CBCS SCHEME

USN | | | | | | | | | |

15EC553

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

Time: 3 hrs.

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)

OR

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

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