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18CS56

Fifth Semester B.E. Degree Examination, Feb./Mar. 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 the architecture of UNIX Operating System. (10 Marks)
 b. Explain the following commands : (10 Marks)
 i) printf ii) passwd iii) date iv) who.

OR

- 2 a. Explain features of UNIX. (10 Marks)
 b. Explain basic file types in UNIX. What is relative and absolute pathname? (10 Marks)

Module-2

- 3 a. Interpret the significance of ls -l command redirection. (10 Marks)
 b. Explain 3 standard redirection files with respect to UNIX OS. (10 Marks)

OR

- 4 a. Explain changing file permissions in absolute and relative manner. (10 Marks)
 b. Define Shell Script. Write menu driven shell script which displays : (10 Marks)
 i) Currents users of system ii) List of files iii) Today's date
 iv) Process status v) Contents of a file.

Module-3

- 5 a. What is the advantage of locking files? Explain mandatory and advisory locks. Why advisory lock is considered safe? What are the drawbacks of advisory lock? Explain. (12 Marks)
 b. Explain exec functions with program. (08 Marks)

OR

- 6 a. Discuss how a C program is started and terminated in various ways along with suitable diagram. (10 Marks)
 b. Write a C/C++ program using setjmp and longjmp to show their effect on various variables. (10 Marks)

Module-4

- 7 a. What is Stream Pipe? Explain it with program. How Stream pipe is better than pipe? (10 Marks)
 b. Explain the implementation of system with its prototype. (10 Marks)

OR

- 8 a. Define Message queue. Discuss how it is useful in IPC. (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)

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. Discuss how error logging is done by daemon process with suitable diagram. (10 Marks)
b. Discuss the working of sigprocmask API. Explain all parameters of API with program. (10 Marks)

OR

- 10 a. What is Daemon process? Explain coding rules and error logging. (10 Marks)
b. Explain the prototypes of following APIs : (10 Marks)
i) Signal ii) Kill iii) alarm iv) sigaction.

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