

CBCS SCHEME

15EC553



Fifth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Operating Systems

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define Operating System. Explain operations of an operating system. (08 Marks)
b. Explain two strategies for resource allocation. (08 Marks)

OR

- 2 a. Explain classes of an operating system. (08 Marks)
b. Explain multiprogramming systems with neat diagram. (08 Marks)

Module-2

- 3 a. Explain process state transitions with a neat diagram of fundamental state transition for a process. (08 Marks)
b. Explain Kernel level threads. (08 Marks)

OR

- 4 a. Explain Round Robin scheduling with time slicing in brief with example. (08 Marks)
b. Explain long, medium and short scheduling in time sharing systems, with diagram. (08 Marks)

Module-3

- 5 a. Give the comparison between contiguous and non-contiguous allocation. (08 Marks)
b. Explain Paging and Segmentation. (08 Marks)

OR

- 6 a. Explain functions performed by the virtual memory handler. (08 Marks)
b. Explain page replacement policies. (08 Marks)

Module-4

- 7 a. Explain file systems and IOCS with layer diagrams also explain facilities provided by file systems and IOCS. (08 Marks)
b. Explain file operations performed by processes. (08 Marks)

OR

- 8 a. Explain allocation of disk space. (08 Marks)
b. Explain file system action at close. (08 Marks)

Module-5

- 9 a. Define message passing. Explain how to implement message passing, with diagram. (08 Marks)
b. Explain mailboxes with advantages. (08 Marks)

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- 10 a. Explain deadlock in Resource allocation. (08 Marks)
b. Explain deadlock prevention. (08 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.