CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–II–Semester End Examinations (Regular) - August- 2023
OPERATING SYSTEM
(AI&DS)

[Time: 3 Hours]   [Max. Marks: 70]

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A   (20 Marks)

1. a) Define an operating system.   [2M]
   b) Define system call.   [2M]
   c) List the system calls for process management.   [2M]
   d) What does PCB contain?   [2M]
   e) State and brief the necessary conditions for a deadlock situation to raise.   [2M]
   f) Define semaphore.   [2M]
   g) Define segmentation.   [2M]
   h) Define page frame.   [2M]
   i) What are various file operations?   [2M]
   j) Explain about File system structure.   [2M]

PART-B   (50 Marks)

2. Explain about user operating system interface in detail.   [10M]

OR

3. a) Explain the various structures of an operating system with neat diagram.   [5M]
   b) Define an operating system? State and explain the basic functions or services of operating system?   [5M]

4. Explain about Process life cycle in detail with neat diagram.   [10M]

OR

5. Explain about Shortest Job First CPU Scheduling Algorithms with example.   [10M]

6. Discuss about inter-process communication using shared memory and message queues.   [10M]

OR

7. a) Explain in detail about resource allocation graph with example.   [5M]
   b) What is deadlock? Explain deadlock avoidance methods in detail.   [5M]

8. Explain about disk structure in detail.   [10M]

OR

9. a) Explain about page table structure in detail.   [5M]
   b) Explain about segmentation with paging.   [5M]

10. a) Write different file system allocation methods?   [5M]
    b) Define Protection in file system and how it is implemented?   [5M]

OR

11. List and explain about different file accessing methods.   [10M]

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