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**CSIT123**

Enrol. No. ....

[ET]

END SEMESTER EXAMINATION : MAY-JUNE, 2019

**OPERATING SYSTEM CONCEPTS**

*Time : 3 Hrs.*

*Maximum Marks : 70*

**Note:** *Attempt questions from all sections as directed.*

**SECTION – A (30 Marks)**

*Attempt any five questions out of six.*

*Each question carries 06 marks.*

1. Explain the concept of multiprogramming operating system.
2. Describe the differences among short-term, medium-term, and long-term scheduling.
3. Consider the set of process that arrive at time 0 as  $P_1$ ,  $P_2$ ,  $P_3$ , and the length of the CPU burst time as 24, 3, and 3 milliseconds respectively. Draw the Gantt chart and calculate the average waiting time using FCFS scheduling algorithm.

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4. Differentiate between Bare Machine and Resident Monitor in memory management.
5. Describe Process Control Block with diagram.
6. Discuss the structure of UNIX operating system with diagram.

**SECTION – B (20 Marks)**

*Attempt any two questions out of three.*

*Each question carries 10 marks.*

7. What is deadlock? What are the necessary conditions that can lead to a deadlock situation? Explain.
8. What is a file? What are the common file types? Describe the different methods to access the information in a file.
9. Describe the Access Matrix Model of Protection with an example.

**SECTION – C (20 Marks)**  
*(Compulsory)*

10. What is the use of page replacement? Explain following page replacement algorithms:

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- (a) Basic Page Replacement
- (b) FIFO Page Replacement
- (c) Optimal Page Replacement
- (d) LRU Page Replacement

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