

FACULTY OF PHARMACY**B. Pharmacy 2/4 I - Semester (Main) Examination, October / November 2014****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 the following terms: (4x2)
(A) Significant figure (B) Accuracy (C) Equivalence point (D) Indicator
(ii) What are primary standard and secondary standard? Write ideal properties of a primary standard. (6)
- OR**
- (b) (i) Write a note on rejection of doubtful values. (6)
(ii) How to calibrate a burette? (4)
(iii) Calculate the weight of NaOH in 1N solution, required to neutralize 25ml of 1N H₂SO₄. (4)
- 2 (a) (i) Write notes on different theories of Acids and Bases. (8)
(ii) Write short notes on : (2x3)
(A) Buffers (B) Neutralization indicators
- OR**
- (b) (i) How to prepare and standardize 0.1 N NaOH solution? (4)
(ii) Discuss Law of mass action and its significance. (6)
(iii) Solubility of AgCl is 0.0015 g/dm³. Calculate the solubility product. (4)
- 3 (a) (i) Write a note on redox indicators. (5)
(ii) Write the principle and applications of gravimetric analysis. (5)
(iii) How to prepare and standardize 0.1N KMnO₄ solution? (4)
- OR**
- (b) (i) Write the methods of balancing of oxidation reduction reactions with examples. (6)
(ii) Write notes on co-precipitation and coagulation methods used in gravimetric analysis. (8)
- 4 (a) (i) Write the principle involved in non-aqueous titrations and mention its applications. (6)
(ii) Explain the masking and demasking agents with suitable examples. (8)
- OR**
- (b) (i) Write the principle, procedure and apparatus used in the assay of oxygen. (6)
(ii) How to prepare and standardize 0.1 N HClO₄? (4)
(iii) Write a note on Iodometry. (4)
- 5 (a) (i) How many moles of glucose are present in 540 gm of glucose. (4)
(ii) Describe mole concept and avogadro's number. (6)
(iii) 0.202 gm of a carbon compound on combustion gave 0.361 gm of CO₂ and 0.147gm of water. Calculate the empirical formula of the compound. (4)
- OR**
- (b) (i) Calculate the percentage composition of elements in Na₂SO₄. (4)
(ii) Write briefly about theoretical yield and percentage yield with suitable examples. (4)
(iii) Write the mass balance equation for the following: (6)
(A) NH₄OH + H₂SO₄ → (NH₄)₂SO₄ + H₂O
(B) CaCl₂ + NaNO₃ → Ca(NO₃)₂ + NaCl
(C) C₆H₁₂O₆ + H₂SO₄ → C₂H₅OH + CO₂
