Code No: 126AP

R13

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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