



Fifth Semester B.E. Degree Examination, Dec.2024/Jan.2025
UNIX Programming

18CS56

Max. Marks: 100

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

Module-1

- 1 a. Describe interactive session of UNIX along with block diagram. (10 Marks)
 b. Explain any five features of UNIX operating system. (10 Marks)

OR

- 2 a. Explain with figure kernel and shell relationship in UNIX operating system. (10 Marks)
 b. Explain four special directories that play an important role in directory structure of UNIX. (10 Marks)

Module-2

- 3 a. Write a shell script which will receive any number of filenames as arguments. The shell script should check whether every argument supplied is a file or directory. If it is a directory it should be appropriately reported. If it is a file then total number of lines in that file should be displayed. (10 Marks)
 b. What are file permissions? Explain the use of chmod to change file permission using both absolute and relative methods. (10 Marks)

OR

- 4 a. Write a shell script to accept a string as command line and reverse it. (10 Marks)
 b. Explain grep command. List any three options of grep command with its significance, syntax and example. (10 Marks)

Module-3

- 5 a. Explain following API; with syntax and example.
 i) open ii) close iii) read iv) write (10 Marks)
 b. What do you mean by fork(), vfork() and exec() functions? Explain them with example programs. (10 Marks)

OR

- 6 a. With a neat schematic diagram, explain the memory layout of a C program. (10 Marks)
 b. Explain setjmp and longjmp API; with an example. (10 Marks)

Module-4

- 7 a. What are pipes? Explain different methods to view a half duplex pipe. Write a program to send data from parent to child process using pipes. (10 Marks)
 b. Explain briefly with example:
 i) Message Queues ii) Semaphores (10 Marks)

OR

- 8 a. What is a FIFO? What are the two methods of creating FIFO? Explain with diagram client server communication using FIFO. (10 Marks)
 b. What are Interpreter files? How are they useful? Write a program that execs an interpreter file. (10 Marks)

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Module-5

- 9 a. Explain the term signal and signal mask. Illustrate the same with an example. (10 Marks)
 b. What is error logging? With a neat block schematic diagram, discuss the error login facility in BSD. (10 Marks)

OR

- 10 a. Explain kill and alarm API with an example. (10 Marks)
 b. Explain daemon characteristic and coding rules. (10 Marks)
