

Time: 3 Hours

Marks: 80

- N.B.** 1. Question no.1 is compulsory.  
 2. Attempt any 3 questions out of remaining 5 questions.  
 3. Figures to the right indicate full marks.  
 4. Assume suitable data wherever necessary.

- Q.1** a) Compare NOS and DOS [5]  
 b) What is CORBA and explain types of method invocation in CORBA. [5]  
 c) What are Roles in EJB? [5]  
 d) Explain Service Oriented Architecture (SOA) lifecycle with a diagram. [5]
- Q.2** a) Define Happened- Before Relationship. Explain implementation of logical clocks with an example. [10]  
 b) Describe various transparencies in distributed system. [10]
- Q.3** a) Explain migration in Heterogeneous system. [10]  
 b) Describe the need for coordinator in distributed system. Demonstrate the working of Election algorithm. [10]
- Q.4** a) Describe desirable features of a good message passing system. [10]  
 b) Describe different distributed computing models. [10]
- Q.5** a) Explain client centric consistency model in distributed system. [10]  
 b) Explain need of deadlock detection algorithm. Explain probe based distributed deadlock detection algorithm [10]
- Q.6** Write short note on (Any two) [20]  
 a) Group communication  
 b) .NET architecture  
 c) RMI Execution