

(6 pages)

Reg. No. :

Code No. : 8079

Sub. Code : WCAE 11

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

First Semester

Computer Applications

Elective: ADVANCED OPERATING SYSTEMS

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL questions.

Choose the correct answer:

1. What is an operating system?
 - (a) Interface between the hardware and application programs.
 - (b) Collection of programs that manages hardware resources.
 - (c) System service provider to the application programs.
 - (d) All of the mentioned.

6. Which of the following condition is required for a deadlock to be possible?
 - (a) Mutual exclusion
 - (b) A process may hold allocated resources while awaiting assignment of other resources.
 - (c) No resource can be forcibly removed from a process holding it.
 - (d) All of the mentioned.
7. For real time operating systems, interrupt latency should be _____.
 - (a) Minimal
 - (b) Maximum
 - (c) Zero
 - (d) Dependent on the scheduling
8. Which one of the following is a real time operating system?
 - (a) RTLinux
 - (b) VxWorks
 - (c) Windows CE
 - (d) All of the mentioned
9. Real time systems need to _____ the interrupt latency.
 - (a) Minimize
 - (b) Maximize
 - (c) Not bother about
 - (d) None of the mentioned

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2. Which are the first computers used to tackle many commercial and scientific applications?
 - (a) Mainframe Computer Systems.
 - (b) Multi programmed Systems.
 - (c) Batch Systems.
 - (d) Desktop Systems.
3. Which is the logical extension of multiprogramming?
 - (a) Application Programs
 - (b) Time Sharing
 - (c) Interactive
 - (d) Scheduling
4. _____ are simpler to implement but more difficult to access and utilize.
 - (a) Network Operating systems
 - (b) Remote File Transfer
 - (c) Resource sharing
 - (d) Remote Filter Transfer
5. In distributed system, each processor has its own _____.
 - (a) Local memory
 - (b) Clock
 - (c) Both local memory and clock.
 - (d) None of the mentioned.

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10. Handheld systems include?
 - (a) PFAs
 - (b) PDAs
 - (c) PZAs
 - (d) PUAs
11. Palm OS is an example of which type of computer operating system?
 - (a) Single-tasking Operating System
 - (b) Multi-tasking Operating System
 - (c) Multi-User Operating System
 - (d) None of the above
12. For which of the following Android is mainly developed?
 - (a) Servers
 - (b) Desktops
 - (c) Laptops
 - (d) Mobile devices
13. Which system is responsible for maintaining the address space visible to each process in Linux?
 - (a) Virtual address space
 - (b) Virtual memory region
 - (c) Kernel virtual memory
 - (d) Linux virtual memory
14. _____ provide the main interface to all disk devices in a system.
 - (a) File system
 - (b) Network socket
 - (c) Buffer cache
 - (d) Block devices
15. File types can be represented by _____.
 - (a) File name
 - (b) File extension
 - (c) File identifier
 - (d) None of the mentioned.

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PART B — (5 × 4 = 20 marks)

Answer ALL questions, choosing either (a) or (b).

16. (a) Discuss about multi programmed systems.
Or
(b) Define an Operating system.
17. (a) Describe the types of distributed operating system.
Or
(b) Write a short note on issues in deadlock.
18. (a) Describe the basic model of real-time system.
Or
(b) Write about safety and reliability.
19. (a) Discuss the requirements of operating system for handheld systems.
Or
(b) Write a short note on Symbian operating system.
20. (a) What is process scheduling in Linux system? Define that.
Or
(b) How to manage I/O devices?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)

21. (a) Explain mainframe systems.
Or
(b) How to detect deadlock? Explain it.
22. (a) What are the advantages of distributed systems? Explain.
Or
(b) Explain issues in deadlock detection and resolution.
23. (a) Explain about the applications of real-time system.
Or
(b) Explain the basic model of real time system.
24. (a) Explain handheld operating systems.
Or
(b) Write in detail about the architecture of Android.
25. (a) Give detailed note about memory management.
Or
(b) Explain about file systems.