

Roll No.

Total Pages : 03

BCA/M-23
OPERATING SYSTEM
BCA-362

1877

Time : Three Hours]

[Maximum Marks : 80

Note : Question No. 1 is compulsory. In addition to that, attempt *Four* more questions selecting *one* question from each Unit. All questions carry equal marks.

(Compulsory Question)

1. (a) What are the problems in initial implementation of a semaphore ? 4
- (b) Discuss the disk structure. 4
- (c) How can the processes be connected with pipes ?
Discuss about the output of the command : 4
`ls | tee list.txt`
- (d) What do you understand by a process in Linux/Unix ? How is it created ? 4

Unit I

2. What is critical section problem ? Explain the algorithms for solving critical section problem for two processes and multiple processes. 16

3. (a) Differentiate between a tree and an acyclic graph directory structure.
- (b) Discuss the Readers-Writers problem along with solution.

Unit II

4. Discuss the disk scheduling criteria and various disk scheduling algorithms using suitable examples. 16
5. Discuss the following : 16
- (a) Remote Login
- (b) Remote File Transfer.

Unit III

6. (a) Discuss the features of Linux. How is Linux different from UNIX ? 8
- (b) Discuss various communication oriented commands using examples. 8
7. Differentiate between internal and external commands. Also explain the following in Linux : 16
- (a) chmod
- (b) find
- (c) mkdir
- (d) chgrp
- (e) dd
- (f) head
- (g) expand.

Unit IV

8. What do you understand by a file in Linux/Unix ? Explain various categories of file. Also explain the structure and components of file system along with various types of file systems. 16
9. Explain various iterative statements available in bash shell using examples. Also write a menu driven shell script to copy, rename and delete a file. 16