VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
M.C.A. II Year I-Semester (Supplementary) Examinations, May-2016

Operating Systems

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2=20 Marks)

1. Explain process states with a help of a diagram.
2. Briefly explain multi threading models.
3. What is the difference between pre paging and demand paging?
4. What do you mean by swapping? Explain with an example.
5. Write the structure of critical section.
6. What are the necessary conditions for deadlocks?
7. Briefly explain STREAMS.
8. Discuss about I/O buffering.
9. Memory management in LINUX.
10. Explain File sub system in Windows XP.

Part-B (5 × 10 = 50 Marks)

11. a) Explain the various operating system services. [5]

    b) Calculate the average turnaround time and waiting time for SJF algorithm with FCFS [5]
    scheduling algorithms.

Process	Burst Time
P1	7
P2	4
P3	1
P4	4

12. a) Explain about the different types of page replacement algorithms. [6]

    b) Describe the different file allocation methods. [4]

13. a) Explain about the producer and consumer problem for critical section. [5]

    b) Discuss the Banker's algorithm for deadlock avoidance in detail. [5]

14. a) Explain any two disk scheduling policies. [4]

    b) Discuss I/O request life cycle. [6]

15. a) Explain about the different types of File Systems in LINUX.   [5]

    b) Explain about the environmental subsystem.   [5]

16. a) Illustrate various methods of free space management.   [5]

    b) Explain the steps involved when a page fault occurs.   [5]

17. Write short notes on any *two* of the following:

    a)   Dining philosophers problem.   [5]

    b)   Disk structure.   [5]

    c)   Security in Linux.   [5]

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