

M.Sc. Examination 2018
Semester-II
Computer Science
Course : MCSC-23
(Distributed Systems)

Time : 3 Hours

Full Marks : 40

Questions are of value as indicated in the margin

Answer Question No.1 and **any four** from the rest

1. a) Illustrate Token ring algorithm using an example.
b) What is the difference between the stateful and stateless server.
c) A multicomputer with 256 CPUs is organized as 16 X 16 grid. What is the worst case delay (in hops) that a message might have to take? 3+2+3=8
 2. a) What are the types of documents we can have in a standard distributed document-based system?
b) Create an HTML page with the help of applet which contains a textfield and a button. The button click will take the text from the textfield and shows it in the screen. 5+3=8
 3. a) Differentiate between the followings :
i) Distributed OS and network OS ii) Fault and error
b) Briefly describe Modern client-server architecture 4+4=8
 4. a) What are the types of failures that can occur in RPC? Briefly describe what steps can be taken when client crashes in RPC?
b) What is "Door" in RPC and how does it work? (3+2)+3
 5. Sketch and write program of a multithreaded server that supports multiple connections using sockets as it's transport level interface to the underlying OS. 8
 6. a) Would it make sense to limit the number of worker threads in a server process?
b) Is a server that maintain TCP/IP connection state-full or stateless?
c) What is the structure of file handle in NFS version 3?
d) What is scalability in distributed system? 2+2+2+2=8
 7. Write short notes on the followings :
a) Coda file system
b) Code migration in heterogeneous system 4+4=8
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