

**Time: 3 hours**

**Max. Marks: 80**

1. Question No. 1 is Compulsory
2. Attempt any 3 questions from Q.2 to Q.6. Each question carries 20 marks.

- Q.1**
- a. Define Saas, Paas and Iaas along with their relative benefits. **5**
  - b. What are election algorithms? Explain any one. **5**
  - c. Name the various clock synchronization algorithms. Describe any one algorithm. **5**
  - d. What is RPC? Explain the RPC execution mechanism **5**
- Q.2**
- a. Discuss the issues in designing and implementing DSM systems. **10**
  - b. What is process management? Explain features of good process migration **10**
- Q.3**
- a. What are physical and logical clock synchronization, explain the drifting of a clock. **10**
  - b. What is group communication? Explain in detail Message ordering techniques (Absolute, consistent and casual ordering) **10**
- Q.4**
- a. Explain cloud computing and various types of the same. **10**
  - b. What are the Load Balancing transfer policies used for distributed systems? **10**
- Q.5**
- a. What are the issues in data security in cloud computing? **10**
  - b. What are threads? How are they different from process? Explain the various thread models. **10**
- Q.6 Write a short note on:** **20**
- a. Mutual Exclusion
  - b. Advantages of Cloud
  - c. Pipeline Thread Model
  - d. Callback RPC

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