LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – **APRIL 2016**

CS 5510/CA 5510 – OPERATING SYSTEMS

Date: 26-04-2016 Dept. No. Max. : 100 Marks

Time: 09:00-12:00

PART - A

Answer ALL the Questions **(10 x 2 = 20 marks)**

1. Define Cascading termination.
2. Define System Calls. What are the various ways of passing parameters to it.
3. Give the conditions for Deadlock.
4. Differentiate starvation and deadlock.
5. Define Thread.
6. Differentiate Internal and External fragmentation.
7. Define Thrashing.
8. State Belady's Anamoly.
9. Define seek and latency time.
10. Explain Bit Vector and Counting method.

PART – B

Answer ALL the Questions **(5 x 8 = 40 marks)**

11. Discuss about the services provided by the operating systems.

(or)

With a neat diagram explain the various states of a process.

12. Differentiate CPU bound and I/O bound process. Also give the criteria used by CPU schedulers for selecting a process for scheduling.

(or)

Define Semaphores. How is it implemented? Give its advantages and disadvantages.

13. Explain First fit, Best fit and Worst fit with its advantages and disadvantages..

(or)

Elaborate on Segmentation.

14. Calculate the Page Fault rate using Optimal and LRU Algorithm with allotted page size is 3 and page references as 7,0,1,2,0,3,0,4,2,3,0,3,2,1,2,1,7,0,1.

(or)

Give the types of files and explain ways of accessing the files.

15. Explain linked allocation of files with its advantages and disadvantages.

(or)

Write short notes on swap space management.

PART – C

Answer Any TWO Questions **(2 x 20 = 40 marks)**

16. (a) Explain how Message system is the best way for Inter Process communication.

    (b) Brief on Bankers Algorithm.

17. (a) Discuss about Paging in detail.

    (b) Explain the concept of Virtual memory with its advantages and disadvantages.

18. (a) Explain with an example FCFS, SCAN, and Lookahead SCAN disk scheduling Algorithms.

    (b) Find out the average waiting time using FCFS, SJF and Round Robin scheduling Algorithm using the following data.

Process	Arrival Time	Execute Time	Service Time
P0	0	5	0
P1	1	3	5
P2	2	8	8
P30	3	6	16

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