

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

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