

MCA 5th Semester-2020

Distributed Systems (CS 5.5) E-VI

Full Marks–70, Time: 3 Hours
The questions are of equal value.
Answer ALL questions.

1. (a) Explain the working principle of multiprocessor timesharing system, along with its key characteristics.
(b) Explain the architecture of bus-based multiprocessor.

OR

- (a) What is a distributed OS? Explain how it is different from a network OS.
(b) Differentiate between crossbar switch and omega switch multiprocessors.
2. How data communication takes place in OSI model? Write the functions of each of its 7 layers.

OR

Discuss the following design issues for a distributed system.

- (a) Transparency.
(b) Flexibility.
3. (a) Explain the functions of ATM layer in ATM network.
(b) Explain how ATM switching works in ATM network.

OR

What is Asynchronous Transfer Mode network? Explain its working principle. Write its advantages and limitations.

4. (a) Explain different schemes that can be used for addressing processes in a client-server model.
(b) Differentiate between reliable versus unreliable primitives used in client-server model.

OR

- (a) What is client-server model? How does it work?
(b) Differentiate between buffered versus unbuffered primitives used in client-server model.
5. Discuss the RPC semantics in the presence of five different classes of failures that can occur in RPC.

OR

- (a) Write the significance of group communication? Differentiate between Peer versus Hierarchical groups.
(b) Explain the significance of message ordering in group communication with an example.