PG/IS/COS-103/13

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

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 ? 2 + 6 + 2

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. (2 + 2) + 4 + 2

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 ? 4 + (2 + 4)

5. (*a*) What is thread ?

(*b*) What are the differences between process and thread ?

(*c*) What is Kernet level thread and User-level thread ?

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

6. Write down short notes on any *two* : 5 × 2

(*i*) Remote Procedure Cell

(*ii*) Asynchronous Transfer Model

(*iii*) Middleware

(*iv*) Client-server Model.

[*Internal Assessment* – 10 Marks]