

CBCS SCHEME

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18CS56

Fifth Semester B.E. Degree Examination, June/July 2023

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 with neat diagram, architecture of UNIX operating system. (10 Marks)
b. List and explain the salient features of UNIX operating system. (10 Marks)

OR

- 2 a. Explain basic file types in UNIX. What is relative and absolute pathname? (10 Marks)
b. Explain the following commands :
i) printf ii) passwd iii) date iv) who (10 Marks)

Module-2

- 3 a. Which command is used for listing of file attributes? Explain the significance of each field. (10 Marks)
b. With the help of an example, explain grep command with all the options. (10 Marks)

OR

- 4 a. Explain 3 standard redirection files with respect to UNIX OS. (10 Marks)
b. Define shell script. Write menu driven shell script which displays:
i) Current users of sys. ii) List of files
iii) Today's date iv) Process status
v) Contents of file. (10 Marks)

Module-3

- 5 a. Discuss how a program is started and terminated in various ways along with suitable diagram. (10 Marks)
b. Explain UNIX kernel support for process considering parent child relationship, show the related data structures. (10 Marks)

OR

- 6 a. Write a detailed description on wait and waitpid() with suitable programming example. (10 Marks)
b. Explain fork() and vfork() functions with programming example. (10 Marks)

Module-4

- 7 a. Explain implementation of system() function with its prototype. (10 Marks)
b. What are pipes? What are its limitations? Write a program to send data from parent to child over a pipe. (10 Marks)

OR

- 8 a. What is FIFO? With neat diagram, explain client-server communication using FIFO. (10 Marks)
b. Explain setuid and setgid functions with example and explain various ways to change user-ids. (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.

Module-5

- 9 a. What is daemon process? Explain coding rules with program. (10 Marks)
b. What are signals? Mention different source of signals write a program to setup signal handlers for SIGINT and SIGALRM. (10 Marks)

OR

- 10 a. Discuss how error logging is done by daemon process with suitable diagram. (10 Marks)
b. Explain prototypes of following APIs:
(i) signal
(ii) kill
(iii) alarm
(iv) sigaction (10 Marks)
