Seat No.: _____ Enrolment No. _____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**B.Pharm – SEMESTER-III – EXAMINATION – SUMMER-2016**

**Subject Code: 230004** **Date: 10/05/2016**

**Subject Name: Pharmaceutical Analysis - I**

**Time: 2:30 PM to 5:30 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 hydrolysis? Derive equation for finding pH of aqueous solution of salt of strong acid and weak base. | **06** |
| | (b) | Write a note on pharmaceutical buffers. | **05** |
| | (c) | At what molar concentration Acetic acid is 2% ionized? ($Ka=8 \times 10^{-5}$) | **05** |
| **Q.2** | (a) | Explain the terms: (i) Co-precipitation (ii) Post precipitation (iii) Solubility product | **06** |
| | (b) | What is buffer? Derive Henderson-Hasselbach equation. | **05** |
| | (c) | Write a note on acid base indicator theory. | **05** |
| **Q.3** | (a) | What is Argentometric titration? Write a note on Mohrs method. | **06** |
| | (b) | Ksp of $PbI_2$ is $7.2 \times 10^{-9}$. Calculate molar solubility and solubility in g/ml. Molecular weight of $PbI_2$ is 461 g/mol. | **05** |
| | (c) | Write a note on Oxygen combustion flask method. | **05** |
| **Q.4** | (a) | Write theory of complexometric titration? Masking and damasking of complexometric titration. | **06** |
| | (b) | Explain indicators in complexometric titration? | **05** |
| | (c) | Explain Kjeldahl method for determination of nitrogen. | **05** |
| **Q.5** | (a) | What is non-aqueous titration? Write Differentiating and leveling effect of solvent. | **06** |
| | (b) | Discuss Merits and Demerits of non aqueous titration over aqueous titration. | **05** |
| | (c) | Write a note on Karl-Fischer titration. | **05** |
| **Q. 6** | (a) | Write a note on Diazotization nitrite titration. | **06** |
| | (b) | Differentiate Iodometric and Iodimetric titrations. | **05** |
| | (c) | Give preparation and standardization of $KMnO_4$ | **05** |
| **Q.7** | (a) | What is analytical method validation? Enlist validation parameter. Discuss any two parameters in detail. | **06** |
| | (b) | What is error? Write types of errors and how they minimized. | **05** |
| | (c) | Differentiate between QA and QC. | **05** |

**********