

(2 ½ Hours)

[Total Marks: 75]

- N.B. 1) All questions are compulsory.
 2) Figures to the right indicate marks.
 3) Illustrations, in-depth answers and diagrams will be appreciated.
 4) Mixing of sub-questions is not allowed.

Q. 1 Attempt All (Each of 5Marks)**(15M)****(a) Multiple Choice Questions**

- Which of the following OS is not based on Linux?
 - Ubuntu
 - Redhat
 - BCD
 - None of the above
- In Linux everything stored as a.....
 - File
 - Directory
 - Executable file
 - all of the above
- Which represents the user home directory?
 - /
 - .
 - ..
 - ~
- Which of the following is a text editor
 - GNOME
 - LILO
 - emacs
 - none of the above
- The command "awk {print \$1} san.txt" will
 - print the first line of file san.txt
 - print the first field of every line in san.txt
 - generate syntax error
 - None of the above

(b) Fill in the blanks

- Man pages are called as _____.
- GRUB is nothing but _____.
- Purpose of who command is _____.
- The sed is nothing but _____.
- The purpose of head command is _____.

(c) Short Answers.

- State the rules for writing a file name in Linux.
- What do you mean by arch?
- Define the term RPM and DEB.
- What do you mean by shell?
- Provide the syntax of mv command.

Q. 2 Attempt the following (Any THREE)(Each of 5Marks)**(15M)**

- Diagrammatically explain the relationship between User-Shell-Kernel in Linux architecture.
- Define the following terminology used in Linux :-
Desktop Environment, Package, Service, Terminal, root
- Differentiate between Linux Kernel and Distribution.
- Give the steps for boot process in Linux.

- (e) Define process. Explain ps command with its options and usage.
- (f) Discuss the importance of Linux in software ecosystem as Servers and Supercomputers.

Q. 3 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- (a) What is the purpose of the following network management commands: - ifconfig, ping, netstat, dig, nslookup.
- (b) Define environment variables. Explain its types.
- (c) Explain the basic commands with examples:- cat, cp, mv, rm, pwd
- (d) Discuss Linux Documentation commands: - man, GNU info, and help.
- (e) Diagrammatically explain File system architecture.
- (f) Write a note on emacs editor.

Q. 4 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- (a) Explain ssh in detail.
- (b) Define Network protocol. Explain in detail HTTP.
- (c) What is the purpose of following commands? Give suitable example. ssh, telnet, ping, traceroute, hostname
- (d) Give and explain the syntax of if..else and if..elif..else command with example.
- (e) What are the uses of root in Linux system? Explain.
- (f) Write a shell script to read a filename from the user, check whether it is an ordinary or directory file or any other type of file.

Q. 5 Attempt the following (Any THREE) (Each of 5Marks) (15M)

- (a) Explain the meaning of shutdown command with following options:- -r, -h, -p, Time, message
- (b) Which are the columns of ls -l command? Explain.
- (c) Give and explain sed syntax. Also explain with examples the meaning of q, p, d, !, = action commands in sed.
- (d) Give the purpose of the following regular expression characters:- ^, \$, *, ?, ()
- (e) Explain the following compression commands: bzip2, bzip, bunzip2, gzip, gunzip