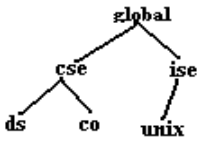
Module-1

1. Discuss the salient features of UNIX.
2. Explain the following commands with an example
   echo, who, cal and **passwd.**
3. Explain the following features of UNIX operating system:
   i) Multiuser ii) Multitasking iii) Programming facility.
4. With a neat diagram, explain the architecture of UNIX operating system.
5. Explain the following commands with an example
   printf, script, date and tty
6. Explain UNIX file system with neat diagram also explain parent child relationships with suitable examples.
7. Discuss the commands to create following directory tree structure. Assuming global is a current directory.



1. Explain **man** command in detail.
2. Explain the internal and external commands with an example.
3. Explain ls command with any 5 options in detail.
4. Explain the command to add and delete users.
5. Describe the command structure in UNIX along with arguments and options by taking an example.
6. Explain how to set and display the terminal characteristics of a UNIX OS.
7. Explain the concept of absolute and relative pathnames with an example.
8. Explain the **pwd** and **HOME** commands in detail with example.

Module-2

1. Explain the different basic file types in UNIX
2. Explain the commands used create, delete, and change the directories with syntax an example.
3. Explain the basic file attributes in detail.
4. Explain the following commands with an example
   cp, cat, rm, mv, diff, more, uname ,file, wc, od, cmp , tar, gzip and gunzip
5. Explain in details of hard link and symbolic link(soft link)
6. Explain file system and file inodes .
7. Explain umask, modification and access time
8. Consider the long listing of file called test:
   $ ls –l test
   -rw-r--r-- 1 ram staff 67 jan 17 09:00 test

Write down the OCTAL way of changing permissions for the following

i) Only others to have all three permissions

ii) Owner and group to have read and write permissions
iii) Owner to have all three permissions
iv) Group to have write and execute permissions
v) No permission to anybody

9. Suppose you have following ordinary files in your current working directory:
file1 file2 file33 file4 f5 f6 f7 Nfile1 Nfile2 Nfile441 file1a file2a file2b
Write the output of the following commands
1) $ ls file?
2) $ ls file??
3) $ ls Nfile?
4) $ ls ?file?
5) $ ls file[0-9][0-9]

10. Consider the long listing of file called test:
$ ls –l test
-rw-r--r—1 ram staff 67 jan 17 09:00 test

Write down the OCTAL way of changing permissions for the following
i) Only group to have all three permissions.
ii) Others to have all read and write permissions
iii) All of them to have all three permissions
iv) Others to have write and execute permissions
v) Only write and execute to group and owner

11. Suppose you have following ordinary files in your current working directory:
chap10 chap2 chap5 cold chap1a.old chap3.old chap6 haha chap1b chap4 chap7 oldjunk
Write the output of the following commands :
1) $ ls chap?
2) $ ls chap[5-8]
3)$ ls chap??
4) $ ls *old
5) $ ls *a*a*

Module - 3

1. The statistics of AMITABH BACHCHAN movies is furnished below: (Name of the movie: Year of release : Heroine : CO-Actor)

DELIMITER IS COLON

Filename is AMITABH

Sholay	1975	Jaya Bhaduri	Dharmendra
Deewar	1979	ParveenBabi	ShashiKapoor
Don	1978	ZeenatAman	Pran
Amar Akbar Anthony	1977	ParveenBabi	VinodKhanna
Ram Balram	1980	Rekha	Dharmendra
Coolie	1982	RatiAgnihotri	Rishi Kapoor
Shaan	1980	ParveenBabi	ShashiKapoor

Issue one line command / mechanism for the following in such a way that even if shuffling of database takes place, you still land up getting the same output.

i) Full details of the movies which starts with character D.
ii) Names of movies where Co-Actor is Dharmendra
iii) Names of movies released in 1980
iv) Display the details of all movies in the order of the year of release.
v) Display names of all Heroines in the reverse alphabetical order.

2. The statistics of Dr. RAJKUMAR movies is furnished below: (Name of the movie: Year of release : Heroine : CO-Actor)

DELIMITER IS COLON
Filename is RAJKUMAR

KasthuriNivasa	1971	Arathi	Ashwath
SampathigheSawaal	1974	Manjula	Vajramuni
KeralidhaSimha	1981	Saritha	Srinivas Murthy
NaaNinnaMareyalare	1976	Lakshmi	Balakrishna
BangaradaManushya	1972	Bharathi	Srinath
ShraavanaBanthu	1984	Urvashi	Srinath
EraduKanasu	1974	Manjula	Ramgoal

Issue one line command / mechanism for the following in such a way that even if shuffling of database takes place, you still land up getting the same output.

i) Display details of all movies in the reverse order of the year of release.
ii) Display names of movies where Co-Actor is Srinath
iii) Display names of movies according to the alphabetical order of the Heroines
iv) Names of movies released in 1974
v) Details of the movie which was released last.

3. Explain the following commands with syntax and example
Head, tail, cut, paste, pr, tr, sort and uniq.

4. Answer the following questions: (Issue only one line command or piping mechanism)
1) Write a command to count the number of characters in the last line of file called test.
2) Write a command to convert all uppercase characters of file called test into lowercase characters and store it in file test1
3) Write a command to display the contents of the file test with line numbers along with storing the same into file test1.
4) Write a grep command that counts the number of nonblank lines from file called test.
5) Display the fourth and the second field of a file called test.

5. Answer the following questions: (Issue only one line command or piping mechanism
1) Write a grep command that copies contents of file test onto test1
2) Write a command to copy contents of file test1 to test2 without using cp and cat command
3) Sort on the fourth field of file test in the reverse order which is numeric.
4) Write a command to display total number of users currently working on UNIX system
5) Write a grep command that selects the lines from file called test that starts with a digit.

Module – 4

1. Write a Menu driven shell program that will do the following tasks: i) long listing of all the files ii) print the current directory iii) display current login users iv) today's date viii) Quit to UNIX.
2. Explain while loop and for loop of SHELL PROGRAMMING with syntax and example
3. Explain if-then-else and if-then-else-fi of SHELL PROGRAMMING with syntax and example.
4. Write a shell script that reads data from a text file and appends the lines starting with an alphabet from 'a' through 'k' to a file named "ak" and the lines from 'l' through 'r' to a file named "lr" and the lines from 's' through 'z' to a file named "sz". Then display the number of lines in each of the files ak, lr and sz individually.
5. Write a shell script to accept a file and check if it is executable. If not make it executable
6. Write a shell script to accept a number and check whether it is greater than 10 or not.
7. Describe here document and trap command with examples.
8. Explain Exit and Exit status command in detail.

Module - 5

1. Define Zombie Process? Write a C program to avoid zombie process by forking twice.
2. Explain killing the process with signals
3. With a neat schematic diagram Explain memory layout of a ‘C’ program
4. Explain fork( ) and **vfork( ) functions with example programs separately.**
5. Explain Shared Memories in detail
6. Explain Mechanism of Process Creation.
7. Explain exit(), wait() and waitpid()
8. Explain in detail about running the jobs in background