



Step:-

1. Download a virtual machine Software such as virtual box or VMware.
2. Go to the official Ubuntu website and download the Ubuntu ISO file.
3. Open your virtual machine Software Create a new Virtual machine.
4. follow the setup wizard to Configure the Virtual machine Settings.
5. When prompted to Select an operating system choose "Linux" and then "Ubuntu" as a version
6. Select the amount of RAM and hard drive space for the virtual machine.



7. Choose to use the Ubuntu Iso file you download as the installation media.
8. Follow the on-screen instruction to install Ubuntu on the virtual machine.
9. Once the installation is complete you can start using Ubuntu in the virtual machine.

#### POST PRACTICAL QUESTIONS:

1. What Is Operating System?

ANS An operating system is a software that manage computer hardware and provide a platform for running application. Ex. mac OS, linux, etc.

2. What Is Linux?

ANS Linux is an open source operating system kernel that power a wide range of device from Smart phone to super computers.

3. What Is The Difference Between Linux And Unix?

ANS Linux is a free open-source operating system inspired by Unix, while Unix is a proprietary operating system developed by AT&T Bell labs.

4. What Are The Basic Components Of Linux?

ANS The basic component of Linux include the kernel, shell, and various system utilities.

5. Define Shell.

ANS A shell is a command-line interface that allow users to interact with the operating system by executing commands.

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usage).

#### 9. Shell Scripting:

- Familiarize yourself with basic shell scripting using constructs like loops, conditionals, and functions.

#### 10. Advanced Commands:

- Learn advanced commands like 'awk' and 'sed' for text processing and manipulation.
- Explore 'tar' and 'zip' for archiving and compressing files.
- Understand 'cron' for scheduling recurring tasks.

### \* Command of Ubuntu

→ ls :- list of directory Content.

Cm :- ls

O/P :- hello.c, hello.js, README, txt.

→ mkdir :- Used to create folder.

Cm :- mkdir Newfolder

→ rm :- It is used to remove or delete file.

Cm :- rm Newfile

→ cp :- It is used to copy file or directories from one location to another.

Cm :- cp file1.txt / home / user / document /

→ mv :- It is used to move or remove files or directory

Ex :- mv file1.txt / path / to / directory.



- ~~rm~~dir :- It is used to remove directories, in Unix based.
- man :- Used to display manual page for a specific Command or topic.  
Cm = man ls  
O/P = manual of files.
- CD :- Used to change directories.  
Cm :- CD Documents
- Cat :- display files and Concatenations.  
Cm :- Cat Hello+\*\*
- date :- Print or set date
- History :- view a list of recently executed commands.  
Syntax :- history  
esc :- history



### POST PRACTICAL QUESTIONS:

1. How will you List files from a directory?

- a. pwd                          b. ls  
c. cd                            d. cp

2. Using which command you can create a folder using Terminal?

- a. mkdir                        b. ls  
c. cp                            d. tail

3. Using which command you can we list all the process running on a machine?

- a. man                         b. mkdir  
c. top                            d. tail

4. Which command is used to display the operating system name

- a. Os                            b. unix  
c. kernel                      d. uname

5. Which command is used to remove a file?

- a. mv                            b. rm  
c. del                            d. rename

6. Which command is used to count the total number of lines, words and character in a file?

- a. countw                      b. wcount  
c. wc                            d. count p



7. Which command is used to remove the directory?

- a. rdir
- b. remove
- c. rd
- d. rmmdir

8. Which command is used to rename the directory?

- a. mv
- b. rd
- c. del
- d. rename

9. uname stands for.....

- a. unix name
- b user name
- c. unique name
- d. none

10. which command allows us to create single or multiple files?

- a. rdir
- b. cat
- c. mv
- d. uname

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Signature with Date of Completion	10

X

10

```
#!/filename.sh
sh filename.sh
!/bin/bash
a=10, b=3
Sum='expr $a + $b'
echo $sum
Sub='expr $a - $b'
echo $sub
mul='expr $a \* $b'
echo $mul
div='expr $a / $b'
echo $div
```



#### POST PRACTICAL QUESTIONS:

1. What Is Process?

ANS... A Process is an instance of a program running in a computer. It is close in meaning to a term used in some operating system.

2. Explain Types Of Processes.

ANS... There are four type of processor like in operating system i) Batch ii) time shared os iii) Distributed os iv) Real time os v) network OS

3. Which Command Is Used To Check The State Of Process?

ANS... We can use command line tools like top to check the state of process. Alternatively we can consult the Process Status file for a particular PSD.

4. Explain Kill Command.

ANS... kill Command is a built-in command which is used to terminate process manually. kill Command sends signal to a process that terminates the process.

