

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(5 Pages)

Reg. No:

Question Code No : 25001414

Course Code : 24PECA11

PG Degree - End Semester Examinations, November 2025

First Semester

M.C.A

Advanced Operating Systems

(For those who joined in July 2024 onwards)

Time : 3 Hours

Maximum : 75 Marks

PART - A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer:

1. A small program which loads operating system into the memory is called as _____
(a) ROM (b) Bootstrap loader
(c) BIOS (d) RAM
2. A problem encountered in multitasking when a process is perceptually denied necessary resource is called _____

- (a) Deadlock (b) Starvation
(c) Inversion (d) Aging
3. A safe state is _____
(a) Deadlock state (b) Not deadlocked state
(c) Polling state (d) Spooling state
4. Distributed system should have
(a) High security (b) Better resource sharing
(c) Better system utilization (d) Low system overhead
5. In _____ operating system response time is very critical.
(a) Multitasking (b) Batch
(c) Online (d) Real time
6. What is the standard form of RTOS?
(a) Real Time Operating System
(b) Real Telemetry system
(c) Real Transport Operating System
(d) None
7. The mechanism that brings a page into memory only when it is needed is called _____
(a) Segmentation (b) Fragmentation
(c) Demand paging (d) Page replacement

(OR)

(b) Explain any three design issues in distributed operating system.

13. (a) Describe the Earliest Deadline First (EDF) scheduling in a real time operating system.

(OR)

(b) Describe any three applications of real time operating system.

14. (a) Explain in detail about palm operating system.

(OR)

(b) List out the requirements of handheld computers.

15. (a) Elucidate the services of core Os layer in iOs

(OR)

(b) Describe about the cocoa touch layer in iOs.

PART - C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Describe the concept of interprocess communication.

(OR)

(b) Describe the Banker's algorithm and its role in deadlock detection.

17. (a) Illustrate the uses of Lamport's logical clocks with an example.

(OR)

(b) Explain any five design issues of distributed systems in detail.

18. (a) What is clock-driven scheduling? Explain.

(OR)

(b) Differentiate between hard real time and soft real time operating system.

19. (a) Explain the general architecture of Android.

(OR)

(b) Briefly explain about Symbian OS.

20. (a) Explain the file system in operating system and its functions.

(OR)

(b) What is the iOS software development kit (iOS SDK)?