



H-1882

B. C. A. (Sem. V) Examination
March / April – 2009
502 : UNIX & Shell Programming

Time : 3 Hours]

[Total Marks : 70

Instructions :

(1)

नीचे दशांकित निशानीवाणी विज्ञानो उत्तरवही पर अवश्य लिखनी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B.C.A. (SEM. 5)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="502 : UNIX & SHELL PROGRAMMING"/>	<input type="text"/>
Subject Code No. : <input type="text" value="1"/> <input type="text" value="8"/> <input type="text" value="8"/> <input type="text" value="2"/>	Section No. (1, 2,.....) : <input type="text" value="NIL"/>
Student's Signature	

- (2) Take assumption whenever necessary.
(3) Figures to the right indicate full marks.

1 Answer the following questions :

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- (i) What is major and minor number?
- (ii) What is job? How can we suspend a foreground and background job?
- (iii) Define filter. List the name of filter utilities.
- (iv) How can we assign value of 12th positional parameter to a variable? ○
- (v) What are the two different ways to display login shell of the user?
- (vi) What permission is needed in a directory so that everybody can list the contents of the directory?
- (vii) What is metacharacter? Give at least two uses of the single quote (') notation.
- (viii) Write a vi-editor command for the following :
 - (1) Copies all lines from current line to end of line.
 - (2) Repeat last editing instruction.

- (ix) What is the purpose of /bin directory of Unix file system?
- (x) What is the difference between scheduling processes using **batch** command and using **at** command?
- (xi) How can we access command line arguments through awk script?
- (xii) Explain the purpose of super block.
- (xiii) How many fields are in each entry of the /etc/passwd file? Give their name.
- (xiv) What is the purpose of **wait** command?

2 (a) Write a shell script for the following : (any two)

- (i) Consider the stud.dat data file having fields: stud_no, name, city and state. Each file separated by |. Write a menu-driven script to perform following task.
 - (1) Append record to a data file
 - (2) Delete a record from a file
 - (3) Display record city-wise.
- (ii) Write a shell script that accept filenames and a number N from command-line and display last n-lines of each file. (Do not use tail command)
- (iii) Write an awk script to display file contents in reverse. (i.e. last-line should be display first,..., first-line should be display last).

(b) What does the following command do? (any six)

- (i) `grep 'shell' file 1>f1.out && cat f1.out || echo "Pattern not found"`
- (ii) `(cd mydir1;pwd)` #assume that working directory is/home/bca1 and mydir1 #exists in this directory.
- (iii) `nice cat student.dat`
- (iv) `nohup cat *|sort-d&`
- (v) `set 'who am i'` #enclose within backquote
`echo $1`
- (vi) `awk 'NR==5 && NR==10{print $0}' f1`
- (vii) `expr "red hat linux" :.*'`

- 3 (a) Answer the following : (any three) 12
- (i) Explain different security levels in Unix operating system.
 - (ii) Explain job control features of a shell.
 - (iii) Discuss various modes of vi-editor. List out cursor movement command provided by vi-editor.
 - (iv) Discuss the kernel architecture of Unix system.
- (b) Explain kill command. What are the advantages and limitation of background process? 2
- 4 (a) Write a command for the following : (any eight) 8
- (i) Display contents of last modified file.
 - (ii) Display attributes of directory dir 1 reside in current directory.
 - (iii) Display only those users who are currently logged in from more than one terminal with same user-id.
 - (iv) Kill all the processes including the login shell.
 - (v) Copy file content of file f1 to file f1.out if f1 exist otherwise write error message to same file (i.e. f1.out).
 - (vi) Search in current directory downwards all files which have more than 5 links.
 - (vii) Split existing window in vi-editor into two separate windows.
 - (viii) Count number of words and characters of working directory files that end with digit.
 - (ix) Create an empty file in/usr/dir1 directory from working directory.
 - (x) Creates an output file from file f1 that contains only the lines in which one of the 5-characters words must be palindrome.



- (b) Explain following unix commands with examples : 4
(any two)
 - (i) at
 - (ii) wall
 - (iii) cut

- (c) Differentiate between redirection and piping mechanism. 2

- 5 (a) Answer the following using grep, sed or awk utilities : 4
(any four)

- (i) Replaces all occurrences of 'unix' with 'linux' in 5th line of file f1.
- (ii) Count all occurrences of 'unix' in file1.
- (iii) Display all lines of file f1 but not last line.
- (iv) Do not display blank lines of file f1.
- (v) Replace 'kernel' with 'kernel architecture' using remember pattern of sed utility.

- (b) Do as directed : (any four) 8

- (i) Unix is an open system.
- (ii) Explain the purpose of tee command.
- (iii) Explain pattern matching features of egrep utility.
- (iv) Write an equivalent awk command for the following.
 - (1) sed -n '12,\$p' f1
 - (2) grep -c 'hello' f1
- (v) Explain array feature supported by awk utility.

- (c) Distinguish between user-defined and a predefined variable. How can we create variables in shell? 2

Time :

Instruc
(1)

Fillup st
Name of
B.C./
Name of
E-CO
Subject

(2) Nt

1 W:
(a)
(b)
(c)
(d)
(e)

2 (a)

(a)

(b)

3 (a)

(a)

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