LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

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

FIFTH SEMESTER – **APRIL 2016**

CS 5504 – OPERATING SYSTEM

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 process.
2. What bits are known as the rwx bits?
3. What are the four events that cause processes to be created?
4. Write down the formula for finding CPU utilization.
5. What is the use of virtual page number?
6. What are the categories of the pages based on the current values of a bit when a page fault occurs?
7. Define device controller.
8. What are the layers of I/O software?
9. List out some common file extensions.
10. What are the layers in a Linux system?

PART-B

ANSWER ALL THE QUESTIONS: (5 x 8=40 marks)

11. a) What is shell? Explain in detail.

(Or)

b) Describe the steps involved in making the system call read.

12 a) Explain the state diagram showing the three states of a process.

(Or)

b) Explain in detail about Round-robin scheduling.

13 a) Describe the structure of a single page table entry.

(Or)

b) Explain in detail about swapping.

14. a) Explain the categories of I/O devices.

(Or)

b) Describe in detail about the operations of a DMA transfer.

15. a) Explain the types of files that many operating system support.

(Or)

b) Explain in detail about the file operations.

PART-C

ANSWER ANY TWO QUESTIONS: **(2x20=40 marks)**

16. a) Explain in detail about interprocess communication.

    b) Explain the various approaches to deadlock prevention.

17. a) What are the sequence of events for handling page fault?

    b) Explain the different ways that I/O can be done from the point of operating system.

18. a) Explain the layers of a Linux system.

    b) Explain the page replacement algorithms with an example.

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