63/2 (SEM-4) MCA 4·5

2023

MCA

(Theory Paper)

Paper Code : MCA 4·5

(Distributed System)

Full Marks – 75

Pass Marks – 30

Time – Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer the following questions :   2×5=10

   (a) What is groupware ?

   (b) What is access point ?

   (c) Explain cross-bar switch ?

   (d) What is distributed commit problem ?

   (e) What are the properties of true identifier ?

(f) What is parameter marshaling ?

(g) What is the multiprocessor and multi-computer system ?

2. Answer any *five* of the following questions :

3×5=15

(a) What is homogenous multicomputer system ?

(b) Differentiate between process and thread.

(c) Explain Remote Procedure Call (RPC).

(d) Differentiate between Weak mobility versus Strong mobility.

(e) Explain Persistence and Transient communication.

(f) What are the two reasons of replication of data ?

(g) Difference between synchronous and asynchronous communication ?

3. Answer any *five* of the following questions :

4×5=20

(a) Explain broadcasting and multicasting ?

(b) Why forwarding pointers is used for locating mobile entities ?

(c) What is flat naming ?

(d) Illustrate the architectures for multi-threaded server ?

(e) Explain Names, Identifiers, and Addresses.

(f) Explain Logical Clock and Physical Clock.

(g) What is importance of virtualization in DS ?

4. Explain the following design goals for distributed system with example :   10

(a) Transparency and

(b) Openness.

5. Write in brief about Bully election algorithm. 10

6. Write short notes on any *two* :   5×2=10

(a) Check pointing

(b) Grid computing

(c) Berkley algorithm for clock synchronization.