

B.E. (Computer Engineering) Eighth Semester (C.B.S.)
Distributed Systems & Grid Computing

P. Pages : 2

Time : Three Hours



NRJ/KW/17/4767

Max. Marks : 80

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- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Due credit will be given to neatness and adequate dimensions.
 9. Assume suitable data whenever necessary.
 10. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Explain the following with respect to distributed system. 8
- i) Transparency
 - ii) Scalability
 - iii) Security
 - iv) Resource Management
- b) Write advantages of distributed system over traditional time-sharing systems. 6

OR

2. a) Discuss the issues in design of distributed systems. 8
- b) Discuss limitations of distributed system. 6
3. a) Explain vector clock algorithm. How it overcomes limitations in Lamport's clock algorithm? 7
- b) Write short notes on. 6
- i) Local and Global state.
 - ii) Causal Ordering of messages.

OR

4. a) Discuss Suzuki Kasami's token based algorithm in distributed system. 7
- b) Is it possible to synchronize all the clocks in a distributed system? Justify the answer. 6

- 5. a) Explain the architecture of Distributed file system. 7
- b) Discuss design issues involved in Distributed file system. 6

OR

- 6. a) Discuss Distributed shared Memory architecture. 7
- b) Draw and explain architecture of CORBA. 6
- 7. a) List and explain types of grid. 8
- b) Write short note on grid computing. 6

OR

- 8. a) Explain grid computing models. 7
- b) Enlist and explain application of grid computing. 7
- 9. a) Write short notes on. 6
 - i) Datatypes in MPI.
 - ii) Basic routines (functions) in MPI.
 - iii) Group communicator.
- b) Discuss error handling in MPI. 7

OR

- 10. a) Explain in detail blocking and non blocking message passing operation. 7
- b) Write short note on MPI. 6
- 11. a) Elaborate anatomy of cloud computing. 7
- b) Explain deployment models of cloud computing. 6

OR

- 12. a) Discuss organizational scenarios in cloud computing. What are the benefits and limitations of cloud in business model? 8
- b) Discuss applications of cloud computing. 5
