

R15

Code No: 126ZP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, April - 2018

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) Define and explain about the distributed systems. [2]
- b) What is mean by resource sharing? Explain. [3]
- c) Present a note on external synchronization. [2]
- d) Write about election algorithm. [3]
- e) Differentiate unicast and multicast communication. [2]
- f) Write a short note on group communication. [3]
- g) Discuss about distributed shared memory. [2]
- h) What are the requirements of the distributed file systems? [3]
- i) What is deadlock? Explain. [2]
- j) Write about two phase locking. [3]

PART - B

(50 Marks)

- 2.a) Explain about architectural elements.
 - b) Write a short notes on characteristics of distributed systems. [5+5]
- OR**
3. Explain in brief about system models of distributed systems. [10]
- 4.a) Discuss about distributed mutual exclusion.
 - b) Discuss about consensus and related problems. [5+5]
- OR**
- 5.a) Explain about clocks, events and process states.
 - b) Discuss about global states. [5+5]
- 6.a) Discuss about the API for the Internet protocols.
 - b) Explain about IPC in UNIX. [5+5]
- OR**
- 7.a) Discuss about communication between distributed objects.
 - b) What is a Remote Procedure Call(RPC)? Explain. [5+5]

- 8.a) Explain about Andrew file system.
b) Explain about design and implementation issues of distributed shared memory. [5+5]

OR

9. Explain the following.
a) Directory services.
b) Release consistency in distributed shared memory. [5+5]

- 10.a) What is mean by atomic commit protocols? Explain.
b) Discuss about timestamp ordering. [5+5]

OR

- 11.a) Discuss about concurrency control in distributed transactions.
b) Explain about flat and nested distributed transactions. [5+5]

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