

CBCS SCHEME



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18CS56

Fifth Semester B.E. Degree Examination, Dec.2023/Jan.2024

UNIX Programming

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain with a neat block diagram, architecture of UNIX operating system. (08 Marks)
- b. What is a parent child relationship? With the help of neat diagram, explain UNIX file system. (06 Marks)
- c. Explain the commands to add, modify and delete a user. (06 Marks)

OR

- 2 a. List and explain the silent features of UNIX operating system. (08 Marks)
- b. What are internal and external commands in UNIX? Explain with any two examples in each type command used to identify whether command is internal or external command. (06 Marks)
- c. In brief explain the following commands with example :
i) car ii) mv iii) wc iv) od. (06 Marks)

Module-2

- 3 a. Using both relative and absolute methods of assigning permissions. Files current permissions are rw - - w - r - - . Write chmod expressions required to change them for the following :
i) r - - r - - - - x
ii) rwxrwx - - x
iii) r - xr - xr - x
iv) rwxrwxr - - . (08 Marks)
- b. Explain with example set and shift commands in UNIX to manipulate positional parameters. (06 Marks)
- c. With syntax and programming example explain while and for loops. (06 Marks)

OR

- 4 a. Which command is used for listening of file attributes? Explain the significance of each field. (08 Marks)
- b. Write syntax of grep command and explain any five options of grep command. (06 Marks)
- c. In detail discuss the three standard file supported by UNIX. (06 Marks)

Module-3

- 5 a. Explain with a neat diagram memory layout of a C program and briefly discuss the different functions used for memory allocation. (10 Marks)
- b. Explain the following general APIs along with syntax :
i) open ii) create iii) read iv) write v) close. (10 Marks)

OR

- 6 a. With a neat block diagram, explain how a C program is started and how it terminates. (10 Marks)
- b. Explain getrlimit and setrlimit function with prototype. (06 Marks)
- c. Define race condition. Write a 'C' program to demonstrate the race condition. (04 Marks)

Module-4

- 7 a. What are pipes? What are its limitations? Write a program to send data from parent to child over a pipe. (10 Marks)
- b. Briefly explain the semaphore. Explain following APIs with prototype : (10 Marks)
- i) semget() ii) semctl() iii) semop.

OR

- 8 a. What is a FIFO? Write uses of FIFO with a neat diagram, explain client server communication using FIFO. (08 Marks)
- b. Explain the following APIs with prototype : (08 Marks)
- i) Setreuid() and setregid()
- ii) System(). (04 Marks)
- c. Briefly explain job control.

Module-5

- 9 a. With a neat diagram, explain the BSD syslog facility daemon process. (10 Marks)
- b. Explain the following APIs with prototype : (10 Marks)
- i) Siprocmask
- ii) Sigaction.

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OR

- 10 a. What are daemon process List the coding rules. (10 Marks)
- b. Explain the following APIs with prototype (10 Marks)
- i) Sigsetjmp and siglongjmp
- ii) Kill().

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