MCA 24103
MCA DEGREE EXAMINATIONS
FIRST SEMESTER
OPERATING SYSTEMS
(w.e.f. Admitted Batch 2024 - 25)

Time: 3 Hours **Max. Marks: 75M**

SECTION - A

All Questions Carry Equal Marks

Note :- All parts of the questions must be answered at one place only **(4 X 15 = 60 M)**

1. a. What is System Call? Discuss different types of System Calls. **(7 M)**
   b. Define Operating System. Explain any two types of operating Systems **(8 M)**

(OR)

2. a. Define Process Scheduling. Write about processes Control Block. **(7 M)**
   b. Compare FCFS & SJF Scheduling Algorithms. **(8 M)**

3. a. Discuss the implementation of Semaphores. **(8 M)**
   b. Explain Dining Philosophers Problem using Monitors. **(7 M)**

(OR)

4. a. Define Deadlock. Discuss Deadlock necessary Conditions. **(8 M)**
   b. Explain Banker's Algorithm with an example. **(7 M)**
5. a. What is Page Replacement? Explain Optimal Page Replacement Algorithm. **(8 M)**
   b. Discuss Paging in detail. **(7 M)**

(OR)

6. a. What is Disk Scheduling? Explain SCAN Scheduling Algorithm. **(8 M)**
   b. Explain different File Access Methods. **(7 M)**

7. a. Write the Goals & Principles of Protection. **(8 M)**
   b. Explain Access Matrix. **(7 M)**

(OR)

8. a. Explain about Revocation of Access Rights. **(7 M)**
   b. Explain difference between Windows and LINUX OS. **(8 M)**

SECTION-B

Answer **Any 5** of the Following. **(5 X 3 = 15 M)**

9. Write about operating System Structure.
10. Discuss about Threads.
11. What is Critical Section Problem?
12. Write about Safe State in Deadlock Avoidance.
13. Discuss about Trashing.
14. Write about Disk Structure.
15. Write about Access Control.
16. Discuss Access Matrix implementation

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