Total No. of Questions : 12]

SEAT No. :

P3227

[Total No. of Pages : 2

B.E. (COMPUTER ENGINEERING)
Distributed Systems
(2003 Pattern) (Elective - II)

Time : 3 Hours] *[Max. Marks : 100*

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate answer books.***
2) ***Answer any three questions from each section.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***
5) ***Assume suitable data if necessary.***

SECTION - I

Q1) a) Explain what is transparency with example. **[6]**

b) What are different scaling techniques in Distributed systems? **[6]**

c) Explain in detail middleware models and services provided by middleware. **[6]**

OR

Q2) a) Explain different levels in Client server application with suitable example. **[8]**

b) Compare between Distributed OS and Network OS. **[6]**

c) Differentiate between migration transparency and relocation transparency. **[4]**

Q3) a) Explain different forms of communication in message oriented communication. **[8]**

b) Explain in detail RMI Mechanism with example. **[8]**

OR

Q4) a) Explain in details token bucket algorithm. **[8]**

b) Explain RPC mechanism in details with the diagram. **[8]**

P.T.O.

Q5) a) Compare following distributed file systems: NFS and CODA [8]

b) Explain what is DNS and name resolution techniques in DNS. [8]

OR

Q6) a) Explain with neat diagram how local and remote file systems are accessible on an NFS Client. [8]

b) Explain organization of Coda file system in detail. [8]

SECTION - II

Q7) a) Write Berkeley algorithm for clock synchronization. Explain it with suitable example. [6]

b) Compare between Ring and Bully election algorithms. [6]

c) Explain Ricart and Agarwala's algorithm for Mutual exclusion. [6]

OR

Q8) a) Explain how nested transactions are different from distributed transactions. [6]

b) Explain how events can be ordered using happens before relation. [6]

c) Compare Centralized, Distributed and token ring Algorithms for mutual exclusion. [6]

Q9) a) Explain different classes of failures that can occur in RPC system. [8]

b) Explain what is n-army problem with possible solution? [8]

OR

*Q10)*a) Explain principle of virtual synchronous multicast with suitable diagram. [8]

b) Explain in detail how reliable group communication is achieved. [8]

*Q11)*a) Explain types of GRID with suitable example. [8]

b) Explain in details the architecture of CORBA. [8]

OR

*Q12)*a) Write short notes on [8]

i) Grid Computing

ii) Cluster Computing

b) Explain in detail object invocation models supported in CORBA. [8]