LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – **NOVEMBER 2019**

16/17UCA5MC03 & CA/CS 5510 – OPERATING SYSTEM

Date: 02-11-2019 Dept. No. Max. : 100 Marks

Time: 09:00-12:00

PART – A

Answer ALL the Questions: **(10x2=20 Marks)**

1. What is meant by multiprogramming?
2. Define Virtual Machine
3. List out different state of process.
4. What are the algorithms available for deadlock avoidance?
5. What is known as dynamic Linking?
6. What do you know about external fragmentation and internal fragmentation?
7. Mention any four page replacement strategies.
8. What is meant by partition control Block?
9. What is Disk Scheduling?
10. What are the components of a Linux System?

PART – B

Answer ALL the Questions: **(5x8=40 Marks)**

11. a. Explain the essential properties of the following types of operating system.
    a) Time-sharing System b) Distributed System

(or)

b. Explain any three important services of an operating system.

12. a. What is deadlock? Write about deadlock conditions and Banker's algorithm in detail.

(or)

b. What is scheduler? Explain the types of scheduler in detail.

13. a. Define swapping. Write short notes on Swapping.

(or)

b. Discuss the between Paging and Segmentation.

14. a. Write about Optimal Replacement algorithm with example.

(or)

b. What is Demand paging? Discuss the steps involved in handling a page fault.

15. a. What is Disk Scheduling? Explain the SSTF and C-SCAN disk scheduling Algorithm.

(or)

b. Write about Disk Structure.

PART – C

Answer any TWO Questions: **(2x20=40 Marks)**

16. a. Explain the Operating system structure and its Components.

    b. What is synchronization? Explain how semaphore can be used to deal with n-process critical section problem.

17. a. Explain the concept of contiguous and Non-Contiguous Memory Allocation with neat diagram.

    b. What is meant by Thrashing? Discuss in detail.

18. a. Discuss File Allocation methods.

    b. Explain any three Scheduling Algorithms.

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