

**BACHELOR OF COMPUTER APPLICATIONS  
(BCA) (Pre-Revised)**

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**Term-End Examination**

**December, 2016**

**CS-63 : INTRODUCTION TO SYSTEM SOFTWARE**

*Time : 2 hours*

*Maximum Marks : 60*

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**Note :** *Question number 1 is compulsory. Attempt any three questions from the rest.*

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1. (a) Explain the concept of Multiprogramming with Static Partitioning. Explain the strategies for allocating free static partitions to ready processes. 7
- (b) Write UNIX commands for the following functions : 10
- (i) Comparing two files
  - (ii) Displaying file statistics
  - (iii) Displaying the list of users logged onto the UNIX server
  - (iv) Changing file permissions
  - (v) Handling mathematical expressions on command prompt

- (c) Write different forms of multiprogramming operating system. 7
- (d) What are Files ? Explain the three types of file organizations. 6
2. (a) What is Disk Allocation ? Explain the schemes for non-contiguous disk allocation. 5
- (b) What are Semaphores ? How do semaphores ensure mutual exclusion ? 5
3. (a) What is Paging ? Describe address mapping in a paging system with the help of a diagram. 6
- (b) What are Macros ? Describe the creation and implementation of a macro with the help of an example. 4
4. (a) What is an Assembler ? Describe any three approaches for assembler implementation. 7
- (b) Explain the utility of Filters with an example. 3

5. (a) Consider a disk queue with requests involving the following tracks :

100, 200, 50, 150, 25, 175, 70, 95

If the starting track is 100, display the movement of disk head with the help of diagrams as per the following Scheduling algorithms :

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- (i) FCFS
- (ii) SSTF
- (iii) SCAN

- (b) Describe Access Lists and Access Groups as file protection mechanisms.

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