

CBCS SCHEME



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18CS56

Fifth Semester B.E. Degree Examination, July/August 2022

Unix Programming

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Explain Unix architecture with neat diagram. (09 Marks)
- b. Explain the salient features of Unix operating system. (07 Marks)
- c. Explain the following commands : (i) date (ii) echo (04 Marks)

OR

- 2 a. Explain three categories of files in unix. (06 Marks)
- b. What are internal and external commands in unix? Explain them with example. (06 Marks)
- c. Explain the following commands with syntax and example, (i) cat (ii) mv (iii) wc (iv) mkdir (08 Marks)

Module-2

- 3 a. Discuss the significance of the seven fields of `ls -l` command. (09 Marks)
- b. Explain three standard file and redirection in unix. (06 Marks)
- c. Explain `grep` command with example. (05 Marks)

OR

- 4 a. What are file permission? Illustrate the different ways of setting the file permission. (10 Marks)
- b. Explain shell interpreter cycle with flowchart. (05 Marks)
- c. Explain `for` and `while` control statements in shell script with example. (05 Marks)

Module-3

- 5 a. Explain the following API's with prototype (i) `open` (ii) `fcntl` (10 Marks)
- b. Explain the `fork` and `v-fork` system call. How `fork` system call differs from `v-fork`? (10 Marks)

OR

- 6 a. With neat sketch, explain memory layout of C program. (10 Marks)
- b. Explain the `setjmp()` and `longjmp()` functions with an example C/C++ program. (10 Marks)

Module-4

- 7 a. What are pipes? Explain different ways to view a half-duplex pipe. Write a C/C++ program to send data from parent process to child process using pipes. (10 Marks)
- b. What is FIFO? With a neat diagram, explain the client-server communication using FIFO. (10 Marks)

OR

- 8 a. Write a note on: (i) Process Accounting (ii) Process Time (10 Marks)
- b. Explain briefly with example : (i) Message Queue (ii) Semaphore (10 Marks)

Module-5

- 9 a. What are daemon process? Mention and explain coding rules of daemon process. (10 Marks)
- b. Explain `kill()` API and `alarm()` API. (10 Marks)

OR

- 10 a. Define signal. Explain `sigaction` API with demonstrating program. (10 Marks)
- b. What is error logging? With a neat block diagram, discuss the error login facility in BSD. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.