

FACULTY OF PHARMACY**B. Pharmacy 2/4 I-Semester (Main) Examination, November 2015****Subject : Pharmaceutical Analysis – I (Chemical Analysis)****Time : 3 Hours****Max. Marks: 70****Note: Answer all questions. All questions carry equal marks.**

- 1 (a) (i) Define error. Classify and explain different types of errors. (8)
(ii) Explain about various methods of expressing concentration. (6)
OR
(b) (i) Define : (4x2)
(A) Accuracy (B) Standard deviation (C) Indicator (D) End point
(ii) What is meant by calibration? How to calibrate volumetric flask? (6)
- 2 (a) (i) Write a note on : (2x5)
(A) Common ion effect
(B) Salt Hydrolysis
(ii) How to prepare and standardize 0.1 N H₂SO₄? (4)
OR
(b) (i) Discuss the theories of neutralization indicators. (10)
(ii) Solubility product of Mg(OH)₂ is $3.4 \times 10^{-11} \text{ mol}^3/\text{L}^3$. Calculate solubility in g/L. (4)
- 3 (a) (i) Explain the steps involved in gravimetric analysis. (10)
(ii) How to prepare and standardize 0.1 N K MnO₄? (4)
OR
(b) (i) Discuss the principle of redox titration and write a note on redox indicators. (4+4)
(ii) Write notes on co-precipitation and coagulation used in gravimetric analysis. (6)
- 4 (a) (i) Explain the principle involved in complexometric titrations. (5)
(ii) Write notes on solvents used in non-aqueous titrations. (5)
(iii) How to prepare and standardize 0.01M EDTA solution? (4)
OR
(b) (i) Write notes on Argentometric titrations. (5)
(ii) Write short notes on masking and demasking agents. (5)
(iii) How to prepare and standardize 0.1 N H ClO₄. (4)
- 5 (a) (i) Define the terms with suitable examples. (3x2)
(A) Empirical formula
(B) Molecular weight
(C) Theoretical yield
(ii) Calculate the number of moles of sodium hydroxide in 500 ml. of 1M sodium hydroxide solution. (4)
(iii) Calculate the percentage composition of elements in Na₂CO₃. (4)
OR
(b) (i) How many moles of Na₂CO₃ are present in 53 gm of sodium carbonate? (4)
(ii) Calculate the percentage composition of elements in K₂Cr₂O₇. [Atomic weight of K = 39 ; Cr = 52 O = 16]. (4)
(iii) Write the mass balanced equation for the following: (3x2)
(A) Ba(OH)₂ + NaCl → BaCl₂ + NaOH
(B) C₆H₁₂O₆ → C₂H₅OH + CO₂
(C) NH₄OH + H₂SO₄ → (NH₄)₂SO₄ + H₂O
