IT-801

B. E. (Eighth Semester) EXAMINATION, June, 2010

DISTRIBUTED SYSTEMS (IT-801)

Time : Three Hours Maximum Marks : 100 Minimum Pass Marks : 35

Note : Attempt any five questions. All questions carry equal marks.

1. (a) Differentiate between a distributed operating system and a network operating system.

(b) Describe how can atomic broadcast be used to manage group membership.

2. (a) What is the probability that a totality garbled ATM header will be accepted as being correct ?

(b) Suppose that the time to do a null RPC is 1 - 0 msec, with an additional 1-5 msec for every IK of data. How long does it take to read 32 k from the file server in a single 32 k RPC ? How about as 32 lk RPC's ?

3. (a) A process with transaction time stamp 50.needs a resource held by a process with transaction time stamp 100. What happens in :

(i) Wait-die ?

(ii) Wound-wait ?

(b) Suppose that two processes detect the demise of the coordinator simultaneously and both decide to hold an election using the bully algorithm. What happens ? Discuss ?

4. (a) Differentiate between fail-silent faults and Byzantine faults.

(b) Explain the design issues for processor allocation algorithms.

5. (a) Why do stateless servers have to include a file offset in each request ? Is this also needed for stateful servers ?

(b) List the properties that immutable files possess. Why some distributed systems use two-level naming ?

6. (a) Differentiate between strict consistency and sequential consistency models.

(b) Why is the concept of "home memory" needed in Memnet but not in Dash ?

7. (a) A Mach thread creates two new threads as its children, A and B. Thread A does a 'detach' call ; B does not. Both threads exit and' the parent does a 'joint'. What happens ?

(b) Explain client-to-server binding in DCE.

8. Write short notes on any two of the following :

(a) Real time distributed systems

(b) Object based distributed shared memory

(c) The bully algorithm