Code No.: CS303PC | R20 | H.T.No. | | | 8 | R | | | | | |

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS
II–B.TECH–I–Semester End Examinations (Regular) - January- 2022
OPERATING SYSTEMS
(Common to CSE, IT, CSC, CSD & CSM)

[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) What is meant by Operating System? [2M]
   b) Define Soft-Time Systems. [2M]
   c) What is meant by Context switch? [2M]
   d) What is meant by Message Queues? [2M]
   e) Define Semaphores. [2M]
   f) State the necessary conditions for deadlocks. [2M]
   g) What is meant by Swapping? [2M]
   h) Define Page Buffering Algorithm. [2M]
   i) Define open System Call. [2M]
   j) Demonstrate write, and *close* system calls. [2M]

PART-B **(50 Marks)**

2. Describe Operating System Services in detail. [10M]

OR

3. Write short on the following: [5M]
   i. Process Management. [5M]
   ii. Main Memory Management.

4. Discuss Inter Process Communication in Detail. [10M]

OR

5. Explain the following in detail. [5M]
   i. First-Come First-Served Scheduling (FCFS). [5M]
   ii. Round-Robin Algorithm (RR).

6. Describe Critical Section Problem in Detail. [10M]

OR

7. Explain Banker's Algorithm with a suitable example. [10M]

8. Explain Contiguous Memory Allocation methods. [10M]

OR

9. Explain the Basic concepts of Demand Paging. [10M]

10. Explain Directory structure in file systems. [10M]

OR

11. Discuss various Protection methods in file system. [10M]

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