RG-1902

B. C. A. (Sem. V) Examination
April / May – 2008
Paper - 502 : Unix & Shell Programming

Time : **3** Hours]   [Total Marks : **70**

Instructions :

1   Answer the following questions: **14**

   (1)   If x has the value 10, what are the values of xx and xx?

   (2)   What is the exit status of a command ? What is its normal value, and where is the value stored ?

   (3)   Differentiate between while and until loop.

   (4)   Give **two** functions of the dot **(.)** in vi editor.

   (5)   What is the function of tty command ?

   (6)   List out the startup files used by bash shell.

   (7)   State the difference between utility and application.

   (8)   How do you create a subshell ? How do you move to the parent shell after creating a subshell ?

   (9)   Format a file named f1 such that the file have 5-characters left margin and should be display in 3-columns.

  (10) Define redirection. List out the symbols used for redirection.

  (11) Explain the meaning of following command :
cat file 1 || echo "File 1 not found".

  (12) State why the -r option of rm is dangerous.

  (13) What is meant by major and minor number ?

  (14) How do character devices and block devices differ ?

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2 (a) Write a short note on features of UNIX OS. 6

   (b) Explain how you use egrep and fgrep to take patterns 4
        from a file. Give an example of each.

   (c) Differentiate between screen and line editor. Explain 4
        operators used in vi-editor.

OR

2 (a) Explain for loop with an example. 5

   (b) Discuss various options of backup and recovery 5
        command.

   (c) Explain sort command with example. 4

3 (a) (1) Write a script to take two numbers as argument 10
             and output their sum using bc. Include error
             checking to test whether two arguments were entered
             and they are valid or not.

        (2) Write a shell script to simulate head command of
             unix.

   (b) Explain following commands/statements with example. 4
        (i) nice (ii) at

OR

3 (a) Write a script for the following : 10
        (1) Write a script that accepts amount, rate of
             interest and year from user. Use bc to claculate
             simple interest. Appropriate data validation is
             expected.
        (2) Write an awk script that count frequency of one,
             two, three, four and more than four character(s)
             word in a file.

   (b) Explain following commands/statements with example. 4
        (i) nohup (ii) tr

4 (a) Write an appropriate command for the following : 8
        (any **eight**)
        (1) Find out the complete command line of a process
             run by user user1.
        (2) Write a command to display all filename containing
             only digits in a filename.
        (3) Fine the users who are not using the terminals
             tty2, tty3 or tty4.
        (4) Extract the names of the users from/etc/passwd
             after ignoring the first entries.

(5) Find out the number of times the character '?' occurs in a file.

(6) Change the modification time of a file to sept 30, 10.30 a.m.

(7) Add / home/bca/progs to your existing PATH.

(8) Convert the decimal number 192 to hexadecimal.

(9) Display files that have been modified in less than **two** days.

(10) Display all files in current directory where the first character is numeric and the last character is not alphabetic.

(b) Answer the following :
(1) Name six administrative functions that can't be performed by a non-privileged user.
(2) Give the significance of special parameters used by shell.

OR

(b) Answer the following : 6
(1) Which **two** symbols do not lost their meaning when enclosed within double quote ? Explain with example.
(2) What is the purpose of following command :
(i) head -n 5 file1.txt | tee file1.out
(ii) ls *. [!co]
(iii) awk 'NR = = 5, NR = = 10 {print$0}' f1

5 (a) Do as Directed : (any **eight**) 8

(1) Write a sed command to display lines 5 to 10, 15 to 20 and last lines of file f1.

(2) What does the following command do ?

ls -l | sed -n '/^./{5.8\}w\p'

(3) Write a sed command to extract first word of each line. Assuming that there is no white space character at beginning of line.

(4) What is the significance of OFS ? Give example.

(5) What does the following command do ?

grep f1 f2 f3

(6) Write a command to display all line but not the last line of file.

(7) Which **two** operators used to match string with a specific field in awk ? Give example of it.

(8) Write a grep command to display all files of current directory that contains 'unix' pattern in it.

(9) Write a sed command that places contents of file f2 at the beginning of file f1.

(10) Write a sed command to select those lines between 25 and 40 having pattern 'unix' in a file f1.

(B) Consider an emp. 1st file having fields emp_no, name, designation, basic_salary and date of birth separated by '|'.   6

Using above file write an awk command for the following : (any **three**)

(1) To select those 'director' drawing a salary exceeding 6500.

(2) To select those employee who born between 1965 and 1975.

(3) To display name and designation of youngest employee.

(4) To display emp_no, name, salary, DA (40% of basic_salary) and HRA 15% of basic_salary) of all employee.

(5) To display frequency of designation.

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