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06CS36

Third Semester B.E. Degree Examination, Dec.09/Jan.10
Unix and Shell Programming

Time: 3 hrs. Max. Marks:100

Note: ***Answer any FIVE full questions, selecting at least TWO questions from each part.***

PART – A

1 a. Define an operating system. Discuss the salient features of UNIX operating system. **(06 Marks)**

b. Explain the architecture of the UNIX operating system. **(08 Marks)**

c. Explain the following commands with examples : i) cat ; ii) rmdir ; iii) pwd. **(06 Marks)**

2 a. A file's current permission are rw_r_xr_ _. Specify the chmod expression required to change them for the following:
i) rw x rw x rw x ; ii) r_ _ r_ _ _ _ _ ; iii) _ _ _ _ _ _ _ _ _ ; iv) _ _ _ r_ _ r_ _. **(08 Marks)**
Using both the relative and absolute methods of assigning permissions.

b. Explain briefly the file attributes listed using ls – l command. **(06 Marks)**

c. What are the different modes of Vi editor? Explain with a diagram. **(06 Marks)**

3 a. Explain what wild – card patterns match:
i) [A – Z] ????* ii) * [0 – 9] *
iii) * [!0 – 9] and iv) * · [!s] [!h]. **(08 Marks)**

b. What are standard input, standard output and standard error? Explain with respect to UNIX. **(06 Marks)**

c. What is process status? Explain PS command with options. **(06 Marks)**

4 a. Explain the following environment variables with examples:
i) SHELL ; ii) LOGNAME ; iii) PATH. **(06 Marks)**

b. Differentiate between hard link and soft link in UNIX with examples. **(06 Marks)**

c. Explain the following commands with examples: i) tail ; ii) paste ; iii) tr ; iv) pr. **(08 Marks)**

PART – B

5 a. What is the difference between a wildcard and a regular expression? Explain the "grep" command using n, *l* and f options with examples. **(08 Marks)**

b. What do these regular expressions match? i) a · * b ; ii) ^ { $. **(04 Marks)**

c. What is sed? With examples explain the difference between line addressing and context addressing in sed? **(08 Marks)**

6 a. What is shell programming? Write a shell program that will do the following tasks, in order:
Clear the screen
Print the current directory
Display current login users. **(08 Marks)**

b. Explain the shell features of "while" and "for" with syntax. **(08 Marks)**

c. What is the "exit" status of a command and where is it stored? **(04 Marks)**

7 a. Write an awk program to find square of all the numbers from 1 to 10. **(08 Marks)**

b. With example, explain the following built-in variables of awk:
i) FS ; ii) NF ; iii) FILENAME. **(06 Marks)**

c. Explain the following built-in functions of awk with examples:
i) substr ; ii) index ; iii) length. **(06 Marks)**

8 a. Explain the following string handling functions of PERL with examples:
i) length ; ii) index ; iii) substr ; iv) reverse. **(08 Marks)**

b. Write a PERL program to print numbers that are accepted from the keyboard using while and an array construct. **(06 Marks)**

c. Explain the following in PERL with examples:
i) Foreach looping construct ; ii) Join. **(06 Marks)**

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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.