M.Sc. I.T. 1st Semester

MIT-102 : DISTRIBUTED COMPUTING

Time Allowed—3 Hours]   [Maximum Marks—100

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

1. What are various layered protocols used for communication in distributed systems ? Explain them in detail.   20

2. (a) Explain group communication by taking an example.   10

    (b) What are main motivations of distributed systems ? Explain.   10

3. (a) Explain the concept of atomic broadcast in distributed systems.   10

    (b) Discuss the role of distributed consensus in consistency.   10

4. (a) What is meant by election algorithm ? How are election algorithms involved in maintaining coordination among threads ?   10

    (b) Explain distributed system architecture in detail.   10

5. (a) Compare Client Server and RPC models. 10

   (b) Discuss the concept of service replication in group communication. 10

6. (a) Describe the concept of security in distributed file system. 10

   (b) What is meant by location transparency ? Explain. 10

7. (a) What is the concept of cache coherence in distributed file systems ? Explain. 10

   (b) Explain authentication and access control for implementing security in distributed systems. 10

8. Write short notes on the following :

   (a) DSM Architecture 10

   (b) Hardware issues of Distributed Systems. 10

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