

MCA SEMESTER II EXAMINATION 2023

PAPER-MCA 204

OPERATING SYSTEMS

Time: 2 1/2 hours

MM:60

Course outcomes (CO)

- CO1. Discuss Operating Systems. Discuss functions of OS along types of OS and recent concepts of OS.
- CO2. Analyze Process and Process scheduling and its different types. Analyze waiting times for processes
- CO3. Discuss Process Synchronization and its various types. Analyze deadlocks and prevention of deadlocks.
- CO4. To learn the mechanisms involved in Memory management. Analyze page faults and paging/segmentation.
- CO5. Discuss the case study of UNIX and its features. Analyze file system of UNIX.

Section-A

Note: Answer all questions from this section and all carry equal marks (5marks)

Q.N	Questions	CO	BL
1	What do you understand by the term Operating System? Explain the types of operating system.	CO1	L2
2	What do you understand by CPU scheduling? What are the objectives of scheduling.	CO2	L2
3	What are the four necessary conditions for deadlock and how is deadlock avoided?	CO3	L3
4	Explain Optimal page replacement and LRU algorithms for page replacement.	CO4	L4

Section B

Note: Answer any FOUR questions from section B and all carry equal marks(10marks)

Q.N	Questions	CO	BL
1	What do you understand by Virtual memory? Explain the difference between paging and segmentation.	CO4	L3
2	Explain Banker's algorithm for deadlock avoidance.	CO3	L3
3	What are the functions of modern Operating system? Explain briefly.	CO3	L2
4	Consider following Shortest job scheduling scenario: process burst time P1 6 P2 8 P3 7 P4 3 Draw the Gantt chart and calculate average waiting time.	CO2	L5
5	What do you understand by Process? Explain the states of a process with the help of a diagram.	CO4	L3
6	Justify UNIX is a Multi- user and Multi-tasking operating system..	CO3	L2