

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – I • EXAMINATION – SUMMER • 2015

Subject Code: 2210003

Date: 29-05-2015

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) What is validation? Enumerate the method validation parameters and explain any two in detail. **06**
 - (b) What do you mean by Quality Assurance and Quality Control? Give an importance of Pharmaceutical Analysis. **05**
 - (c) Explain the following terms (Any five) **05**
 - a) Stoichiometric point
 - b) Primary standard
 - c) Common ion effect
 - d) Buffer
 - e) Ostwald ripening
 - f) Tyndal effect
- Q.2**
- (a) Enlist different types of redox titration? Describe Iodine titration in detail? **06**
 - (b) Write a detailed note on end point detection method for redox titration? **05**
 - (c) Theory of Von Weimarn's ratio for relative super saturation to control the precipitation in gravimetric analysis. **05**
- Q.3**
- (a) What is non – aqueous titration? And explain leveling and differentiating effect of solvent with example? **06**
 - (b) Write a note on masking and demasking effect of complexometric titration and give comment on: starch paste should be freshly prepared. **05**
 - (c) Write a note on sampling technique & error minimization techniques. **05**
- Q.4**
- (a) Give comment on following (Any Three) **06**
 - i. Phenolphthalein gives colour in basic media.
 - ii. Equivalent weight of KMnO_4 is change with media.
 - iii. EDTA is used as a chelating agent in complexometric titrations.
 - iv. Starch indicator should be added toward the end point in iodometric titration.
 - (b) Write is precipitations titration? Write a note on factors affecting precipitations titrations? **05**
 - (c) Write a short note on Volhard's method of precipitation titration? **05**

- Q.5** (a) What is complexometric titration? Give the different types of complexometric titration? **06**
(b) Match the following terms: **05**

Substances	Indicator
0.1 N HCl	Phenolphthalein
Caffeine	Gentian Violet
Aspirin	Starch
KMnO ₄	Self indicator
NaCl	Ferric Ammonium Sulphate
MgSO ₄	Mordant black II

- (c) What is Gravimetric analysis? Explain various steps involved in Gravimetric analysis. **05**
- Q. 6** (a) Differentiate following terms **06**
i. Lewis acid & Lewis base
ii. Ruggedness & Robustness
iii. LOD & LOQ
(b) What is acid base titration? Explain Any two theories of Acid- Base titrations. **05**
(c) 1. How will you prepare 250 ml 0.1 M HCl & 0.1 M NaOH? **05**
2. 100 ml 0.1 N CH₃COOH is titrated with 0.1 N NaOH calculate the pH, Where $K_a = 1.8 \times 10^{-5}$
• At 0 ml addition of titrant
• At 50 ml addition of titrant
- Q.7** (a) Give a detail account on karl-fisher titration. **06**
(b) Discuss on kjeldahl method. **05**
(c) Derive Henderson-Hasselbach equation **05**
