

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2064)

14849

MCA 3rd Semester Examination

Operating System (N.S.)

MCA-303

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt any Five questions but select at least 1 question each from Section A, B, C & D. Section E is compulsory.

SECTION - A

1. Explain in detail functioning of Multi Programmed Batch Operating System. (12)
2. Write a note explaining various features of a Distributed Operating System. (12)

SECTION - B

3. Explain various concepts of process synchronization & it's classical problems. (12)
4. Write short notes on following:
 - (i) Deadlock Recovery Mechanism.
 - (ii) Multiple Processor Scheduling (12)

SECTION - C

5. Discuss following memory management techniques.
 - (i) Continuous Allocation
 - (ii) Segmentation with Paging. (12)

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6. Compare and contrast the following file systems.
- (i) Direct/INDEXED Access Methods
 - (ii) Single Level/Tree Directory Structure. (12)

SECTION - D

7. Discuss various Disk Scheduling algorithms like FCFS, SSTF, C-SCAN etc. (12)
8. Discuss general Architecture of UNIX operating system. (12)

SECTION - E

9. Attempt any twelve parts (Each of 1 marks)
- (i) What are operating system services?
 - (ii) Name four P-C (Personal Computer) based O.S. (Operating Systems).
 - (iii) List different types of operating system based on architectural differences.
 - (iv) Give two differences in FCFS and SJF process scheduling.
 - (v) What are semaphores?
 - (vi) Name two techniques for recovery from Deadlock.
 - (vii) Differentiate between logical & physical address space.
 - (viii) List two important aspects related to virtual memory.
 - (ix) Write few lines on Thrashing.
 - (x) List a few important properties of an indexed file structure.
 - (xi) What is Demand Paging?
 - (xii) What are Boot Blocks?
 - (xiii) What is use of Hash Tables?
 - (xiv) Give a UNIX command for DNS setting. (1×12=12)