

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, APRIL 2024
(Regular/Improvement/Supplementary)

COMPUTER SCIENCE
FCSS2C07- OPERATING SYSTEM CONCEPTS

Time: 3 Hours**Maximum Weightage: 30****Section A: Short answer questions. Answer any *four* questions. Each carries 2 weightage.**

1. What are the events that lead to the creation of process?
2. Explain thread and process with example.
3. List the requirements for mutual exclusion.
4. Explain Thrashing with suitable example.
5. Give a note on round robin scheduling with example.
6. Explain three tier client server architecture with appropriate diagram.
7. What are the conditions that create deadlock?

(4 × 2 = 8 weightage)

Section B: Short essay questions. Answer any *four* questions. Each carries 3 weightage.

8. Give a note on simple paging and virtual memory paging.
9. Explain service-oriented architecture in detail.
10. Give a note on thread scheduling with examples.
11. Describe the seven-state process transition using state transition diagram.
12. Explain the solution to producer consumer problem using semaphores.
13. Discuss the implementation of virtual memory using segmentation.
14. Explain FCFS, shortest remaining time next and priority scheduling. Compare the average waiting time with suitable example and evaluate the performance of each.

(4 × 3 = 12 weightage)

Section C: Essay questions. Answer any *two* questions. Each carries 5 weightage.

15. Explain Unix SVR4 process management using appropriate diagram.
16. State and explain Bankers algorithm with appropriate examples.
17. Describe demand paging and various page replacement algorithms with suitable examples.
18. Explain scheduling policies adopted in Linux environments in detail.

(2 × 5 = 10 weightage)