



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc., B.C.A., DEGREE EXAMINATION – COMPUTER SCIENCE & APP.

FIFTH SEMESTER – NOVEMBER 2016

CS 5510/CA 5510 – OPERATING SYSTEMS

Date: 03-11-2016

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

PART - A

Answer ALL the Questions

(10 x 2 = 20 marks)

1. Define Operating System. Give its Services.
2. What is Context Switch?
3. State the purpose of a CPU Scheduler.
4. Define Semaphore.
5. What is Address Binding? When it happens?
6. Differentiate Internal and External fragmentation.
7. Define Thrashing.
8. Explain the classification of users in connection with files.
9. Give the ways of managing free disk space.
10. State the uses of Buffering.

PART – B

Answer ALL the Questions

(5 x 8 = 40 marks)

11. Define System Calls. Discuss about its Types.

(or)

Discuss about the issues to be considered with multithreaded programs.

12. What is Critical section problem? Explain the bankers' algorithm.

(or)

Define Deadlock. Explain how occurrence of Deadlock can be prevented.

13. What is Dynamic Storage allocation problem? Explain its solutions.

(or)

Explain about segmented paging in memory management.

14. What is Page Fault? With a neat Diagram give the steps in handling the page fault.

(or)

Define File. Give its Attributes. What are the operations that can be performed on files?

15. Write short notes on file system structures.

(or)

Explain about disk scheduling.

PART – C

Answer Any TWO Questions

(2 x 20 = 40 marks)

16. (a) Define Process. With a neat diagram explain process states and PCB.
(b) Explain any four CPU scheduling algorithms.
17. (a) Write short notes on Paging.
(b) Explain about contiguous and noncontiguous allocation.
18. a) Explain in detail about file allocation methods.
(b) Calculate the Page Fault rate using FIFO, Optimal and LRU Algorithm with allotted page size is 5 and page references as 1,2,3,4,2,1,5,6,2,1,2,3,7,6,3,2,1,2,3,6.

\$\$\$\$\$\$