Total No. of Questions : 12]

SEAT No. :

P3416

[Total No. of Pages : 3

[4959]-191
B.E.(Information Technology)
DISTRIBUTED SYSTEM
(2008Course) (Semester-II)

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

Instructions to the candidates:

1) ***Answers to the two sections should be written in separate answer books.***
2) ***Answer Q1 or Q2, Q3 or Q4,Q,5 or Q6 from sectin-I and Q7or Q8,Q9 or Q10,Q11 or Q12 from section-II***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right side indicate full marks.***
5) ***Use of Calculator is allowed.***
6) ***Assume suitable data, if necessary.***

SECTION-I

Q1) a) What is a Distributed System? What are the goals of it? **[9]**

b) Describe various types of failures? Describe failure model in detail. **[9]**

OR

Q2) a) Explain following with respect to Distributed System: **[10]**

i) Layered Architecture

ii) Object-based Architecture.

iii) Data-centered Architecture.

iv) Event - based Architecture

b) Describe the key characteristics that are primarily responsible for the usefulness of Distributed system **[8]**

Q3) a) Define socket? What is the difference between connection-oriented socket and connection-less socket? **[8]**

b) Explain the issues of transparency in Distributed system. Describe various transparencies in detail. **[8]**

OR

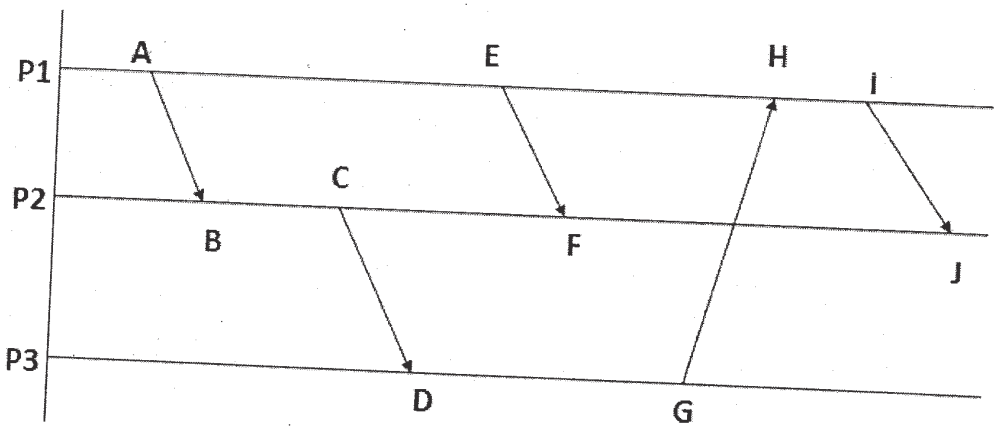
P.T.O.

Q4) a) Compare local method invocation and remote method invocation. Explain the role of proxy and skeleton in remote method invocation in detail. **[8]**

b) What is a stub? How stub are generated? Explain how the use of sutb helps in making an RPC mechanism transparent. **[8]**

Q5) a) Explain network time protocol to distribute time information over Internet. **[8]**

b) Solve following timing diagram with Vector Time-stamp method. **[8]**



OR

Q6) a) How happened before relationship is useful in ordering of the events. Explain it with one example. **[8]**

b) What is a state? Define global state. Explain consistent cut and inconsistent cut with suitable example. **[8]**

SECTION-II

Q7) a) Explain Network File System Architecture with a diagram in detail. **[8]**

b) Write a short note on **[8]**

i) CODA File System

ii) X. 500 directory service

OR

Q8) a) How synchronization and naming is provided in NFS? **[8]**

b) What are the characteristics of a good distributed system? **[8]**

Q9) a) Suppose that two variable A and B both accidently are located on the same page of a page-based DSM system. However, both of them are not shared. Is false sharing possible with this scenario? **[8]**

b) What is replication in DSM? What are the advantages of it. **[8]**

OR

Q10)a) Explain following consistency models in detail. **[8]**

i) Release consistency model

ii) Casual consistency model

b) Explain different approaches for replication management. **[8]**

Q11) a) What is failure masking? How replication is used to mask the failures? **[8]**

b) Why commit protocols are required? Explain 2 phase Commit and 3 phase Commit Protocol with their differences. **[10]**

OR

Q12) a) What is difference between independent checking point and coordinated check pointing? **[8]**

b) What is multicasting ? Explain basic multicasting? How it can be scalable? **[10]**