1. **Exploring basic commands for handling File system under Unix/Linux**
    a. Create a directory (create 3 sub directories under it)
    b. Create files under each directory (.txt, .mp3, .sh, hidden files)
    c. Set file/directory permissions
    d. Delete files
    e. Delete directory containing files
    f. Delete only hidden files under each directory
    g. Copy content of one directory in separate directory
    h. Rename a few files

2. WAP to implement File management system calls in UNIX.
- open()
- creat()
- close()
- read((
- write()
- lseek()

3. Shell script program to check whether given file is a directory or not and delete if it's an empty directory.

4. Simulation of scheduling algorithms: Write a program to implement the following **process scheduling algorithms- FCFS**

5. **Write a program to Demonstrate Bankers Algorithm for Deadlock Avoidance**

6. Consider the marks.txt is a file that contains one record per line(comma separate fields)of the student data in the form of studentid, student name, Telugu marks, English marks, Maths Marks, Science marks, Social Marks.

7. Write an **awk** script to generate result for every students in the form of studentid, studentname, Total Marks and result. Result is PASS if marks is >=30 in TELUGU and English, and if marks>=40 in other subjects. Result is fail otherwise.

8. Write a shell script menu driven program to:
    a. Add a user in the system
    b. Delete a user from the system
    c. Create a file/ directory at a given path
    d. Delete a directory/ file from given path
    e. Display file/directory information
    f. Change file/directories file permissions
    g. Change ownership and group ownership of a given file/directories

9. Implement **SJF process scheduling** Algorithm considering common arrival time.

10. Simulation of scheduling algorithms: Write a program to implement the following **process scheduling algorithms- RR**

11. **Implement Dynamic Partitioning Placement Algorithms : Best Fit**

12. **Implement Dynamic Partitioning Placement Algorithms : First Fit**
13. **Implement Dynamic Partitioning Placement Algorithms : Worst Fit**

14. Write a shell Script program to check whether the given number is even or odd and if a given string is palindrome.

15. To study and implement **page replacement policies like: FIRST-IN-FIRST-OUT (FIFO)**

16. Billing for Books: **The input file bookdetails.txt contains records with fields — item number, Book name, Quantity and Rate per book.**

```
1 Linux-programming 2 450
2 Advanced-Linux 3 300
3 Computer-Networks 4 400
4 OOAD&UML 3 450
5 Java2 5 200
```

Write an Awk script, reads and processes the above bookdetails.txt file, and generates report that displays — rate of each book sold, and total amount for all the books sold.

17. To study and implement **page replacement policies like: LEAST RECENTLY USED (LRU)**

18. Write Script, using case statement to perform basic math operation as follows
    + addition
    - subtraction
    x multiplication
    / division
    The name of script must be 'q4' which works as follows
    $ ./q4 20 / 3, Also check for sufficient command line arguments

19. How to write shell script that will add two nos, which are supplied as command line argument, and if this two nos are not given show error and its usage.]

20. Write script to print given number in reverse order, for eg. If no is 1230 it must print as 0321.

21. To study and implement **page replacement policies like: FIRST-IN-FIRST-OUT (FIFO)**

22. **Write and awk Program to copy contents of one directory to another.**

23. **Write a shell script to find out whether the given number is prime number or not**

24. Write Script to find out biggest number from given three nos. Nos are supplies as command line argument. Print error if sufficient arguments are not supplied.

25. Student Mark Calculation: AWK script

Create an input file "student-marks.txt" with the following content — Student name, Roll Number, Test1 score, Test2 score and Test3 score.

```
Jones 2143 78 84 77
Gondrol 2321 56 58 45
RinRao 2122 38 37 65
Edwin 2537 78 67 45
Dayan 2415 30 47 20
```

Write an Awk script will calculate and generate the report to show the Average marks of each student, average of Test1, Test2 and Test3 scores.

26. HTML Report for Student Details: AWK script

Create an input file "student-marks.txt" with the following content — Student name, Roll Number, Test1 score, Test2 score and Test3 score.

```
Jones 2143 78 84 77
Gondrol 2321 56 58 45
RinRao 2122 38 37 65
Edwin 2537 78 67 45
Dayan 2415 30 47 20
```

27. Demonstrate usage of 5 user management commands, file management commands and process management commands.
28. Write a shell script program to take input from user a file name and display the following
    a. Owner and group owner information
    b. No of lines in the file
    c. No of words in the file
    d. Count occurrence of a particular word in the file
    e. Replace a word with another in the given file