

Java?



BB-1902

Third Year B. C. A. (Sem. V) Examination
October / November – 2009
Paper - 502 : Unix & Shell Programming

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Time : 3 Hours]

[Total Marks : 70

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Instructions :

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Fillup strictly the details of signs on your answer book.

Name of the Examination
T. Y. 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. : [] [] [] [] [] [] [] [] [] []

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- (2) Figures on the right indicate marks.
(3) Take assumptions whenever necessary.

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1 Answer the following questions : (attempt any seven) 14

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- (i) What is the purpose of wait and sleep command?
Explain them with an example.
- (ii) What is job? What is the difference between foreground and background job? How can we run foreground job in background and vice versa.
- (iii) List out the name of startup and shutdown files of any two shells.
- (iv) Explain possible ways to protect files in directory.
- (v) Explain super block.
- (vi) What is the purpose of IFS and PATH system variables?
- (vii) What is redirection? Explain I/O redirection metacharacters of shell with an example.
- (viii) Define process. Which process has PID number 1?
List the different states of process.
- (ix) How can you create soft link file? What are the advantages of soft link file?

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- 2 (a) Answer any **three** from the following : 12
- (i) What is shell? Explain the features of shell.
 - (ii) Explain fsck utility.
 - (iii) Explain quoting and filename substitution metacharacters of shell with an example.
 - (iv) Explain editing commands of vi editor.
 - (v) Explain sort command with its options giving example of each.
- (b) Explain here document with proper illustration. 2
- 3 (a) Answer the following questions : (any **three**) 6
- (i) pr
 - (ii) bc
 - (iii) mail
 - (iv) rm.
- (b) Write a menu-driven script to perform following operations on two inputted numbers. Inputted numbers should be either an integer or a floating-point or both. Make proper validation : 5
- (i) Addition.
 - (ii) Subtraction.
 - (iii) Multiplication.
 - (iv) Division.
- OR**
- (b) Write a script that receives any number of filenames as argument and then count number of consonants, vowels, digits and special characters in each file. 5
- (c) Explain tr command with an example. 3
- 4 (a) Answer the following questions : (any **eight**) 8
- (i) What is job? How can we know the status of background jobs ?
 - (ii) List the possible way to know that terminal of other users are write protected or not.
 - (iii) What do you mean by internal and external command in Unix?
 - (iv) Which is the only file attribute not stored in the inode? Where is it stored then?

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- (v) Consider the following code, which display message 'pattern found" if f1 contains hello pattern, otherwise display message 'pattern not found'

```
if grep "helo" f1>/dev/null
```

```
then
```

```
echo "pattern found"
```

```
else
```

```
echo "pattern not found"
```

```
fi
```

Write a command that is equivalent to above code.

- (vi) How does the administrator ensure that all files created by users will have the default permission rw-rw.....?

- (vii) Which file attributes change when you copy a file from another user account?

- (viii) Which process creates getty process? What is the responsibility of a getty process?

- (ix) What is the importance of script command?

- (x) List the characteristics of Unix file system.

- (b) Do as directed : (any six)

- (i) Frame a command to locate all the .doc and .txt files in the system.

- (ii) Change modification time of a file to Dec 25, 10:30 am.

- (iii) List all files of working directory having at least 4-characters in filename.

- (iv) Frame a command to run the script hello.sh at teatime.

- (v) Display all files recursively (including the hidden ones) in multiple columns with distinguishing makes on executables and directories.

- (vi) Replace multiple spaces with a space in file f1.

- (vii) Write a unix command to evaluate the expression:
 $4*3.14+6$

- (viii) Write a command to display all unique words of file file1.

- 5 (a) Consider the file emp.dat having fields emp_no, ename(firstname lastname), designation, department, joining date (dd/mm/yy) and salary, each fields separated by '|'. Solve the following queries using awk utility : (any three)
- (i) Find out name and designation of youngest person who is not a director.
 - (ii) How do you add the century (the string 19) to the date field of emp.dat?
 - (iii) Invert the name of the persons in emp.dat so that the last name occurs first.
 - (iv) Display name of all employees whose salary between 10000 and 25000.
 - (v) Count frequency of designation in emp.dat file.

OR

- (a) Write a script using awk utility to create two 3×3 matrices and multiply it.
- (b) Answer the following questions : (any two)
 - (i) Explain matching operators of awk utility with an example.
 - (ii) Compare grep and egrep.
 - (iii) Explain delete (d) and write (w) operators of sed utility.
- (c) Answer the following questions :
 - (i) Explain the meaning of following command.
grep * f1
 - (ii) Write a command to locate lines that begin and end with a dot (.) and containing anything between them.
 - (iii) Write a command to display all lines that contains 2 or more ^ symbol at beginning of line.
 - (iv) Write a command to replace all occurrences of 'he' with 'she' and 'hello' with 'hi' in file f1.
 - (v) Write a command to select line(s) having exactly 10 alphabets.
 - (vi) Write an equivalent IRE for the following regular expression :
 - (i) A*
 - (ii) A?