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Your Roll No. :

Sl. No. of Q. Paper : **1497** **I**

Unique Paper Code : 2173522005

Name of the Paper : DSE : Acids & Bases
and Aqueous Chemistry

Name of the Course : **B.Sc.(Prog.)**

Semester : III/V

Time : 3 Hours **Maximum Marks : 60**

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
 - (b) Attempt **four** questions in **all** and **all** questions are of equal marks.
1. (a) What are the Lewis acid and Lewis bases ?
Give example.
- (b) Explain the solvation effect on metal ions and its factors affecting.
- (c) Discuss the effect of solvent on the relative strength of acid and bases. 5,5,5

P.T.O.

2. Write a short note. (any **three**) :

- (a) Bronsted - Lowery concept with example.
- (b) Iodine titration.
- (c) Frost diagram.
- (d) Aqua and Hydroxo ions. 5,5,5

3. (a) Explain the main features of Latimer diagram.

- (b) What do you mean by redox stability of water.
- (c) Discuss the term disproportionation, comproportion and auto - oxidation with example. 5,5,5

4. (a) Discuss the Arrhenius concept in acid - base neutralization reaction.

- (b) What do you understand by PH of a solution ? What is the range of the PH scale.
- (c) What are metalloenzymes and metal activated enzymes ? Example the catalytic role of each with suitable examples. 5,5,5

5. Distinguish between (any **three**) :

- (a) Hard and soft acid bases.
- (b) Phosphate buffer and universal buffer.
- (c) Oxo cation and oxo anion.
- (d) Super acids and super bases. 5,5,5

6. Write a short note (any **three**) :

- (a) Precipitation.
- (b) Permanganate titrations.
- (c) Half reaction.
- (d) Standard potential. 5,5,5
