

CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS

II–B.TECH–I–Semester End Examinations (Supply) - December- 2025

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) List out the various types of system calls. [2M]
- b) What are the different services provided by operating system to the user? [2M]
- c) What is preemptive & non-preemptive scheduling? [2M]
- d) What is thread in OS and list out the types? [2M]
- e) Define Semaphore. Give an example. [2M]
- f) List the advantages of inter process communication? [2M]
- g) What is paging? [2M]
- h) What is a memory management in operating system? [2M]
- i) What would be the effect of having more open files than the number of drives in the system? [2M]
- j) Define protection. [2M]

PART-B

(50 Marks)

2. Discuss about the various Functionalities of Operating Systems in detail. [10M]
- OR**
- 3.a) Differentiate between Distributed systems and Multiprocessor systems. [5M]
 - b) Explain the real time operating systems. [5M]
4. List out the various scheduling algorithms? Discuss briefly about the priority scheduling algorithm and the round-robin scheduling algorithm. [10M]
- OR**
5. Discuss about User-level Threads. What are advantages and disadvantages of it's? Explain. [10M]
6. What is a deadlock? Explain necessary conditions for a deadlock to occur. [10M]
- OR**
- 7.a) Write about Banker's algorithm for deadlock avoidance. [5M]
 - b) Explain the IPC between processes on different systems. [5M]
8. Define Segmentation. Explain the Segmentation with Paging. [10M]
- OR**
9. Discuss about the logical versus and physical address space. [10M]
10. What is file structure? How file structure is supported by different operating systems? Explain. [10M]
- OR**
11. List and explain the different types of file access methods. [10M]
