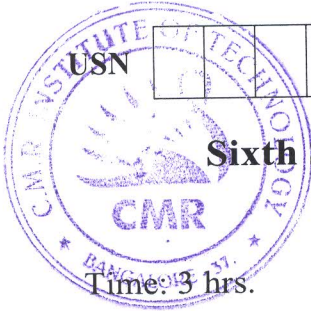


CBCS SCHEME

18EC641



Sixth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Operating System

Max. Marks: 100

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

Module-1

- 1 a. Explain the goals of operating system. (06 Marks)
b. Explain Batch processing system and multiprogramming system of operating system. (14 Marks)

OR

- 2 a. Explain the two popular strategies for Resource allocation. (10 Marks)
b. Explain Time sharing system and Real Time operating system of operating system. (10 Marks)

Module-2

- 3 a. Explain process state and state transition with a neat diagram. (10 Marks)
b. For the given set of processes perform FCFS and SRN scheduling to solve for mean and weighted turnaround time

Process	P ₁	P ₂	P ₃	P ₄	P ₅
Arrival Time	0	2	3	5	9
Service Time	3	3	2	5	3

(10 Marks)

OR

- 4 a. Explain Kernel and user level threads. (10 Marks)
b. For the given set of processes perform RR and LCN scheduling to solve for mean and weighted turnaround time.

Process	P ₁	P ₂	P ₃	P ₄	P ₅
Arrival Time	0	2	3	5	9
Service Time	3	3	2	5	3

(10 Marks)

Module-3

- 5 a. Explain contiguous memory allocation techniques. (10 Marks)
b. Explain Address translation in paged virtual memory system. (10 Marks)

OR

- 6 a. Explain Translation look aside buffer. (10 Marks)
b. Consider the following page reference and reference time strings for the process for allocation 3 and 4. Solve the number of page faults using FIFO.

Page reference strings	5, 4, 3, 2, 1, 4, 3, 5, 4, 3, 2, 1, 5,
Reference time strings	t ₁ , t ₂ , t ₃ , t ₄ , t ₅ , t ₆ , t ₇ , t ₈ , t ₉ , t ₁₀ , t ₁₁ , t ₁₂ , t ₁₃ ,

(10 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.

Module-4

- 7 a. Explain File operations performed by processes. (08 Marks)
b. Explain working of File system action at file operation and close. (12 Marks)

OR

- 8 a. Explain Index sequential file organization. (08 Marks)
b. Explain allocation disk space. (12 Marks)

Module-5

- 9 a. Explain Direct and Indirect naming Blocking and Non-Blocking sends in operating system. (10 Marks)
b. Explain Implementing message passing in operating system. (10 Marks)

OR

- 10 a. Explain Deadlock handling approaches in operating system. (10 Marks)
b. Explain Deadlock detection algorithm in operating system. (10 Marks)
