

R13

Code No: 126AP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, December - 2017

DISTRIBUTED SYSTEMS

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 75

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A**(25 Marks)**

- 1.a) What are the different challenges of distributed system? [2]
- b) Describe about distributed multimedia systems. [3]
- c) Write about Distributed debugging. [2]
- d) What are the problems that are associated with the coordination and agreement in distributed systems? [3]
- e) What is Inter process communication? [2]
- f) What is meant by group communication? [3]
- g) Define Distributed File system. [2]
- h) Write about sequential consistency. [3]
- i) Write rules for connecting of nested transaction. [2]
- j) Write about active and passive replications. [3]

PART - B**(50 Marks)**

- 2.a) Describe the distributed computing as utility.
 - b) What are the different benefits of resource sharing? Explain about its significance? [5+5]
- OR**
- 3.a) What are the different system model of distributed system?
 - b) Discuss how distributed systems are more scalable than the centralized systems? [5+5]
- 4.a) What are the features required for election algorithms.
 - b) Explain how election is done when any particular system crashes? [5+5]
- OR**
- 5.a) Write about bully algorithm and summarize how it is different from other election algorithms.
 - b) What is meant by event ordering? Explain real time ordering of events. [5+5]

6.a) What meant by marshallling? Differentiate between TCP stream communication and Client Server Communication.

b) Discuss about the communication between distributed objects in RMI. [5+5]

OR

7.a) What is meant by inter process communication? How inter process communication is used in distributed systems?

b) What are design issues for remote method invocation? [5+5]

8.a) Explain in brief about directory and discovery services.

b) Discuss the design and implementation issues of Domain Name System. [5+5]

OR

9.a) Discuss in detail about Munin.

b) List the characteristics of file systems. [5+5]

10.a) Explain with an example how two transactions are interleaved which are serially equivalent at each server but is not serially equivalent globally?

b) Explain how distributed deadlocks can be detected? [5+5]

OR

11.a) What is meant by concurrency control? How it is important in distributed systems?

b) Explain how primary-backup model of replication is fault tolerant? [5+5]

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