

2023

Time - 3 hours

Full Marks - 60

Answer all groups as per instructions.

Figures in the right hand margin indicate marks.

GROUP – A

1. Answer all questions and fill in the blanks as required. [1 × 8]
- (a) UNIX operating system is written in which programming language ?
- (b) The process of creating partitions within the operating system typically involves the use of _____ commands.
- (c) In UNIX, the phases of process creation include Fork, Exec, Wait and _____.
- (d) UNIX users can be categorized into different types, including _____ users.
- (e) To control access to files and directories in UNIX, _____ permission is required.
- (f) The commonly used UNIX text editor for file editing is _____.

[2]

- (g) Shell scripting allows UNIX users to create and execute _____.
- (h) Decision making in UNIX shell scripts can be implemented using _____ statements.

GROUP - B

2. Answer any eight of the following questions within two to three sentences each. [1½ × 8]

- (a) In UNIX, users can be categorized into different types, such as regular users and super users. (Write true or false.)
- (b) Explain two key features that distinguish UNIX operating system from other operating systems.
- (c) File permission in UNIX control who can access and modify files and directories. (Write true or false.)
- (d) What are the main phases involved in process creation in UNIX?
- (e) Name a widely used UNIX text editor for file editing and briefly explain its significance.
- (f) Shell scripting in UNIX allows users to create and execute graphical applications. (Write true or false.)
- (g) Name one utility program and its purpose in UNIX.
- (h) What are the two primary phases involved in the process of creating partitions in UNIX?

[3]

- (i) What are the different modes of operation in Vi editor?
- (j) Why use grep command?

GROUP - C

3. Answer any eight of the following questions within 75 words each.

[2 × 8]

- (a) Explain the key difference between UNIX operating system and other operating systems.
- (b) Describe the process of creating partitions in UNIX.
- (c) Explain the four main phases involved in process creation in UNIX.
- (d) Discuss the different types of users that can be found in a UNIX system.
- (e) What are internal and external commands in UNIX?
- (f) How do file permissions work in UNIX and why are they important for system security and data protection?
- (g) What is the purpose of Shell scripting in UNIX?
- (h) What is the life span of a Shell variable?
- (i) How does the login process work in UNIX and why is it essential for user authentication and system access control?
- (j) Explain meta character in UNIX.

[4]

GROUP – D

Answer **all** questions within 500 words each.

4. Explain the concept of process creation in UNIX. Discuss the four main phases involved : Fork, Exec, Wait and Exit. Provide a detailed example to illustrate these phases. [6]

OR

Compare and contrast UNIX operating system with other operating system.

5. Describe the user management capabilities of UNIX. Explain the process of creating and managing in a UNIX system including the commands and permission involved. [6]

OR

List the various types of Shells found in UNIX and provide a brief description of each.

6. Explore the concept of Shell scripting in UNIX. Describe the process of writing, saving and executing a Shell script. [6]

OR

Explain the following commands :

[2 × 3

- (i) Tar
- (ii) Cat
- (iii) Grep

[5]

7. Explain the role of control structure in UNIX Shell scripting. Discuss how conditional statements and loops are used to make decisions. [6]

OR

Explore utility programs in UNIX and their significance in system management. Select one utility program and provide a detail explanation of its purpose and uses.