

M/E - Comp (choice based): sem-I
Advanced operating systems.

Q.P. Code :13891

[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 | Explain briefly | |
| | a) Requirements of Mutual Exclusion Algorithms. | 5 |
| | b) Design issues of Network Operating System (NOS). | 5 |
| | c) Atomic actions and committing | 5 |
| | d) Concurrency control model of Database Systems. | 5 |
| Q 2 | a) Explain the serializability theorem. What is the serializability conditions for a fully-replicated database system? | 10 |
| | b) Explain recovery in concurrent systems. | 10 |
| Q 3 | a) Explain path-pushing algorithm for distributed deadlock detection. | 10 |
| | b) Explain the symmetrically initiated scheduling algorithm. State the stability of the system with this algorithm. | 10 |
| Q 4 | a) What do you mean real time system? How it is different from traditional system? | 10 |
| | b) Explain the working of EDF and RMA real time scheduling algorithms. | 10 |
| Q 5 | a) Explain Timestamp based and Optimistic Algorithms for concurrency control. | 10 |
| | b) Classify the advanced Operating Systems and explain the salient features of each. | 10 |
| Q 6 | Write details note on the following | 20 |
| | a) Unix as RTOS | |
| | b) PCP | |