

1. All questions are compulsory.
2. All questions carry equal marks.
3. Draw neat, labeled diagrams wherever necessary.

Q.1 Attempt the following (Any Four)**[20 Marks]**

- a) Explain the terms with examples: 1. GNU Info 2. Utilities.
- b) Which commands used in shell for the following.
 - i. Display current working directory.
 - ii. Display which user is logged in.
 - iii. Show the calendar for the month Jan 2023.
 - iv. Create a file named file1 and enter your information in it.
 - v. Create a soft link for file1.
- c) With the help of a suitable diagram explain architecture of Linux.
- d) What are the various features of the Linux operating system?
- e) Explain the file system in Linux.
- f) What is a regular expression? Explain various symbols and its use in RE.

Q.2 Attempt the following (Any Four)**[20 Marks]**

- a) How is security achieved in Linux? Explain about user accounts in Linux.
- b) Explain in brief. Absolute pathname
Relative pathname.
- c) How are groups used in Linux? Explain the commands to create and modify a group.
- d) Explain the terms in networking: 1. telnet. 2. ssh.
- e) Explain sed command with its options. Give examples.
- f) Explain vi editor with suitable diagram.

Q.3 Attempt the following (Any Four)**[20 Marks]**

- a) Explain redirecting input and output in the shell.
- b) What is job scheduling? Explain: 1. nice 2. renice.
- c) How to use test command for numeric comparison and file comparison? Explain with an example.
- d) Write a short note on the exit status of a command.
- e) Explain syntax of case statement with suitable example.
- f) Write a shell script to check whether a given string is a palindrome.

Q4 Attempt the following (Any Five)

[15 Marks]

- What are simple filters? Explain with an example.
- What is Linux Distribution? Give at least 3 examples of Linux distributions?
- Explain what are passwd and shadow files. How are these files different from one another?
- Explain the networking concepts: 1. ping 2. ftp
- Explain use of backtick (') and expr command.
- Write a shell script for multiplication of two numbers.

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