

GUJARAT TECHNOLOGICAL UNIVERSITY
B.Pharm. SEMESTER– I • EXAMINATION – WINTER -2022

Subject Code: BP102TP**Date: 03/04/2023****Subject Name: PHARMACEUTICAL ANALYSIS I****Time: 10:30am to 01:30pm****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) Enlist various electrodes used in potentiometry. Explain NHE in detail. **06**
(b) Define: Polarography, Limiting current, Diffusion current, Migration current, Residual current. **05**
(c) Enlist redox titration in which starch act as an indicator and explain any one in detail. **05**
- Q.2** (a) Define oxidizing agent and reducing agent with example and explain Redox indicator in detail. **06**
(b) Write a note on potentiometric titrations. **05**
(c) Describe factor affecting conductance. **05**
- Q.3** (a) Write a note on factors affecting purity of precipitation. **06**
(b) Briefly explain the applications of conductometry. **05**
(c) Write a note on metallochromic indicator. **05**
- Q.4** (a) Explain different types of complexometric titration. **06**
(b) Explain- how to estimate barium sulphate by gravimetry. **05**
(c) Write a note on solvent, titrant and indicator used for weak acid & weak base in non-aqueous titration. **05**
- Q.5** (a) Enlist the end point detection methods in precipitation titration. Explain mohr's method in detail. **06**
(b) Explain the estimation of sodium benzoate by non-aqueous titration. **05**
(c) Explain in brief various acid base theories. **05**
- Q. 6** (a) Explain end point detection method in acid base titration. **06**
(b) Define: Normality, Molality, Mole fraction, Accuracy, Precision. **05**
(c) Explain primary and secondary standards with example. Write a note on Preparation and standardization of molar and normal solutions of hydrochloric acid and sulphuric acid. **05**
- Q.7** (a) Explain error minimization techniques. **06**
(b) Write a detailed note on classification of analytical method. **05**
(c) 100 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) 50 ml, 3) 99 ml, 4) 100 ml, 5) 101 ml. K_a of acetic acid = 1.8×10^{-5} . Draw neutralization curve of it. **05**
