

GUJARAT TECHNOLOGICAL UNIVERSITY
B. Pharm. – SEMESTER – III • EXAMINATION – SUMMER 2013

Subject Code: 230004**Date: 13-06-2013****Subject Name: Pharmaceutical Analysis-I****Time: 10.30 am - 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.

- Q.1**
- (a) Justify following sentences: (Any three) **06**
1. Nitrobenzene is added in the assay of ammonium chloride by volhard's method.
 2. Mohr's method is carried out at neutral PH.
 3. Complexometric titration is carried out at basic PH.
 4. KI is added in the preparation of Iodine solution.
- (b) Define following terms: (Any Five) **05**
1. Quality assurance 2. Calibration 3. Buffer capacity 4. Stoichiometric end point
 5. Extraction 6. Molarity 7. Co-precipitation
- (c) Write Primary standard compounds of following: **05**
1. NaOH 2. AgNO₃ 3. Na₂S₂O₃ 4. KMnO₄ 5. Na₂EDTA
- Q.2**
- (a) Write a note on karl fisher titration. **06**
- (b) Explain the factors affecting the solubility of precipitate in details. **05**
- (c) Describe the different types of errors and write briefly about minimization of errors. **05**
- Q.3**
- (a) Enumerate different argentometric end point determination methods and explain fajan's method in detail. **06**
- (b) Write short note on oxygen combustion flask method. **05**
- (c) Write a short note on kjeldahl method for nitrogen estimation. **05**
- Q.4**
- (a) Explain the principle of complexometric residual back titration with examples. **06**
- (b) Describe solvents, titrants and indicators used in non-aqueous titration. **05**
- (c) Write a short note on iodometric titration. **05**
- Q.5**
- (a) Define hydrolysis and derive pH equation for hydrolysis of salt prepared from weak acid and weak base. **06**
- (b) Define buffer and write properties of pharmaceutical buffers. **05**
- (c) Write a short note on theory of indicator. **05**

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| Q. 6 | (a) | 1. What is the pH of 10 ml of 0.0043 N CH_3COOH having $\text{PKa } 1.8 \times 10^{-5}$.
2. Calculate the concentration of sulphate ion required to start precipitation of FeS from a solution that has 1×10^{-4} moles of Fe^{+2} and Ksp of FeS is 5×10^{-18} . | 06 |
| | (b) | What is analytical method validation? Enumerate validation parameters and define any four. | 05 |
| | (c) | Write a short note on continuous extraction. | 05 |
| Q. 7 | (a) | Write a short note on gravimetric method of analysis. | 06 |
| | (b) | Explain counter current extraction in detail with examples. | 05 |
| | (c) | Describe PM indicators in details | 05 |
