

(Time: 3 Hours)

Marks: 80

- N.B:** 1) Question **number 1** is compulsory.
2) Attempt **any three** out of the remaining.
3) Assume suitable data if **necessary** and justify the assumptions.
4) Figures to the **right** indicate full marks.

Q 1

- A Enlist the issue in designing the Distributed System? Explain failure transparency & location transparency in detail [5]
B What are the key features of Global Scheduling algorithm. [5]
C Explain Bully algorithm with example [5]
D Explain the various ordered semantics used for Many to Many communication [5]

Q 2

- A Explain Chandy Misra Hass Algorithm [10]
B Desirable features of a good DFS? [10]

Q 3

- A Explain load estimation, process transfer and location policies with respect to load balancing approach in distributed systems. [10]
B Explain Raymond's algorithm for mutual exclusion. [10]

Q 4

- A Explain the goals of distributed systems. [10]
B How Lamport does synchronizes logical clock explain with example? Which events are said to be concurrent in Lamport's timestamp. [10]

Q 5

- A What is fault tolerance? Describe different types of failure models. [10]
B What is RPC? Explain working of RPC in detail [10]

Q 6

- A Discuss the technique to achieve the Process resilience. [10]
B What is need of code migration? Explain the role of process to resource and resource to machine binding in code migration. [10]
