Code No: **RT42051** **R13** **Set No. 1**

IV B.Tech II Semester Supplementary Examinations, July/August - 2017

DISTRIBUTED SYSTEMS

(Common to Computer Science & Engineering and Information Technology)

Time: 3 hours **Max. Marks: 70**

Question paper consists of Part-A and Part-B

Answer ALL sub questions from Part-A

Answer any THREE questions from Part-B

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PART–A *(22 Marks)*

1. a) Define distributed systems? List the examples of distributed systems? [3]
   b) Write about the characteristics of protocols in a distributed system? [4]
   c) Give the programming models for distributed communications? [4]
   d) Differentiate between Process and Thread? [3]
   e) Explain the requirements of distributed file system? [4]
   f) Draw the transaction system architecture in distributed systems? [4]

PART–B *(3x16 = 48 Marks)*

2. a) Discuss various issues and challenges involved in the implementation of Distributed Systems. [8]
   b) What are the significant factors affecting the interacting processes in a Distributed System? How the interaction model deals with the difficulty of setting time limits in a Distributed System? Explain. [8]

3. a) List and Explain the various socket primitives used in TCP stream communication. [8]
   b) What is meant by Multicast transmission in Distributed Systems? Explain some of the important applications of Multicast Transmission in Distributed systems. [8]

4. a) With a neat sketch, Explain the implementation of Remote Method Invocation. [8]
   b) Why distributed garbage collection is important? Explain the Distributed garbage collector algorithm. [8]

5. a) Explain the general architecture of operating systems for Distributed Systems. [8]
   b) What is an Execution environment? Explain in detail about the process execution environment. [8]

6. a) Explain the main tasks of Routing Overlays. [8]
   b) What are the requirements for Distributed Mutual Exclusion? Explain any one mutual exclusion algorithm in Distributed systems. [8]

7. a) Explain about the requirements for replicated data. [4]
   b) With a neat diagram, explain the basic architectural model for the management of Replicated data. [8]
   c) Write the importance of concurrency control in distributed systems. [4]