

**NRT/KS/19/3152**

**B.Pharm. Semester-II (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 as indicated

(4) Draw neat labelled diagram wherever necessary.

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

(a) Differentiate between iodometry and iodimetry.

(b) Define primary and secondary standard.

(c) What are the advantages and limitations of non-aqueous titrations ?

(d) What are the different methods of expressing concentration ?

(e) What are self indicators ? Give suitable example of it.

(f) Why starch indicator is added towards the end point of titration in iodometry ? 5×4=20

2. (a) Explain the terms : Accuracy, precision and error. Give methods of minimisation of errors. 7

(b) What are non-aqueous titrations ? Discuss theory of non-aqueous titrations. Write in short about different types of non-aqueous solvents. 8

3. (a) Explain neutralisation curves in acid-base titrations. 8

(b) What are precipitation titrations ? Name the methods used for end point detection in it. Discuss any one method of end point detection in precipitation titration. 7

4. What is gravimetric analysis ? Explain in detail steps involved in it. 15

5. (a) What are different types of EDTA titrations ? Explain masking and demasking agents. 8

(b) Write the method of preparation and standardisation of 0.05M EDTA solution. 7

6. Discuss principle and procedure involved in the assay of following (any **three**) :

(a) Boric acid.

(b) Sodium chloride.

(c) Ammonium chloride.

(d) Calcium gluconate.

(e) Ephedrine hydrochloride. 3×5=15

7. Write short notes on (any **three**) :

(a) Thermogravimetry.

(b) Theory of acid-base indicators.

(c) Applications of complexometric titrations.

(d) Metal-ion indicators.

(e) Fajan's method. 3×5=15