Total No. of Questions :5] *[Total No. of Printed Pages :2*

Roll No.....

MCA-505(A)

MCA. V Semester

Examination, December 2016

Distributed Systems

(Elective - III)

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max.50 words) carry 2 marks, part C (Max.100 words) carry 3 marks, part D (Max.400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Discuss the goals of distributed systems.
   b) Discuss the concept of chart server model.
   c) What is RPC? Discuss the importance of remote procedure call.
   d) Explain different types of distributed systems.

OR

Discuss briefly by challenges that one need to address in the design and development of distributed applications.

Unit - II

2. a) What is Thread? Differentiate between process and threads.
   b) Discuss the need, advantages and disadvantages of code migration.
   c) What is Clock synchronization? Differentiate between physical and logical clocks.
   d) Explain briefly and ring algorithms with the help of suitable examples.

OR

Briefly describe the following:
i) Mutual exclusion
ii) Distributed transactions

Unit - III

3. a) What is KERBEROS? Briefly explain.
   b) Define fault tolerance.
   c) Discuss cryptography in brief.
   d) Explain various consistency models in details.

OR

Define the following terms Public key, Private key, Session key, symmetric key and explain with the help of a block diagram how authentication takes place in KERBEROS.

Unit - IV

4. a) What is Distributed objects? Discuss.
   b) Discuss distributed COM.
   c) Differentiate static and dynamic RMI.
   d) Discuss the goal and design issues of distributed file systems.

OR

Discuss the object model of CORBA and also discuss the services provided by CORBA system.

Unit - V

5. a) Discuss Java RMI in brief.
   b) Write short notes on JINI.
   c) What is Orbix? Explain.
   d) Explain distributed shared memory. Explain the principal operations of a page-based DSM systems.

OR

What is Distributed document base system? Also explain distributed co-ordination based systems.

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