**RAJ KUMAR GOEL INSTITUTE OF TECHNOLOGY & MANAGEMENT, GZB**

**1st Sessional Examination 2017-18 ( Odd Semester)**

**Roll No.:**  **Subject Name: Distributed Systems**

**Year/Branch**: **Fourth Year CSE/IT**  **Subject Code:** **NCS-701**

**Max Time: 1 Hours 30 Minute Max Marks: 50**

**SECTION-A**

**Q.1 Attempt all parts. All carry equal marks. Write answer of each part in short.   
 (2x5=10)**

(a) Discuss causal ordering of messages with a suitable example.

(b) Differentiate between Token and Non-Token based algorithms.

(c) Distinguish between resource and communication deadlock.

(d) Explain advantage and disadvantage of distributed system.

(e) Clarify global state? Explain different types of global state.

**SECTION-B**

**Note: Attempt any five questions from this section. (5x5=25)**

**Q.2** Clarify Deadlock handling strategies in Distributed System.

**Q.3** Explain Birman- Schiper- Stephenson Protocol with its application.

**Q.4** What are the various challenges in Distributed System.

**Q.5** Discuss the following (i) Vector Clock (ii) Centralized systems.

**Q.6** Why do we use distributed system? Explain the inherent limitation of distributed system.

**Q.7** Inspect the application of termination detection. Also explain Huang’s Termination Detection Algorithm.

**Q.8**  Elaborate the necessary conditions for the occurrence of deadlock in distributed system? Describe the deadlock handling strategies in distributed system.

**Q.9.** Illustrate the example of Distributed Systems.

S**ECTION-C**

**Note: Attempt any two questions from this section. (7.5x2=15)**

**Q.10** What is lamport’s logical clock? Explain the limitation of lamport’s logical clock. What could be the impact of these limitations.

**Q.11** Inspect system architecture of distributed system. Define mobile code and mobile agent.

**Q.12** Illustrate mutual exclusion in distributed system. Explain performance measures used for evaluating mutual exclusion algorithm.