1. Minimum Number of Partitions to Install Linux:
The minimum number of partitions typically needed is one for the root filesystem (/). However, for better organization and management, it's common to have at least two partitions: one for the root filesystem (/) and one for swap space.

2. Ch mod Command:
The Ch mod (change mode) command in Linux is used to change the file system permissions of files and directories. It can be used with symbolic (r, w, x) or numeric (octal) modes. For example, Ch mod 755 file sets the owner to read, write, and execute, and the group and others to read and execute.

3. Check Linux Memory Utilization: You can check memory utilization using the free command.
Running free -h gives a human-readable output of total, used, and free memory.

4. Using Grep to Search for Specific Patterns:
The grep command is used to search for specific patterns within files. For example:

grep "pattern" filename.

5. Connecting to a Linux Server via SSH:
You can connect to a Linux server using SSH with the following command:

ssh username@hostname.

6. Create 5 Files in /tamp and Compress Them.
Ans. Done in lab.

7. Describe the Root Account: The root account is the administrative user in Linux, with full privileges to perform any operation on the system. It can access and modify any file, install software, and manage user accounts.

8. What is Shell?: A shell is a command-line interface that allows users to interact with the operating system by executing commands. Examples include Bash, Zsh, and Fish.

9. What is Linux?: Linux is an open-source operating system kernel based on Unix. It is widely used for servers, desktops, and embedded systems due to its stability and security.

10. What is Bash?: Bash (Bourne Again SHell) is a widely used command-line shell for Unix-like operating systems. It provides a command-line interface and scripting capabilities.

11. First Step for a New Empty Hard Drive: The first step is to partition the drive using tools like fdisk, gdisk, or parted. This defines how the storage will be organized.

12. Show Current Working Directory:
Ans. Done in lab.

13. write the Linux command to get help with various options.
Ans Done in lab.

14. Display what all users are currently doing.
Ans who
--->> Alternatively, you can use: w
--->> This command shows information about who is logged in and what they are doing.

15. Get information about the operating system:
---> uname -a
---> This command prints detailed information about the operating system.

16. Create a hard link of a file:

---> ln <original_file> <hard_link_file>

For example:

---> ln file.txt hard_link.txt
This creates a hard link to file.txt named hard_link.txt.

17. Create a soft (symbolic) link of a file and a directory:

For a file:
ln -s <original_file> <symbolic_link_file>
Example:

--->ln -s file.txt soft_link.txt
For a directory:
--->ln -s <original_directory> <symbolic_link_directory>

Example:
---> ln -s /home/user/docs /home/user/docs_link.

18. Search for a specific pattern in a file:

---> grep "<pattern>" <file_name>

Example:

---> grep "hello" file.txt
This searches for the string "hello" in file.txt.

19. Show the use of basic regular expressions using the grep command:

---> grep -E "<regular_expression>" <file_name>
Example using a basic regular expression to find lines with either "apple" or "banana":

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---> grep -E "apple|banana" file.txt
This will match lines that contain either "apple" or "banana" in file.txt.
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