



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd.u/s 3of UGC Act 1956, Category A by MHRD [now MoE]

Re-accredited with an A++ Grade by NAAC CGPA 3.65/4, Category I by UGC

Coimbatore-641043, Tamil Nadu, India

Continuous Internal Assessment II –April-2025

Semester II

Class: I PG

Major/Branch: Computer Applications

Time: 2 Hours

Max. Marks: 60

23MCAC10 Operating Systems

Course Outcomes:

1. Analyze various process states and apply deadlock recovery measures.
2. Implement mutual exclusion primitives and process Synchronization.
3. Organize and manage storage efficiently.
4. Organize and manage processors effectively.
5. Implement operating system security, protection mechanisms and compare various operating systems.

Part A

6x1 = 6

Choose the Correct Answer

1. The separation of user logical memory and physical memory is referred as CO3K1
a) Memory sharing b. Virtual memory c. Memory management d).Memory control
2. Identify the block mapping method for faster random access to file blocks? CO3K2
a. Linked allocation b. Chained allocation c. Contiguous allocation d. Indexed allocation
3. Which of the following is an example of non-preemptive scheduling? CO4K1
a. Shortest Remaining Time First b. Round Robin c. First-Come First-Served d. Multilevel Queue
4. The structure of Processor interconnection network matches with CO4K1
a. ALU b. Cache memory c. Interrupt controller d. Crossbar switch
5. The algorithm that travels in both directions moving the head back and forth is CO5K1
a. SSTF b. LOOK c. SCAN (Elevator Algorithm) d. C-SCAN
6. One among the best technique to ensure secure communication is CO5K2
a. Paging b. Firewalls c. Data compression d. Cryptography

Part B

3 x 6 = 18

Answer ALL questions

Each answer should not exceed 400 words or two pages

7. a. Elaborate on the virtual storage organization using a neat diagram. CO3K1
(or)
7. b. Highlight on the structure of block mapping. CO3K1
8. a. Explain the scheduling objectives and criteria. CO4K2
(or)
8. b. Discuss on the Multiprocessor operating system with a neat diagram. CO4K1
9. a. Elucidate the file system organization in UNIX. CO5K2
(or)
9. b. Discuss the various techniques used in operating System Security. CO5K3

Part C

3 x 12 = 36

Answer ALL questions

Each answer should not exceed 800 words or four pages

10. a. Explain the concept of Paging in virtual storage organization with example. CO3K2
(or)
10. b. Explain the concept of Segmentation in virtual storage organization with example. CO3K2

11. a. Illustrate on the preemptive and non preemptive scheduling algorithms CO4K2
(or)
11. b. Elaborate on the Processor Interconnection schemes. CO4K2
12. a. Highlight on the evaluation criteria merits and demerits of disk scheduling algorithms. CO5K2
(or)
12. b. Explain any 3 disk scheduling algorithms with suitable examples. CO5K2

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