

**Q.P. Code :13890**

**[Time: Three Hours]**

**[ Marks:80]**

Please check whether you have got the right question paper.

- N.B:
1. Question.No.1 is compulsory.
  2. Attempt any 3 questions from the remaining 5 questions.
  3. Draw neat diagrams wherever necessary.

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|-----|----|---|----|
| Q 1 | a) | What are the issues in load distributions?  | 5  |
|     | b) | What are the design issues of Network Operating Systems (NOS)?                      | 5  |
|     | c) | What is local clock? With the help of example explain limitation of logical clock.  | 5  |
|     | d) | What are the distributed deadlock handling strategies? Explain.                     | 5  |
| Q 2 | a) | Describe two phase commit protocol of fault tolerance.                              | 10 |
|     | b) | Explain Distributed Database System. What is the serializability condition in DDBS? | 10 |
| Q 3 | a) | Write a details notes on cloud OS.  | 10 |
|     | b) | Define Real Time System. Explain types of real time task with example.              | 10 |
| Q 4 | a) | Write the Ho-Ramamurthy's centralize deadlock detection algorithm.                  | 10 |
|     | b) | Explain priority inversion in RTOS.   | 10 |
| Q 5 | a) | Write classification of agreement problems in Distributed system.                   | 10 |
|     | b) | Explain Readers-writers synchronization problem in distributed operating system.    | 10 |
| Q 6 | a) | What are the ways of implementing backward error recovery? Explain in detail.       | 10 |
|     | b) | Explain Rate Monotonic scheduling algorithm in RTOS.                                | 10 |
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