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10CS44

Fourth Semester B.E. Degree Examination, June/July 2015
UNIX and Shell Programming

Time: 3 hrs. Max. Marks:100

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

PART – A

1 a. Explain the architecture of UNIX operating system with a neat diagram. **(08 Marks)**

b. Illustrate with a diagram, the typical UNIX file system and explain different types of files supported in UNIX. **(08 Marks)**

c. Explain internal and external commands with example. **(04 Marks)**

2 a. Which command is used for listing file attributes? Briefly describe the significance of each field of the output. **(08 Marks)**

b. A file's current permissions are rw – r – x r – – . Specify the chmod expression required to change them for the following :

i) r w x r w x r w x

ii) r – – r – – – – –

iii) – – – – – – – – –

Using both the relative and absolute methods of assigning permissions. **(06 Marks)**

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

3 a. Explain the three standard files with respect to UNIX operating system. **(06 Marks)**

b. Explain the mechanism of process creation using system calls in UNIX. **(06 Marks)**

c. Explain the following environment variables with examples :

i) SHELL

ii) LOGNAME

iii) PATH

iv) PS2. **(08 Marks)**

4 a. Distinguish between hard links and soft links with suitable examples. **(06 Marks)**

b. Explain the following filters with options :

i) pr

ii) sort. **(08 Marks)**

c. Use find command to locate from your home directory :

i) All files with the extension ·html

ii) All flies having inode number 9076

iii) All directories having permissions 666

iv) All files not accessed for more than a year

v) All but the C program files

vi) All files named a·out and all "C" source files and remove them interactively. **(06 Marks)**

PART – B

5 a. Explain grep command with all options. **(08 Marks)**

b. Briefly explain the different ways of addressing used in sed with example. **(06 Marks)**

c. Explain BRE (Basic Regular Expression) character subset used for constructing regular expressions. **(04 Marks)**

d. Write the commands for the following :

i) Use sed to delete all blank lines from a file named sample

ii) Use sed to replace all occurrences of the word "UNIX" with "LINUX" in a file named sample. **(02 Marks)**

6 a. What is shell programming? Write a menu – driven shell script to perform the following :

i) List of users who are logged in

ii) List of files in the current directory

iii) Today's date

iv) Quit to UNIX. **(08 Marks)**

b. Explain with an example "while" and "for" loop in shell programming. **(06 Marks)**

c. Briefly explain set and shift commands in UNIX to manipulate positional parameters with example. **(06 Marks)**

7 a. What is AWK? Explain any three built – in functions in AWK. **(07 Marks)**

b. Explain associative arrays in AWK. **(06 Marks)**

c. Explain built – in variables in AWK. **(07 Marks)**

8 a. Explain the string handling functions supported by PERL and also write a PERL script to convert a given decimal number to binary equivalent. **(12 Marks)**

b. Explain the following in PERL with example :

i) split

ii) join. **(08 Marks)**

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