



# LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

## B.Sc. DEGREE EXAMINATION – COMPUTER SCIENCE

FIFTH SEMESTER – NOVEMBER 2017

### CS 5504 – OPERATING SYSTEM

Date: 01-11-2017  
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

#### PART - A

Answer All the questions

(10 X 2 = 20 Marks)

1. Write the difference between Batch Systems and Time Sharing Systems.
2. What is the purpose of system programs?
3. Difference between pre-emptive and non pre-emptive scheduling?
4. What can the operating system do to recover from deadlock?
5. What is Demand paging?
6. Define logical address and physical address.
7. What is port, bus and controller?
8. Compare Character device and block device.
9. What is a file? List the various file attributes and operations.
10. What is a path name? What are the types of path names?

#### PART-B

Answer All the questions

(5 X 8 = 40 Marks)

11. a) Explain in detail about various managements of operating system and its responsibilities.  
(OR)  
b) List and explain the classification of system calls and its significance.
12. a) Explain in detail about the different multi-threading models and SMP Management with neat diagram.  
(OR)  
b) What is a Deadlock? How does a deadlock occur? How can a system recover from deadlock?
13. a) Explain about basic concepts of Segmentation with neat diagram  
(OR)  
b) What is the need for page Replacement? Write down the steps for page replacement.
14. a) Explain in details about interrupt driven I/O with neat diagram.  
(OR)  
b) Explain in detail about Graphical User Interface with suitable diagram.
15. a) Explain in detail about the components of Linux Operating System.  
(OR)  
b) Explain in detail about file system implementation

## PART-C

Answer Any TWO questions

(2 X 20 = 40 Marks)

16. a) Explain in detail about different operating system structure with neat diagram.

b) Explain in detail about Banker' Algorithm with suitable example.

17. a) Explain about virtual memory.

b) Explain about the principles of I/Q Software.

18. a) Discuss in detail about various directory structures with neat diagram.

b) Explain in detail about DMA transfer with suitable diagram.

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