

Code No. 4040

FACULTY
B. Pharmacy 2/4 I Semester (Main) Examination, November 2016
Subject : Pharmaceutical Analysis – I (Chemical Analysis)
Time : 3 Hrs
Max. Marks: 70
Note: Answer all questions. All questions carry equal marks.

- 1 (a) (i) Define the terms accuracy and precision. Explain the difference between them with suitable examples. (8)
- (ii) Describe different methods of expressing concentration of solutions. (6)
- OR**
- (b) (i) Discuss about the statistical treatment of analytical data. Write notes on rejection of doubtful value. (8)
- (ii) Define the following terms and give examples with required properties (6)
- (A) Primary standard (B) Secondary standard
- 2 (a) (i) Define the terms buffer, buffer action and buffer capacity. Discuss the role of buffers in pharmaceutical analysis. (3+5)
- (ii) Write Arrhenius theory of acids and bases. (6)
- OR**
- (b) (i) Explain the terms acidimetry and alkalimetry with suitable examples. (8)
- (ii) Discuss the theories of neutralization indicators. (6)
- 3 (a) (i) Discuss the principles involved in gravimetry. Explain about co-precipitation and post-precipitation with suitable examples. (3+6)
- (ii) How do you prepare and standardize 0.1 N $K_2Cr_2O_7$. (5)
- OR**
- (b) (i) Explain Iodimetry and Iodometry with suitable examples. Discuss the use of starch as indicator in redox titration and its limitations. (10)
- (ii) Write a note on drying procedures followed in gravimetry. (4)
- 4 (a) (i) Discuss the principle involved in complexometric titration. Write short notes on PM indicators. (8)
- (ii) Write the principle and procedure involved in estimation of manganese sulphate. (6)
- OR**
- (b) (i) Write brief account on principles of volumetric analysis. (6)
- (ii) Discuss about the solvents and indicators used in non-aqueous titration. (8)
- 5 (a) (i) Define the terms: (8)
- (A) Normality (B) Molarity
- (C) Theoretical yield (D) Percentage yield
- (ii) Write the mass balance equation for the following: (6)
- (A) $KBr + KBrO_3 \rightarrow KCl + Br_2 + H_2O$
- (B) $CaCO_3 + HCl \rightarrow CaCl_2 + H_2O + CO_2$
- OR**
- (b) (i) What is Avogadro's number? Write an account on determining moles of elements in compounds. (8)
- (ii) Find the pH of a solution in which $[H^+] = 4.0 \times 10^{-5} \text{ mol/dm}^3$ (6)
