

(FOR THE CANDIDATES ADMITTED

25PCS104

DURING THE ACADEMIC YEAR 2025 ONLY)

REG.NO. :

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : NOVEMBER-2025

MSC COMPUTR SCIENCE

MAXIMUM MARKS: 75

SEMESTER-I

TIME : 3 HOURS

25PCS104 -ADVANCED OPERATING SYSTEMS

SECTION – A

(10 × 1 = 10 MARKS)

Answer Following questions.

1. A situation where two or more threads are blocked indefinitely each waiting for the other to release a resource is called_____.
a) Race Condition b) Deadlocks c) Starvation d) Interrupts
2. Which one of the following is an example of Distributed Operating System?
a) Window 7 b) Android c) MS-DOS d) Apache Mesos
3. What is the primary characteristic of a Real-Time Operating System?
a) High throughput b) Response time c) Large memory d) User-friendly Interface
4. Who does presently owns the Android Operating System?
a) Microsoft b) Android Inc c) Google d) AT & T Bell
5. The_____Linux Command is used to list files and directories.
a) ls b) dir c) cd d) mkdir

Answer the following in ONE or TWO Sentences

6. What are the Synchronization Mechanisms?
7. Give the names of Distributed File System.
8. List the characteristics of Real-Time operating system.
9. What are the popular Operating Systems for Handheld devices?
10. What is the role of Linux kernel?

SECTION – B

(5 × 5 = 25 MARKS)

ANSWER EITHER (A) OR (B) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) What is meant by Process synchronization? Why it is required?

(OR)

- b) What are the different types of Operating System? Give example.

(CONT...2)

12. a) List the common issues in Distributed Operating Systems.

(OR)

b) Brief the purpose of Lamport's Logical Clocks.

13. a) Describe the role of a Real-Time Kernel in RTOS. How does it manage tasks and resources?

(OR)

b) Explain the importance of predictability in RTOS. How is it achieved?

14. a) Explain how Power Management is implemented in Handheld Systems.

(OR)

b) Examine the security features available in the handheld systems.

15. a) Describe the Buddy system in Linux Memory Management.

(OR)

b) Comment on Zombie process in Linux.

SECTION – C ($5 \times 8 = 40$ MARKS)

ANSWER EITHER (A) OR (B) IN EACH OF THE FOLLOWING QUESTIONS. (K4/K5)

16. a) Illustrate the functions of an Operating systems.

(OR)

b) What are the Synchronization mechanisms? Explain any two.

17. a) Demonstrate the Banker's Algorithm with example.

(OR)

b) Compare the Pros and Cons of Popular Distributed File Systems.

18. a) Explain the applications of Real-Time Operating System.

(OR)

b) Discuss the components of a basic model of a Real Time System.

19. a) Compare the features of Palm OS and Symbian OS.

(OR)

b) Describe the Architecture of Android Operating System.

20. a) Explain the structure of Linux File System.

(OR)

b) Discuss in detail iOS Architecture.
