

CBCS SCHEME

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15EC553

Fifth Semester B.E. Degree Examination, Jan./Feb. 2021 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 the functions of an Operation System. (06 Marks)
b. Explain goals of an Operating System, its operations and resource allocation of OS. (10 Marks)

OR

- 2 a. Briefly explain the different classes of Operating System, specifying the primary concern and key concepts used. (10 Marks)
b. Define the following:
i) System call
ii) Turn-around time
iii) Response time. (06 Marks)

Module-2

- 3 a. Define threads. Compare Kernel level threads and user level threads. (08 Marks)
b. Define Process Control Block. Explain the general structure of Process Control Block. (08 Marks)

OR

- 4 a. What do you mean by non preemptive and preemptive scheduling policies? (04 Marks)
b. With one example explain:
i) First Come First Serve scheduling
ii) Round Robin Scheduling. (12 Marks)

Module-3

- 5 a. Compare contiguous and non contiguous memory allocation techniques. (08 Marks)
b. Explain segmentation with paging. (08 Marks)

OR

- 6 a. List the functions performed by virtual memory handler. (07 Marks)
b. With suitable example, explain FIFO and LRU page replacement policies. (09 Marks)

Module-4

- 7 a. With neat diagram, write the logic organization in file system. Also list the facilities provided by the file system and the IOCS. (08 Marks)
b. List and explain two approaches to Non Contiguous disk space allocation. (08 Marks)

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.

OR

- 8 a. With example explain sequential and direct access file organization. (08 Marks)
b. Explain the different operations performed on files. (08 Marks)

Module-5

- 9 a. Explain the inter process communication mechanism in unix Operating System. (08 Marks)
b. Define Mailbox. With an example explain mail box and mention its advantages. (08 Marks)

OR

- 10 a. Define Deadlock. List and explain three events concerning resource allocation to a user process. (08 Marks)
b. Write a note on Dead Lock prevention. (08 Marks)
