

Code No: 5258AC

R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M. Tech I Semester Examinations, February - 2017

DISTRIBUTED SYSTEMS

(Computer Science and Engineering)

Time: 3hrs

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

5 × 5 Marks = 25

- 1.a) Discuss how distributed system is more scalable than the centralized systems. [5]
- b) Explain file service architecture in detail. [5]
- c) Explain Synchronizing physical clocks. [5]
- d) Write a brief note on locks and its types. [5]
- e) Write an overview of security techniques. [5]

PART - B

5 × 10 Marks = 50

- 2.a) Differentiate between centralized system and the distributed system with a suitable example.
- b) Discuss the applications of distributed systems. [5+5]

OR

- 3.a) Give some reasons why centralized system are not adequate to modern computing.
- b) Discuss the challenges of the distributed systems with their example. [5+5]

- 4.a) List the difference between global name service and x.500 directory service.
- b) Explain name service and the domain name system. [5+5]

OR

- 5.a) Explain distributed file system with any two examples.
- b) Give an overview of Global Name Service. [5+5]

- 6.a) Briefly discuss the types of the election algorithm with a neat sketch.
- b) Explain distributed mutual exclusion. [5+5]

OR

- 7.a) Explain the logical clocks and logical time.
- b) Explain different kinds of problems that are associated with the coordination and agreement in distributed systems. [5+5]

- 8.a) Explain two-phase commit protocol.
- b) Write a brief note on nested transactions. [5+5]

OR

- 9.a) Explain optimistic concurrency control protocol.
- b) Explain about Distributed deadlocks in detail. [5+5]

- 10.a) Illustrate with an example sequential consistency.
- b) Explain 802.11 Wi-Fi. [5+5]

OR

- 11.a) Explain cryptographic algorithms.
- b) What is digital Signature and explain how digital signature is generated. [5+5]