

R13

Code No: 126AP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, May - 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) Give an example of a URL. [2]
- b) Distinguish between buffering and caching. [3]
- c) Write a short notes on elections. [2]
- d) Write a formula for the maximum throughput of a mutual exclusion system in terms of the synchronization delay. [3]
- e) Why is there no explicit data typing in CORBA CDR? [2]
- f) Is it conceivably useful for a port to have several receivers? [3]
- g) How does AFS deal with the risk that callback messages may be lost? [2]
- h) Which other name server addresses do DNS name servers hold by default, and why? [3]
- i) List the types of entry in a recovery file. [2]
- j) Give a brief note on nested transactions. [3]

PART - B

(50 Marks)

- 2.a) Illustrate the client server architecture of one or more major internet applications.
- b) List the types of local resource that are vulnerable to an attack by an untrusted program that is downloaded from a remote site and run in a local computer. [5+5]

OR

- 3.a) Describe possible occurrence of each of the main types of security threat that might occur in the internet.
- b) Give a brief note on web servers and web browsers. [5+5]
4. Explain how to adapt the causally ordered multicast protocol to handle overlapping groups. [10]

OR

- 5.a) Write a short note on clocks, events and process states.
- b) Give an example execution of the ring based algorithm to show that processes are not necessarily granted entry to the critical section in happened before order. [5+5]

6. Briefly explain the external data representation and marshalling. [10]

OR

7. Describe a scenario in which a client could receive a reply from an earlier call. [10]

8. Explain why iterative navigation is necessary in a name service and indicate how, if at all, these may be overcome. [10]

OR

9. Discuss the whether message passing or DSM is preferable for fault tolerant applications. [10]

10.a) Give a brief note on distributed deadlocks.

b) Discuss the optimistic concurrency control. [5+5]

OR

11. Describe how a non-recoverable situation could arise if write locks are released after the last operation of transaction but before its commitment. [10]

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