

**B.Pharm Second Semester (C.B.S.) Examination****PHARMACEUTICAL ANALYSIS—I****Paper—4**

Time : Three Hours]

[Maximum Marks : 80

**N.B. :—** (1) Question No. 1 is compulsory.(2) Attempt any **four** questions out of remaining.

(3) All questions carry marks.

(4) Draw neat labelled diagram wherever necessary.

(5) Discuss the reaction, mechanism wherever necessary.

1. Solve any **five** of the following :

(a) Explain why Chlorine estimation by Mohrs method need to be performed in neutral medium.

(b) Give advantages of Cerric Ammonium Sulfate over other Oxidising agents in redox titration.

(c) Why Phenolphthalein is colourless at pH 8.3 and above pH 13.

(d) Define ligands. Classify them with examples.

(e) Why freshly prepared solution of  $\text{KMnO}_4$  is heated to boiling prior to its use in titrations.

(f) What are self indicators ? Give some examples.

(g) What do you mean by primary and secondary standard ? 20

2. (a) Write theory of precipitation titrations and explain in brief Volhard method. 8

(b) Write a note on Errors in analysis. 7

3. (a) What is gravimetric analysis ? Outlines various techniques involved in gravimetric analysis. 8

(b) Discuss precipitation and co-precipitation. 7

4. (a) What is redox equilibrium constant ? Explain redox titration curve. 8

(b) Write a note on Redox indicators with example. 7

5. (a) Explain theory of Acid-Base titration. What is common ion effect ? 8

(b) Write principle and procedure of assay of Boric acid. 7

6. (a) What are properties considered during selection of solvents and write in short about different solvents used in non aqueous titration. 8

(b) Write advantages and limitations of non aqueous titrations. 7

7. (a) Explain types of EDTA titration and write the factors affecting stability of complex formed. 8

(b) Discuss theory of Metal Ion indicators. 7