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Total No. of Pages : 02

Total No. of Questions : 08

M.Tech.(CSE Engg.) / (E-Security) (Sem.-2) DISTRIBUTED SYSTEMS Subject Code : CS-504 M.Code : 35405

Time: 3 Hrs.

Max. Marks: 100

INSTRUCTION TO CANDIDATES :

- 1. Attempt any FIVE questions out of EIGHT questions.
- 2. Each question carries TWENTY marks.
- Q1) a) What is Distributed Computing? Describe the architectural model along with description of its major components.
 - b) Describe client-server communication and group communication. Also, mention their advantages and disadvantages.
- Q2) a) Define Remote Invocation. Briefly discuss about communication between distributed objects using RPC.
 - b) Take an example Java RM1 code and explain the concept of events and notification.
- Q3) a) Discuss in detail the operating system architecture and measurements of protection in different layers.
 - b) Describe the distributed file service architecture and explain the tradeoff between Sun network file system and Andrew file system.
- Q4) a) Outline the concept of global name service. Also, discuss the related directory and discovery services.
 - b) Mention the step-by-step working of time-stamped concurrency control method for distributed transactions.
- Q5) a) Compare and contrast the methods of concurrency control in distributed transactions.
 - b) Briefly discuss the characteristics and features of Tiger video file server.



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- Q6) Elaborate the following in the context of Distributed Multimedia systems :
 - a) Resource management
 - b) Stream adaptation
- Q7) a) Explain in detail the design and implementation issues of distributed shared memory. Also, discuss about Munin.
 - b) Define the interface to the election service in CORBA IDL. Also, discuss about sequential consistency.
- Q8) Write short notes on following :
 - a) Optimistic concurrency control.
 - b) Distributed deadlocks.

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NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.