

DEC-2018

SEAT No. :
[Total No. of Pages : 2]

[5461]-598

B.E. (Computer Engineering)

DISTRIBUTED SYSTEMS

15 Pattern) (End Sem.) (Semester- I) (410245 A) (Elective - II)

[Max. Marks : 70]

Answers to the candidates:
Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, and Q9 or Q10.
Figures to the right indicate full marks.
Neat diagrams must be drawn wherever necessary.
Assume suitable data if necessary.

Explain what is middleware and its need in distributed system. [5]
Explain the openness of distributed system in detail. [5]

OR

Explain the uses of RMI mechanism for inter-process communication in distributed system. [5]
What is vector clock? How vector clock can be implemented in brief. [5]

Explain the following terms. [6]

- i) Drift rate
 - ii) Clock skew
 - iii) Resynchronization interval
- Explain in detail ring algorithm. [4]

OR

What is global state of distributed system with example? [5]
Write short note on detection of communication deadlock. [5]

P.T.O.

Q5) a) What is distributed consensus? Explain the consensus in asynchronous system. [8]
b) What is failure detector? Explain the basic properties of failure detector. [8]

OR

Q6) a) Explain different methods to recover from the failure. [8]
b) Explain the requirements of atomic commitment problem. How atomic commit protocol can be implemented by two phase commit? [8]

Q7) a) Write a short note on IP multicast. [6]
b) What is ordered multicast? Explain any two types. [6]
c) Write a short note on open groups for group communication. [6]

OR

Q8) a) Explain data centric strict consistency model. [6]
b) Explain with example quorum based protocol. [6]
c) Explain in brief Brewer's CAP algorithm. [6]

Q9) a) Explain in detail challenges for distributed simulation. [8]
b) Explain the different types of attacks possible in distributed system. [8]

OR

Q10) a) What are major requirements in security? Explain the mechanisms used to meet security requirements. [8]
b) Explain what is peer-to-peer network with suitable examples. [8]

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