

**Exam. Code : 208601**

**Subject Code : 4695**

**M.Sc. (IT) Semester—I**  
**DISTRIBUTED COMPUTING**  
**Paper—MIT-102**

Time Allowed—3 Hours] [Maximum Marks—100

**Note :—** Attempt any **five** questions. All questions carry equal marks.

1. What are various hardware and software issues of distributed systems ? Explain them in detail. 20
2. (a) Explain RPC by taking an example. 10  
(b) What are main objectives of distributed systems ? Explain. 10
3. (a) Explain the concept of mutual exclusion in distributed systems. 10  
(b) Discuss the role of logical clocks and physical clocks in synchronization. 10
4. What is Thread Synchronization ? Explain the implementation issues of Threads in distributed systems. 20
5. (a) What are the exceptions in Client Server and RPC models ? 10  
(b) Discuss the concept of Marshalling. 10

6. (a) Compare Client Server and Peer-to-Peer. 10  
(b) Differentiate between multicast and atomic broadcast. 10
7. (a) What is the concept of Naming and Location transparency in distributed file systems ? 10  
(b) Explain DSM architecture in detail. 10
8. Write short notes on the following :  
(a) Cryptography 10  
(b) Cache Coherence. 10