NKT/KS/17/6560

B.Pharm. Semester—IV (C.B.S.) Examination

PHARMACEUTICAL ANALYSIS—II

(Electroanalytical and Physical Methods)

Paper—3

Time : Three Hours] [Maximum Marks : 80

N.B. :— (1) Question No. **1** is compulsory.

(2) Solve any **FOUR** questions from remaining.

(3) Draw neat labelled diagram wherever necessary.

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

   (a) Draw neat and well labelled diagram of Dropping Mercury Electrode.

   (b) Differentiate DTA and DSC.

   (c) Write advantages and disadvantages of amperometry.

   (d) Define specific conductance, equivalent conductance, standard electrode potential and residual current.

   (e) Mention pharmaceutical applications of polarimetry.

   (f) What do you mean by dead stop titrations ?

   (g) What are various types of thermogravimetry ? 20

2. (a) What is reference and indicator electrode ? Enlist them. Explain any one reference and indicator electrode. 7

   (b) Describe various methods to locate end point in potentiometric titrations. 8

3. (a) Define refractive index. Draw labelled sketch of Abbe's refractometer. Give applications of refractometry. 7

   (b) Write principle and instrumentation of polarimetry. 8

4. What are conductometric titrations ? Give principle, general procedure and advantages of it. Discuss, citing suitable example, various types of acid-base type of conductometric titration. 15

5. (a) Write principle, instrumentation and pharmaceutical applications of DSC or DTA. 7

(b) Define thermogravimetry. Write with suitable examples, various factors affecting TG curves. 8

6. Discuss theory of polarography. Give Ilkovic equation and explain the various terms involved in it. 15

7. Write short notes on any **three** of the following :

(a) Coulometry

(b) Electrogravimetry

(c) Amperometric titrations

(d) Chronopotentiometry

(e) High frequency titration. 15