M.Sc. 1st Semester Examination, 2013

COMPUTER SCIENCE

(Distributed OS)

PAPER – COS-103

Full Marks : 50

Time : 2 hours

Answer any four questions

The figures in the right hand margin indicate marks

1. (a) What is multicomputer and multiprocessor system?

(b) Explain Bus-based multicomputer and Bus-based multiprocessor system.

(c) In Omega switching Network for $n$ cpu's and $n$ memories, how many switching are needed? $4 + 5 + 1$

(Turn Over)
2. (a) What is ISO-OSI Model?
   
   (b) Name the different layers in ISO-OSI Model and explain any three layers with their functionality.
   
   (c) What is Mounting?  

3. (a) What is process migration? Write down the steps of process migration.
   
   (b) Explain the DSM system architecture.
   
   (c) Write down the differences between message passing and DSM.  

4. (a) Describe the token-ring algorithm to achieving mutual exclusion in a distributed system.
   
   (b) What do you mean by Happened-before relation? How it is applied to synchronize logical clock?  

5. (a) What is thread?
(b) What are the differences between process and thread?

(c) What is Kernel level thread and User-level thread?

(d) What is Light-weight process? 1 + 3 + 4 + 2

6. Write down short notes on any two:

(i) Remote Procedure Cell

(ii) Asynchronous Transfer Model

(iii) Middleware

(iv) Client-server Model.

[Internal Assessment – 10 Marks]