K M M INSTITUTE OF POSTGRADUATE STUDIES::TIRUPATI
MCA I SEMESTER / PRE-FINAL/OPERATING SYSTEM

A

Time : 3hrs **Max.Marks:100**

PART – A

Answer any FIVE questions **5 X 5 = 25**

1. What is an OS?what are the functions of os?
2. What is I/O structure? Explain briefly.
3. What is a semaphore? Explain it in detail.
4. What is process control block (PCB)?
5. What is swapping? Explain it in detail.
6. What is paging? Explain it with an example.
7. Explain RAID structure?
8. Describe the structure of STREAMS.
9. Describe kernel modules.
10. Define file system in Linux.

PART – B

Answer FIVE Questions choosing one from each Unit **5 X 15 = 75**

UNIT - I

11. What are the components of the OS? Explain it in detail. (**OR**)

12. Explain the I/O structure and hierarchy, system structure and hardware protection with neat diagram.

UNIT - II

13. Explain the scheduling algorithm in detail.**(**OR**)**

14.(a).Explainthe different types scheduling criteria.
(b). Explain the necessary condition for deadlock.

UNIT-III

15. Explain the memory segmentation in detail.(**OR)**

16. Explain the structure of paging scheme with neat diagram. Also write the advantage and disadvantage of paging scheme.

UNIT - IV

17. Explain the I/O interface with a diagram in detail. (OR)

18. Explain the swap space management in detail.

UNIT-V

19.(a). Explain how process management in implemented in Linux system.
(b). Briefly explain security system facilities.(**OR)**

20. (a). Briefly describe the Linux design principles.
(b). Explain about program threats and system threats.

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B

Time : 3hrs **Max.Marks:100**

PART – A

Answer any FIVE questions **5 X 5 = 25**

1. How many types of os are there and what are they?

2. What is the purpose of the system calls?

3. What do you mean by critical section problem?

4. What is deadlock? Define deadlock characterization.

5. What is virtual memory?

6. What is kernel? Explain it.

7. Define disk scheduling

8. Define application of I/O interface.

9. Describe kernel modules.

10. Define file system in Linux.

PART – B

Answer FIVE Questions choosing one from each Unit **5 X 15 = 75**

UNIT-I

11. Explain the inter pfocess communication in detail.(OR)

12. Explain the following with neat diagram
(i). Process concepts
(ii). Process scheduling

UNIT– II

13. Explain classic problem of synchronisation in detail.**(OR)**

14. Explain the deadlock avoidance and prevention with suitable example.

UNIT-III

15. How many types of file access method are there? Explain in detail.(**OR**)

16 Explain the directory structure with a neat diagram.

UNIT- IV

17. Explain the RAID structure in detail.(**OR**)

18. (a). What is DMA? How it work?
(b). What do you mean by STREAMS? Briefly describe.

UNIT-V

19. Explain user authentication, System threats in detail.**(OR)**

20.Explain kernel modules, scheduling memory management in Linux system.