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C-1902

B. C. A. (Sem. V) Examination

October / November – 2008

Paper - 502 : Unix & Shell Programming

Time : 3 Hours]

[Total Marks : 70

Instruction :

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नीचे दशांशक निशानोंवाली विगता उत्तरपत्री पर अवश्य लपनी.
Fillup strictly the details of signs on your answer book.

Name of the Examination : **B. C. A. (SEM. 5)**

Name of the Subject : **PAPER - 502 : UNIX & SHELL PROGRAMMING**

Subject Code No. : **1 9 0 2** Section No. (1, 2,.....) **Nil**

Seat No. :

Student's Signature

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1 Answer the following question : 14

- (1) What action does the touch command perform ?
- (2) Give at least four operations we can use uniquely with directories.
- (3) What are the three time stamps maintained in the inode and how do you display two of them for the file file1 ?
- (4) What is the difference between grep and fgrep ?
- (5) Distinguish between process and job.
- (6) In which shell variable is the current shell process-id contained ?
- (7) State function of the PATH variable.
- (8) Give any two circumstances when a directory file cannot be removed using the rmdir command.
- (9) State any two methods to stop incoming message being written to a terminal.
- (10) What is the purpose of the export command ?
- (11) Which file is the parent of all files ?
- (12) List default file as well as directory permission when masking has been set by the command as umask 333.
- (13) What is the function of getty process ?
- (14) Differentiate between rm -r dir1 and rmdir dir1 commands.

- 2 (a) Write a short note on sticky bit. 4
- (b) Discuss the steps interpreted by shell at Unix prompt. 4
- (c) Explain test command with example. 4

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- (d) Show the octal representation of following permissions : 2
(i) r-xr- -r-x
(ii) -wxr- - - wx.

OR

- 2 (a) Explain mail command. 4
(b) Explain the function of each mode of vi-editor. How can we switch from one mode to another mode ?
(c) What will be the permission string for following octal values ? 2
(i) 570
(ii) 406.
(d) Discuss the significance of sleep and wait command. 2
(e) Explain the function of /dev and /etc directories. 2
- 3 (a) Write an appropriate command for the following : 8
(any eight)
(1) Display all files of current directory whose 1st character is not special character.
(2) Remove directory tree-structure dir/dir2/dir3 using single command.
(3) Count the frequency of users who are logged-in from more than one terminal.
(4) Frame a crontab entry to execute the command1 every minute in first 10 minutes after 5:00 p.m. every friday of the month March, June, September and December of every year.
(5) Opens most recently saved file in vi editor.
(6) Delete all leading and trailing spaces in all line of a file f1.
(7) Select those lines that contain only digits.
(8) Display all line that start with 'let', from a file s1.1, e or t may be in any case.
(9) Count the frequency of each word in text file.
(10) Display string in uppercase.
(b) What is regular expression ? Explain any one utility with proper illustration that uses regular expression. 6

OR

- (b) (1) Define a shell. Explain with an example the meta-characters that the shell uses to match filenames. 3
(2) What is filter ? List out the four categories of filter commands. 3

sions : 2

- 4 (a) Write an awk script that accept values of two MxN matrices and display multiplication of these matrices. 6
- (b) Write a script that accept username from command-line and check after every one-minute whether user has logged in or not. The script should display message on user's terminal whenever he logs in. 4
- (c) Do as directed : 4
- (1) What is IRE ? Explain in brief with an example.
- (2) Explain in brief : inode block.

OR

- 4 (a) Write a script to simulate wc command of Unix. 6
- (b) Write a script to read a file contents and count number of consonant, vowels, digits, special characters and white-space characters. 4
- (c) Do as directed : 4
- (1) What is here document ? What are the advantages of it ? Give proper illustration.
- (2) What is a hidden file in Unix ? How do you remove only the hidden files from your current directory ?

- 5 (a) Write a command using awk utility : 6
- (1) Simulate the following shell commands :
- (1) tail -40 file1
- (2) head -20 file1/tail -6
- (2) List regular files that consists of exactly five words in at least one of the line.
- (3) Display all words in file1 that begins with digit.

OR

- 5 (a) Write a command using awk utility : 6
- (1) Print odd number of words in each line.
- (2) Count occurrences of pattern 'unix' in file f1
- (3) Display those words whose length greater than 8-characters and consist of alphabet only.
- (b) Do as directed (any four) : 4
- (1) Write a grep command to display all lines that begin and end with same character.
- (2) Using command substitution, write a command sequence that always prints the calendar of the current month.
- (3) Give special notation used for following directories
- (i) root
- (ii) Parent
- (iii) Child
- (iv) home.

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- (4) What are the conditions that need to be satisfied to make this sequence work ?
Command1 | command2 | command3
- (5) How will you store the size of file1 in variable cnt ?
- (6) Name the three sources of standard input and standard output.

5 (c) Answer the following (any two)

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- (1) Explain substitution feature of sed utility.
- (2) What is command substitution ? Distinguish between command substitution and piping.
- (3) Discuss string functions of awk utility.