LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc.& B.C.A DEGREE EXAMINATION – **COMPUTER SCIENCE& APPLI.**

FIFTHSEMESTER – APRIL 2017

CS / CA 5510- OPERATING SYSTEMS

Date: 22-04-2017   Dept. No.   Max. : 100 Marks
Time:01:00-04:00

PART A

ANSWER ALL THE QUESTIONS   **(10 X 2 = 20 Marks)**

1. Define context switch.
2. What is a command interpreter system?
3. What is a dispatcher?
4. Define race condition.
5. What is overlay?
6. Define and state the advantage of dynamic loading.
7. List down the various file operations.
8. What do you mean by Access Control?
9. What is Caching?
10. What is a Partition Control Block?

PART B

ANSWER ALL THE QUESTIONS   **(5 X 8 = 40 Marks)**

11. a. Explain about Virtual Machines.
        (OR)
    b. Discuss on Process Management in detail.

12. a. Explain about Deadlock Prevention in detail.
        (OR)
    b. Explain about critical section problems.

13. a. Explain about swapping in detail.
        (OR)
    b. Discuss on structure of a page table in detail.

14. a. Explain about different file access methods.
        (OR)
    b. Briefly explain about Demand Paging.

15. a. Explain about Disk Management.
        (OR)
    b. Write about Application I/O Interface.

PART C

ANSWER ANY TWO QUESTIONS **(2 X 20 = 40 Marks)**

16. a. Explain about Inter Process Communication in Detail.

    b. Discuss on Semaphores in detail.

17. a. Assume the following processes are executed in one processor and arriving in the order given below

Process	Burst Time	Priority
P1	21	2
P2	3	1
P3	6	4
P4	2	3

Draw the Gantt Chart and calculate the average waiting time using the following algorithms

        i.   First Come First Serve(FCFS) Scheduling

        ii.   Shortest-Job-First(SJF) Scheduling

        iii.   Priority Scheduling

        iv.   Round Robin(RR) (Scheduling Time Quantum is 5)

    b. Explain the Various page replacement Algorithms.

18. a. Discuss about Various file Allocation Methods

b.Explain about Segmentation in detail.

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