starch indicator should be added near the end point in iodine titration. | |
| | | 2. Potassium permanganate is not a primary standard compound. | |
| | | 3. Nitrobenzene is added in the estimation of chloride by Volhard's method. | |
| | | 4. Phenolphthalein is colorless below pH 8.3 and above pH 12. | |
| | | 5. EDTA is used as titrant in complexometry. | |
| Q.4 | (a) | Write a note on Fajan's method of argentometric titration. | 06 |
| | (b) | Discuss levelling and differentiating effect of the solvent in non-aqueous titration. | 05 |
| | (c) | What is non-aqueous titration? Explain types of non-aqueous solvents. | 05 |
| Q.5 | (a) | Discuss masking and demasking agent. | 06 |
| | (b) | Explain complexometric titration and give classification of ligands. | 05 |
| | (c) | Write a note on Kjeldahl method. | 05 |
| Q. 6 | (a) | What is gravimetric analysis? Discuss steps involved in gravimetric analysis. | 06 |
| | (b) | Explain co-precipitation and post-precipitation. | 05 |
| | (c) | Write a note on Karl-fisher titration. | 05 |
| Q. 7 | (a) | Calculate pH of 0.1M acetic acid solution when pka is 4.76. | 06 |
| | (b) | The Ksp of AgCl is 1.0×10^{-10} . Calculate molar solubility of AgCl. | 05 |
| | (c) | 0.2 M solution of acetic acid is ionized. Calculate the dissociation constant Ka. | 05 |
