**General Instructions:**

* **Follow the instructions given in each section.**
* **Make sure that you attempt the questions in order.**

**SECTION-A (10\*1 mark=10 marks)**

***(All questions are compulsory)***

Q1 Which of the following is a file transfer protocol used in Linux for secure file transfer?

a) FTPS

**b) SFTP**

c) TFTP

d) SCP

Q2 Which command is used to change the group of a file or directory in Linux?

a) chown

b) chmod

**c) chgrp**

d) groupadd

Q3 Which of the following is a Linux-based operating system designed for penetration testing and ethical hacking?

**a) Kali Linux**

b) Red Hat Enterprise Linux

c) Ubuntu

d) POP OS

Q4What command is used to search for text within a file?

**a) grep**

b) find

c) awk

d) sed

Q**5** What command is used to extract files from a compressed archive?

a) extract

b) gzip

**c) tar**

d) compress

Q6Which command can be used to create a symbolic link to a file or directory?

a) symlink

**b) ln -s**

c) softlink

d) link -s

Q7What command is used to set the permissions of a file or directory?

**a) chmod**

b) chown

c) chgrp

d) change

Q8 Which command is used to add a user to a group?

a) adduser

b) useradd

c) groupadd

**d) usermod**

Q9 What command is used to display the disk usage of a file or directory?

**a) du**

b) df

c) ls

d) diskusage

Q10 Which command can be used to kill a process by its name?

**a) pkill**

b) kill

c) killall

d) processkill

**SECTION-B (10\*2 mark=20 marks)**

***(All questions are compulsory)***

Q11What command is used to change the owner of a file or directory?

**a) chown**

b) chmod

c) chgrp

d) changeowner

Q12What command is used to display information about the CPU usage of a system?

**a) top**

b) ps

c) iostat

d) vmstat

Q13Which command can be used to monitor changes to a file in real-time?

**a) tail -f**

b) head -f

c) follow

d) monitor

Q14 What command is used to display the current network configuration?

**a) ifconfig**

b) ipconfig

c) netstat

d) route

Q15 Which command is used to view the contents of a compressed file in Linux?

a) unzip

**b) gunzip**

c) tar

d) gzip

Q16 Which command is used to find all files modified in the last 5 days in Linux?

a) find -mtime +5

**b) find -mtime -5**

c) find -mtime 5

d) find -mtime 0

Q17 Which command is used to set the default editor in Linux?

a) export

b) env

c) set

**d) select-editor**

Q18 Which command is used to display the content of a file in a columnar format in Linux?

**a) column**

b) cut

c) fold

d) paste

Q19 Which command is used to find the IP address of a domain name in Linux?

a) ifconfig

**b) nslookup**

c) ipconfig

d) ping

Q20 Which command can be used to find a file in the filesystem?

a) locate

**b) find**

c) search

d) grep

**SECTION-C (4x5 marks=20 marks)**

Q21 Create a bash script that will take a directory as an argument and count the number of files in that directory.

**Answer:**

#!/bin/bash

dir=$1

count=$(ls -1 $dir | wc -l)

echo "There are $count files in the directory $dir."

Q22 Create a bash script that will read a file and replace all occurrences of a string with another string.

**Answer:**

#!/bin/bash

filename=$1

old\_string=$2

new\_string=$3

sed -i "s/$old\_string/$new\_string/g" $filename

echo "All occurrences of $old\_string have been replaced with $new\_string in $filename."

Q23 Create a bash script that will take a list of numbers as arguments and find the sum and average of those

numbers.

**Answer:**

#!/bin/bash

sum=0

for num in "$@"

do

sum=$(expr $sum + $num)

done

count=$#

average=$(echo "scale=2; $sum/$count" | bc)

echo "The sum of the numbers is $sum."

echo "The average of the numbers is $average."

Q24 Create a bash script that will take a string as an argument and check if it is a palindrome.

**Answer:**

#!/bin/bash

string=$1

reverse=$(echo $string | rev)

if [ $string == $reverse ]

then

echo "$string is a palindrome."

else

echo "$string is not a palindrome."

fi

**SECTION-D (1x10 marks=10 marks)**

Q25 Write bash script that creates a new bash script using the nano editor.

**Answer**:

#!/bin/bash

# Get the name of the new script from the user

read -p "Enter the name of the new script: " script\_name

# Check if the script already exists

if [ -f "$script\_name" ]; then

echo "Error: Script already exists."

exit 1

fi

# Create the new script using nano editor

nano "$script\_name"

# Make the new script executable

chmod +x "$script\_name"

echo "Script created successfully."