

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – I • EXAMINATION – SUMMER 2017

Subject code: 2210003**Date: 06/06/2017****Subject Name: Pharmaceutical Analysis-I****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.

- Q.1** (a) Answer the following: **06**
1. Define : precision, accuracy, oxidation, ligand
2. Disodium edetate is a hexadentate ligand. Comment.
3. Differentiate iodimetry and iodometry.
- (b) Define validation and explain various analytical validation parameters. **05**
- (c) What is volumetric analysis? Write principles of volumetric analysis. How **05**
detection of end point is done in volumetric analysis?
- Q.2** (a) Explain hydrolysis of salts, and derive an equation for hydrolysis of salt of weak **06**
acid and strong base.
- (b) 50 ml of 0.1M acetic acid is titrated with 0.1 M sodium hydroxide. Calculate the **05**
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}
- (c) Explain neutralization theory for acid base indicators. **05**
- Q.3** (a) What is Argentimetric titration? Describe Mohr's method for determination of **06**
chloride?
- (b) Derive Henderson-Hasselbach equation for buffer solution. **05**
- (c) Write a brief note on non-aqueous titrations. **05**
- Q.4** (a) Write a brief note on: **06**
1. Ionic product of water
2. Kjeldahl method
- (b) Explain various precipitation techniques in gravimetric analysis. **05**
- (c) Differentiate co-precipitation and post-precipitation. **05**
- Q.5** (a) Write a detailed note on Permanganate method. **06**
- (b) Answer the following: **05**
1. Standardization of sodium thiosulphate solution.
2. Standardization of iodine solution
- (c) Write a detailed note on : Redox indicators **05**

- Q. 6** (a) Answer the following: **06**
1. Ligands
2. Classification of analytical methods
- (b) Explain complexometric titration and masking agent with example. What are the ideal requirements of metal ion indicators? **05**
- (c) Explain common ion effect and diverse ion effect with example. **05**
- Q. 7** (a) What is error? Classify it, How errors can be minimized? **06**
- (b) Explain in detail principle, instrumentation and applications of Karl Fischer titration. **05**
- (c) Explain adsorption indicator method for precipitation. **05**
