

FACULTY OF PHARMACY**B. Pharmacy 2/4 I – Semester (Supplementary) Examination, November 2017****Subject : Pharmaceutical Analysis - I (Chemical Analysis)****Time : 3 hours****Max. Marks : 70****Note : Answer all questions. All questions carry equal marks.**

- 1 a) Explain the concept of error, write the sources of errors and their rectification in pharmaceutical analysis. 12
b) Define Molarity and Molality. 2
- OR**
- c) Discuss the significant figures and rules for computation. 8
d) Define primary standard. Write the ideal requirements of primary standard. 6
- 2 a) Write a note on the following : 4+4
i) Solubility Product ii) Common-ion effect 6
b) Write an account on neutralization indicators.
- OR**
- c) Define buffer solution, buffer action and buffer capacity. Discuss the role of buffers in pharmaceutical analysis. 3+5
d) Discuss the theories of acids and bases. 6
- 3 a) Write a note on redox indicators. 7
b) Explain the co-precipitation and post precipitation. 7
- OR**
- c) Write the principle and procedure of iodometric assay of any one official compound. 8
d) Explain the terms precipitation coagulation and digestion. 6
- 4 a) Write the procedure for preparation and standardization of 0.01 M EDTA solution. 8
b) Write a note on argentometric titrations. 6
- OR**
- c) Describe the method of preparation and standardization of 0.1 N HClO₄. 8
d) Write note on PM indicators. 6
- 5 a) What is avogadro's number? How the moles of elements and compounds are calculated? 6
b) Balance the following equations. 8
i) $\text{CuSO}_4 + \text{KI} \rightarrow \text{CuI}_2 + \text{K}_2\text{SO}_4$
ii) $\text{NaOH} + \text{H}_2\text{SO}_4 \rightarrow \text{Na}_2\text{SO}_4 + \text{H}_2\text{O}$
iii) $\text{Na}_2\text{SO}_3 + \text{HCl} \rightarrow \text{NaCl} + \text{H}_2\text{SO}_3$
iv) $\text{C}_6\text{H}_{12}\text{O}_6 \rightarrow \text{C}_2\text{H}_5\text{OH} + \text{CO}_2$
- OR**
- c) Define empirical formula, molecular formula, theoretical yield and percentage yield. 8
d) What is PH? Calculate the pH of 0.1N solution of ammonia ($\text{P}K_b = 4.75$). 7
