

KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(5 Pages)

Reg. No:

Question Code No : 25001403

Sub Code : 25PMCA13

PG Degree - End Semester Examinations, November 2025

First Semester

M.C.A

Linux and Shell Programming

(For those who joined in June 2025 onwards)

Time : 3 Hours

Maximum : 75 Marks

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer :

1. Which command shows the current working directory?
(a) pwd (b) dir
(c) path (d) ls
2. In a shell script, what does > do?
(a) Input redirection (b) Output redirection
(c) Pipe (d) Background execution
3. What do \$1, \$2, etc. mean in shell scripts?

- (a) Environment variables (b) Command line arguments
(c) Shell options (d) Reserved words
4. Which command lets a script read input from the user?
(a) scanf (b) read
(c) input (d) getline
5. Which keyword is used to define a function?
(a) function (b) def
(c) sub (d) proc
6. Which gawk command is used to format output?
(a) printf (b) printline
(c) out (d) writeln
7. In sed, what is the hold space used for?
(a) Storing temporary text (b) File redirection
(c) Disk swapping (d) Loop control
8. What does gawk -F: '{print \$1}' /etc/passwd show?
(a) Whole file (b) First field of each line
(c) Line numbers (d) All fields
9. Which shell is light and used in embedded systems?
(a) bash (b) zsh
(c) dash (d) csh
10. Which shell has advanced features like spell check and auto-complete?
(a) bash (b) dash
(c) sh (d) zsh

PART - B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Explain how to display file permissions, owner and size using a shell command.

(OR)

- (b) Illustrate the use of environment variables in Linux with examples.

12. (a) Apply the if-then and case statements in Linux with suitable examples.

(OR)

- (b) Show how to pass parameters to a shell script and explain what \$0, \$1, \$# and \$@ do.

13. (a) Demonstrate a function in a shell script that prints all elements of an array.

(OR)

- (b) How can shell scripts generate reports for system administration tasks?

14. (a) Utilize regular expressions to search for specific words in a file. Give suitable example.

(OR)

- (b) Explain and apply the sed editor hold space commands with a suitable example.

15. (a) Illustrate how a script can automate backups of files or directories. Give example.

(OR)

- (b) Explain how the dash shell works and how it differs from bash.

PART – C (5 X 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Explain the Linux file system in detail with neat diagram.

(OR)

- (b) Show how pipes (|) connect commands in Linux.

17. (a) Apply the test command with [[]] and (()) in examples.

(OR)

- (b) Explain how environment variables and user input are used in a shell scripts.

18. (a) Discuss how the use of local and global variables influences a script's behaviour and reliability with suitable example.

(OR)

- (b) Evaluate how the Sed editor helps in editing files compared to other text editors.

19. (a) Explain the differences between basic and extended regular expressions in Linux.

(OR)

- (b) Explain how using structured commands in GAWK helps in handling large amounts of data efficiently.

20. (a) Explain how scripts can be used to automatically send requests over the internet.

(OR)

(b) Explain how does using scripts simplify the process of adding, modifying and deleting user accounts in Linux.