

(3 Hours)

[Total Marks: 80]

N.B.

- (1) Question No.1 is **compulsory**; solve any **three** questions from **remaining** questions.
- (2) **All** questions carry **equal** marks.
- (3) Specify your answers with neat **diagrams** and **examples** wherever **necessary**.

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| 1 | <ul style="list-style-type: none"> a Explain what is callback RPC. b Components of EJB framework. c Explain Message Buffering in IPC. d Group communication. | <ul style="list-style-type: none"> 05 05 05 05 |
| 2 | <ul style="list-style-type: none"> a What is a thread and advantages of using them? What are different models for organizing threads? b What are the reasons for migration of code? Explain the various models for code migration? | <ul style="list-style-type: none"> 10 10 |
| 3 | <ul style="list-style-type: none"> a Define Happened- Before Relationship. Explain implementation of logical clocks with an example. b Explain SOA lifecycle with diagram. Also state the advantages of SOA. | <ul style="list-style-type: none"> 10 10 |
| 4 | <ul style="list-style-type: none"> a Explain with respect to EJB- Roles in EJB and types of Beans. b What is Mutual Exclusion? Explain Distributed Mutual Exclusion algorithm. | <ul style="list-style-type: none"> 10 10 |
| 5 | <ul style="list-style-type: none"> a Explain RPC Communication Protocol b Describe the different approaches for deadlock detection in a distributed computing system. | <ul style="list-style-type: none"> 10 10 |
| 6 | <p>Write short notes on (Any Four)</p> <ul style="list-style-type: none"> a RMI Execution b Compare NOS and DOS c Distributed protocols d CORBA Components e Compare Stateful and Stateless server implementations | <ul style="list-style-type: none"> 20 |
