BCA/M-23   **1877**

OPERATING SYSTEM
BCA-362

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

P.T.O.

3. (a) Differentiate between a tree and an acyclic graph directory structure. **8**

   (b) Discuss the Readers-Writers problem along with its solution. **8**

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**