

GUJARAT TECHNOLOGICAL UNIVERSITY**BPHARM – SEMESTER – I • EXAMINATION – WINTER 2012****Subject code: 2210003****Date: 16-01-2013****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.

- Q.1** (a) Give some account on type of errors and methods of their minimization. **06**
(b) Write a detailed classification of analytical method and enlist various validation parameters. **05**
(c) Explain common ion effect with example. **05**
- Q.2** (a) Write a brief note on: 1. Karl Fischer titration 2. Kjeldahl method **06**
(b) Explain in detail Volhard's method of precipitation. **05**
(c) Write a detailed note on redox indicators. **05**
- Q.3** (a) 50 ml of 0.1M acetic acid is titrated with 0.1 M sodium hydroxide. Calculate the pH of solution when following volume of NaOH is added, 1) 0 ml, 2) 10 ml, 3) 25 ml, 4) 50 ml. K_a of acetic acid = 1.8×10^{-5} **06**
(b) Define buffer solution and explain in detail Henderson-Hasselbach equation for buffer. **05**
(c) Explain in detail hydrolysis of salts. **05**
- Q.4** (a) Write a note on co-precipitation and post-precipitation. **06**
(b) Explain various steps involved in gravimetric analysis. **05**
(c) Explain different types of solvents used for non-aqueous titrations with examples. **05**
- Q.5** (a) Write a detailed note on Iodometric and Iodimetric method. **06**
(b) Answer the following: **05**
1. Advantages and disadvantages of nonaqueous titration.
2. Explain leveling and differentiating effects of solvent with suitable examples.
- (c) Describe various precipitation techniques in gravimetry. **05**
- Q. 6** (a) Answer the following: **06**
1. Ionic product of water
2. Law of mass action
- (b) Explain different types of EDTA titrations. What are the ideal requirements of metal ion indicators? **05**
(c) Write a note on Ligands. **05**
- Q. 7** (a) Answer the following: **06**
1. Define : molarity, precision, sampling, accuracy
2. Equivalent weight of potassium permanganate varies with change in media. Comment.
3. Ce^{3+} - Ce^{4+} half cell shows different E^0 values in different acids. Comment.
- (b) Write a detailed note on : Acid base indicators **05**
(c) Explain Mohr's method for precipitation. **05**