Marks out of 10

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```
echo "Student marksheet"
echo "Enter os marks"
read os
echo "Enter c++ marks:"
read CPP
echo "Enter Java marks:"
read Java
total = " $(os +$ CPP+$ Java)"
echo = " Total marks:" $ total
percentage = ' $(total /3)'
echo " Percentage:" $ percentage %
if [ $ percentage -ge 60 ]
then
echo " Class : first class Distinction"
elif [ $ percentage -ge 50 ]
then
echo " Class : first class "
elif [ $ percentage -ge 40 ]
then
echo " Class : second class"
else
echo " Class : fail"
fi
```

Output:

student mark sheet

```
Enter os marks: 50
Enter C++ marks = 60
Enter Java marks = 70
Total marks: 180
Percentage : 60%.
class: first class distinction.
```

### POST PRACTICAL QUESTIONS:

1. Which command is used for creating directories?

- a. mkdir
- b. rmdir
- c. cd
- d. cp

2. What does the following command do?

\$ mkdir dir dir/dir\_01/dir\_02

- a) create dir, dir\_01 and dir\_02
- b) creates dir\_02
- c) creates dir only
- d) throws an error

3. The expression used with chmod command to change permissions in a relative manner

The change directory permission for use 'a' for users "g" for group "o" for others chmod ug+rx \* folder name to give read, write & execute to everyone.

4. Write Syntax to add new group and new member within group name "SOCET"?

grouped -g group -ID SOCET  
User mod = g group, group member - name

5. Write Syntax for CHOWN Command:

CHOWN [-F] [-h] [-R] owner [group] {file  
directory} ? chown -R [-F] [-h] -l | -P  
owner [group] {file | directory} ?

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Echo "Enter the number for factorial:  
&read n

Fact = 1

while = { \$n -gt 2 }  
do

fact = fact \* n

n = \$((\$n - 1)) // n = "exp \$n - 1"

done

echo "\$fact"

## POST PRACTICAL QUESTIONS

1. Which one of the following is the correct syntax for grep command?
  - a) grep options filename(s)
  - b) grep options pattern
  - c) grep pattern filename
  - d)  grep options pattern filename(s)
2. Which one of the following command will be used for searching "director" in emp.lst?
  - a) grep "director"
  - b) grep -v "director" emp.lst
  - c) grep -director emp.lst
  - d)  grep "director" emp.lst
3. If there are special characters in a pattern, then we've to enclose them in \_\_\_\_\_.  
  - a) single quotes
  - b) double quotes
  - c) without any quotes
  - d) all quotes
4. Which option is used with grep command for ignoring the case in pattern searching?  
  - a)  -a
  - b) -v
  - c)  -I
  - d) -e
5. Which option is used with grep command for deleting lines?  
  - a) -v
  - b) -e
  - c) -a
  - d)  -i
6. \_\_\_\_\_ option counts the number of lines containing the pattern?  
  - a) -c
  - b)  -i
  - c) -e
  - d) -n

7. \_\_\_\_ option is used when we need to match multiple patterns in a single invocation of grep command?

- a) -a
- b) -c
- c) -n
- d) -i

8. find path\_list selection\_criteria action

- a) find action path\_list selection\_criteria
- b) find selection\_criteria action path
- c) find path action

9. What will be the output of the following command?

\$ find / -name a.out -print

- a) all files having filename as a.out
- b) all files in the root directory
- c) undefined output
- d) erroneous

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echo "How many much no of term"  
dead n

x = 0

y = 1

i = 2

echo "fibonacci series up to \$n terms:"

echo "\$x"

echo "\$y"

while {\$i -lt \$n}

do

i = `expr \$i + 1`

z = `expr \$x + \$y`

echo "\$z"

x = \$y

y = \$z

done.



### POST PRACTICAL QUESTIONS:

1. On a UNIX system, there can be \_shells running simultaneously.

- a) 1
- b) 2
- c) many
- d) 4

2. Which of the following keywords are used in while loop?

- a) Do
- b) done
- c) then
- d) do and done

3. Which of the following commands let us perform a set of instructions repeatedly?

- a). for
- b) while
- c) until
- d) for, while, until

4. until loop operates with a reverse logic as used in while loop.

- a) True
- b) False

5. Which command is used for changing filename extensions?

- a) chown
- b) rename
- c) basename
- d) rm

6. Suppose  $x = 10$ , then what will be the value of  $x\$x\$$ ?

- a) undefined
- b) erroneous
- c) 100
- d) x10\$

7. What is a shell script?

- a) group of commands
- b) a file containing special symbols
- c) a file containing a series of commands
- d) group of functions



8. Every if is closed with a corresponding \_\_\_\_

- a) else                       b) fi
- c) if                          d) else if

9. To check more than two conditions, \_\_\_\_ is used with if-else statements.

- a) while                    c) for
- b) elif                     d) for

Marks out of 10	
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