

CODE NO: 07A1BS08

2008 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY

**I B.TECH SUPPLEMENTARY EXAMINATIONS
PHYSICAL CHEMISTRY
(CHEMICAL ENGINEERING)**

AUG/SEP 2008

**TIME:3HOUR
MARK:80**

ANSWER ANY FIVE QUESTIONS ALL QUESTIONS CARRY EQUAL MARKS.

1. Explain in detail the application of distribution law in solvent extraction.
2. Draw the phase diagram and explain the different curves of the water system.
3. What type of reactions leads to explosions? Define explosion limit. Explain any one in detail with examples.
4. What are protective colloids? Explain how a lyophilic colloid can stabilize a lyophobic colloid.
5. Describe the following terms:
 - (a) Ions in solution
 - (b) Ionic Reactions, colligative properties
 - (c) Heat of neutralization
 - (d) Colour of certain compounds and their solution.
6. Discuss the photo chemical decomposition of hydrogen iodide. How does the photo chemical decomposition of HI differ from its thermal decomposition.
7. Describe the Algorithm for Determining reaction mechanism and rate limiting step.
8. Explain the following :
 - (a) Linear scan polarography
 - (b) Pulse polarography.