M.Sc. Semester-II Examination 2017
Computer Science
Course : MCSC-23
(Distributed Systems)

Time : 3 Hours **Full Marks : 40**

Questions are of value as indicated in the margin

Answer question number **1** and **any four** from the rest

1. (a) Differentiate between the following :
   (i) Weak mobility and strong mobility
   (ii) Transient fault and intermittent fault
   (b) What is Stub and why they are needed in Remote Procedure Calls? (2+2)+4=8

2. (a) Write a program for echo server.
   (b) What is stateful and stateless servers? 6+2=8

3. (a) Briefly describe GFS architecture. Why NFS is not suitable for "google"?
   (b) What is the difference between Reliability and Safety? (4+2)+2=8

4. (a) What is an object adapter? Explain the working procedure of an object adapter.
   (b) Briefly describe one non-hierarchical reliable multicasting scheme. (2+3)+3=8

5. How Applet is related to weak mobility? Write an Applet to find the LCM of two given number. 2+6=8

6. (a) Briefly describe Agarwal's algorithm in the context of synchronization. Compare its performance with that of the centralized algorithms.
   (b) What are the types of document we can have in a standard distributed document-based system? (4+2)+2=8

7. Write short notes on the following :
   (i) NFS
   (ii) Lamport logical clock and its utility 4+4=8

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