

GUJARAT TECHNOLOGICAL UNIVERSITY
B.PHARM - SEMESTER- 1 EXAMINATION – SUMMER -2019

Subject Code: 2210003

Date: 04-06-2019

Subject Name: Pharmaceutical Analysis-I

Time: 10:30 AM TO 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) | Define: primary standard, Calibration, Normality, Molarity, titration, equivalence point | 06 |
| | (b) | Define Error. Classify error and explain various methods for minimization of errors. | 05 |
| | (c) | What is the concentration of acetic acid in a solution that is 0.1M in acetate ion and 2×10^{-6} M in hydrogen ion? ($K_a = 1.8 \times 10^{-5}$) | 05 |
| Q.2 | (a) | Explain various types of neutralization curves in acid base titration. | 06 |
| | (b) | Explain hydrolysis of salt, and derive an equation for hydrolysis of salt of weak acid and strong base. | 05 |
| | (c) | Explain levelling and differentiating effect of solvent in non-aqueous titration | 05 |
| Q.3 | (a) | Derive Henderson-Hasselbach equation. | 06 |
| | (b) | Explain neutralization theory of acid base indicator. | 05 |
| | (c) | Explain in detail common ion effect. | 05 |
| Q.4 | (a) | Describe Iodometric and Iodimetric method. | 06 |
| | (b) | Write a detailed note on redox indicators. | 05 |
| | (c) | Explain different types of redox titration. | 05 |
| Q.5 | (a) | Explain various steps involved in gravimetric analysis. | 06 |
| | (b) | Explain Volhard's method of precipitation. | 05 |
| | (c) | Differentiate co-precipitation and post-precipitation. | 05 |
| Q. 6 | (a) | Define masking agent and demasking agent. Explain different types of complexometric titration. | 06 |
| | (b) | Explain the factors affecting precipitation reaction in Argentometric titration. | 05 |
| | (c) | Write a brief note on Kjeldahl method. | 05 |
| Q.7 | (a) | Define ligand. List various requirements of metal ion indicator. Explain assay principle of magnesium sulphate. | 06 |
| | (b) | Write a brief note on Karl Fischer titration | 05 |
| | (c) | The solution contains 100ml 0.1 M HCl. What is the pH and pOH of the solution. | 05 |
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