62458

Reg. No. | | | | | | | | |

II Semester M.C.A. Degree Examination, November/December - 2025

COMPUTER SCIENCE

Operating Systems

(CBCS Scheme 2020-21)

Time : 3 Hours **Maximum Marks : 70**

Instructions to Candidates :

1. **Answer any Five questions from Part - A.**
2. **Answer any Four questions from Part - B.**

PART - A

Answer any Five questions . Each question carries 6 marks. **(5×6=30)**

1. Explain Services of Operating System.
2. Explain process states with neat diagram.
3. Write a note on Semaphores
4. Explain network based OS.
5. Write short note on Real Time CPU Scheduling.
6. Explain Virtual Memory. Discuss how paging is used to implement Virtual Memory.
7. For Given References string calculates the number page faults by using FIFO Replacement. 7, 2, 3, 1, 2, 5, 3, 4, 6, 7, 7, 1, 0, 5, 4, 6, 2, 3, 0, 1
8. Explain the Implementation of the Access Matrix.

PART - B

Answer any Four questions. Each question carries 10 marks. **(4×10=40)**

9. a) What do mean by CPU Scheduling? Explain the Criteria Scheduling Algorithm. **(6)**
   b) Write a note on System Calls. **(4)**

10. a) Explain Readers-Writers Problem for synchronization. **(6)**
    b) Explain Belady's Anomaly. **(4)**

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11. a) What is File? Explain the File Allocation Methods. **(6)**

    b) Write a note on page Segmentation. **(4)**

12. a) Explain the FIFO Page Replacement Algorithm with an example. **(6)**

    b) Write a short note on disk scheduling **(4)**

13. Define deadlock. What are its necessary conditions? Discuss deadlock prevention methods.

14. a) Define paging. Explain the Address Translation in paging. **(6)**

    b) What is threshing? Discuss the reasons for its cause. **(4)**
