

Q1. A) Write and execute the following Commands on Linux

- i) Display calendar for March 2020.
`cal march 2020`
- ii) Create a file File1.txt and display all information about file.
`touch file1.txt`
`ls -l File1.txt`
- iii) Create the following example.txt file
`cat example.txt`
`Unix operating system`
`unix operating system`
`unix dedicated server`
`linux dedicated server`
Write command to suppress the duplicate line.
`cat > example.txt`
`uniq example.txt`
- iv) Create a file and merge the contents into single line with each line separated by tab.
`echo -e "Line 1\nLine 2\nLine 3" | tr '\n' '\t' > merged_file.txt`
- v) Write a line 'welcome to operating system' and then write a vi command to delete the current line.

Q1.B) Write a shell script to accept a directory name and display its contents.

```
#!/bin/bash
echo "Enter directory:"
read directory
if [ ! -d "$directory" ]; then
    echo "Error: '$directory' is not a directory or does not exist."
    exit 1
fi
ls "$directory"
```

Q2. Write menu driven program to perform arithmetic operations like +, -, *, /.

```
#!/bin/bash
echo "Enter the first number:"
read a
echo "Enter the second number:"
read b
while true; do
    echo -e "\nChoose an operation:"
    echo "1. Addition"
    echo "2. Subtraction"
    echo "3. Multiplication"
    echo "4. Division"
    echo "5. Exit"
    read -p "Enter your choice: " choice

    case $choice in
        1)
            echo "Result of addition: $((a + b))"
            ;;
        2)
            echo "Result of subtraction: $((a - b))"
            ;;
        3)
            echo "Result of multiplication: $((a * b))"
            ;;
        4)
            if [ $b -ne 0 ]; then
                echo "Result of division: $((a / b))"
            else
                echo "Error: Division by zero"
            fi
            ;;
        5)
            echo "Exiting..."
            exit 0
            ;;
        *)
            echo "Invalid choice. Please enter a number between 1 and 5."
            ;;
    esac
done
```

Or

Q2. Write a shell script to display odd numbers and their sum.

```
#!/bin/bash sum=0
echo "First 10 odd numbers:"
for ((i = 1; i <= 19; i += 2)); do
    echo $i
    sum=$((sum + i))
done
echo "Sum of the first 10 odd numbers: $sum"
```