15450

B. Pharmacy 3rd Semester Examination

Pharmaceutical Analysis-I (NS)

BP-231

Time : 3 Hours   Max. Marks : 70

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

1. Attempt any two of the following:

   (a) (i) Explain common ion effect and ionic product of water.

        (ii) Describe the law of mass action in detail.

   (b) (i) Explain theories of acid-base indicators.

        (ii) Explain adsorption Indicator method with suitable Example.

   (c) (i) What is gravimetric analysis? Enlist the steps involved in gravimetric analysis. Discuss in detail the precipitation techniques employed in gravimetry.

        (ii) Discuss the principle of estimation of chloride by Mohr's method. Explain the factors affecting precipitation reaction in argentometric titrations.
                                                                 (2×10=20)

2. Attempt any eight of the following:

   (a) Classify Analytical methods.

   (b) Describe different sampling techniques in formulation analysis. How sampling error can be minimized?

   (c) What is hydrolysis? Derive equation for finding pH of aqueous solution of Ammonium Chloride.

   (d) Calculate degree of hydrolysis in 0.1M Sodium acetate. $Ka=1.8 \times 10^{-5}$.

   (e) Write a short note on Physiological and Pharmaceutical Buffers.

   (f) Enumerate areas of application of acid-base buffers. Derive Henderson-Hasselbach equation for finding pH of buffer solution.

   (g) Write a short note on iodometric titration.

   (h) Describe in brief about the concept of oxidation and reduction.

   (i) Discuss redox indicators in detail.

   (j) With the help of suitable examples differentiate between lyophobic colloid and lyophillic colloid.   (8×5=40)

3. Attempt the following:

   (a) Define the term molarity.

   (b) How to prepare 250 ml 0.087N HCl solution?

   (c) Give the reason: Ammonium chloride is more acidic in ethanol than in water.

   (d) Define co-precipitation.

   (e) Define the term buffer capacity.   (5×2=10)