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13MCA23

Second Semester MCA Degree Examination, June/July 2017

Operating System

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Explain the different services provided by O.S. (10 Marks)
b. Define system calls. List and explain different types of system calls. (10 Marks)
- 2 a. Explain process control block. (04 Marks)
b. Explain different threading issues. (08 Marks)
c. Explain different scheduling criteria. (08 Marks)
- 3 a. Define critical section. Explain the necessary requirements to satisfy critical section. (06 Marks)
b. With code explain the dining philosophers problem. (06 Marks)
c. Define dead lock. Explain the necessary conditions for a deadlock. (08 Marks)
- 4 a. With proper data structure, explain the operations of Banker's algorithm. (10 Marks)
b. Explain first fit, best fit and worst fit with respect to memory management. (06 Marks)
c. Explain the types of fragmentation. (04 Marks)
- 5 a. Explain paging hardware with TLB. (10 Marks)
b. Explain the steps in handling page fault. (10 Marks)
- 6 a. List and explain different file operations and file attributes. (10 Marks)
b. Explain different directory structures. (10 Marks)
- 7 a. Explain different disk space allocation methods. (10 Marks)
b. Explain SSTF, SCAN and C-SCAN disk scheduling algorithm (10 Marks)
- 8 Write short notes on:
a. Distributed systems
b. Schedulers
c. System program
d. Thrashing (20 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.