

**LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034**



**B.C.A. DEGREE EXAMINATION – COMPUTER APPLICATIONS**

**FIFTH SEMESTER – APRIL 2016**

**CA 5504 – OPERATING SYSTEM**

Date: 26-04-2016

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

**PART – A**

**Answer ALL questions**

**(10 x 2 = 20 Marks)**

1. Define Operating System
2. Define system call? What is the purpose of system calls?
3. Differentiate between a Process and Thread.
4. What can the operating system do to recover from deadlock?
5. What is the main function of the memory-management unit?
6. What is virtual memory?
7. Write notes on Device Controller.
8. List down the functions of device independent I/O software.
9. What is a file? List the various file attributes and operations.
10. What is File Allocation Table?

**PART – B**

**Answer All questions**

**(5 x 8 = 40 Marks)**

11. a) Explain about the components of a computer System.  
(Or)  
b) What is system call? Explain about its various categories.
12. a) Discuss in detail about Bankers Algorithm with example.  
(Or)  
b) Explain in detail about the following Scheduling Algorithm with suitable example.
  - i) First Come First Served
  - ii) Shortest Job First.
13. a) Explain in detail about Page Replacement Algorithm with example.  
(Or)  
b) Discuss in detail about Swapping.
14. a) Explain in detail about I/O software Layers.  
(Or)  
b) Explain about Graphical User Interface (GUI).  
(Or)
15. a) Explain in detail about the following:
  - i) File Access Methods
  - ii) Directory Operations.  
(Or)  
b) Explain in detail about the following Allocation Methods.
  - i) Contiguous Allocation
  - ii) Linked List Allocation.

**PART – C**

**Answer Any TWO questions**

**(2 x 20 = 40 Marks)**

16. a) Explain in detail about Operating System Structure
- i) Monolithic systems
  - ii) Layered Systems.
- b) Explain in detail about Inter Process Communication.
17. a) Explain in detail about how operating system handling Page fault?
- b) Explain about Network Terminals.
18. a) Explain about the following Directory structure.
- i) Single level Structure
  - ii) Two level Structure
  - iii) Hierarchical Structure.
- b) Explain about Direct Memory Access (DMA).

**\$\$\$\$\$\$**