

II B.Tech I Semester Regular Examinations, November 2008
UNIX AND SHELL PROGRAMMING
(Common to Computer Science & Engineering and Information Technology)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Why unix commands are simpler rather than complex tasks.
(b) Describe the escaping sequencing characters in unix. [8+8]

2. What would be the effect of the following commands:
(a) mail user1 user2 < myprog.c
(b) wall
(c) grep 'rao\$' xyz
(d) cut -f1,3 file1
(e) news
(f) finger -i
(g) pg xyz
(h) uniq < xyz. [16]

3. (a) What do the following UNIX system variables signify?
i. HOME
ii. PS1
iii. PATH
iv. TERM
v. MAILCHECK.
(b) How does shell executes external commands? [10+6]

4. (a) Using sed, how do you convert files with toggle characters, like +this+, to look like [i]this[/i]?
(b) Using sed, how do you perform a case-insensitive search. [8+8]

5. (a) Explain about expressions in awk shell script in detail.
(b) Explain the commands in C shell program with examples. [8+8]

6. (a) Write short notes on basic korn shell statements.
(b) Write short notes on relation expression patterns of korn shell. [8+8]

7. (a) Use a grep command and check its exit status. When is its result zero? When it is non zero? Check both cases.

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- (b) Use a sed command and check its exit status. When is its result zero? When is it non zero? Check both cases. [8+8]
8. (a) What is the difference between symlink and ulink?
- (b) Write the syntax for the following System Calls:
- i. Create
 - ii. Read
 - iii. Write
 - iv. Open. [8+8]

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1. (a) Describe interrupt and EOF characters.
(b) What do multiuser and multitasking mean. [8+8]

2. (a) Show the octal representation of these permissions:
 i. `rwX --X -w-`
 ii. `-----`
 iii. `--xr-----x`
 iv. `---rwx---`
(b) Explain about file security in unix. [8+8]

3. What will be the effect of following UNIX commands(assume that a file s.c contains 100 lines).
(a) `tail < s.c |tee y |sort < y |uniq < y |nl y |ln y z |rm y |catz`
(b) Discuss about alias command and its usage. [8+8]

4. (a) How do locate lines beginning and ending with a dot using:
 i. `grep`
 ii. `sed`.
(b) What is the difference between a wild cards and a regular expressions in sed? [8+8]

5. (a) Write a script that changes the name of files passed as arguments to lowercase.
(b) Write a script that, given a filename as the argument, deletes all even lines (lines 2,4,6--n) in the files. [8+8]

6. (a) Find the line that matches a regular expression in korn & grep.
(b) Find the line that does not match a regular expression in korn & grep. [8+8]

7. (a) Explain the storage of values in variables.
(b) Explain null values in interactive C shell. [8+8]

8. Explain the following System calls for File Management:
(a) `create`
(b) `lseek`

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(c) stat

(d) closedir.

[4+4+4+4]

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1. What would be the effect of the following commands:

- (a) cat users
- (b) echo \$PS1
- (c) mv x.c y
- (d) uname -r
- (e) rm x.c
- (f) ls
- (g) pwd
- (h) mkdir xyz.

[2×8=16]

2. What information is presented when the following commands are entered:

- (a) ps
- (b) w
- (c) finger
- (d) df
- (e) du
- (f) nl x.c
- (g) tee x.sh
- (h) tr '*' 's' x.dat |tee x.dat.

[2×8=16]

3. Differentiate background process and foreground process with suitable examples.
[16]

4. How grep works? Explain with any eight examples. [2×8=16]

5. Explain the following decision making procedures using awk shell scripts with examples:

- (a) If then else
- (b) Nested if
- (c) Case statements.

[5+5+6]

6. (a) Explain the pattern/action syntax.
(b) Explain the basic decision statement if-else with suitable example. [8+8]
7. (a) What are the advantages of file expression? Discuss file operators with suitable examples.
(b) Which expression uses a set of three logical operators? Explain it with example. [8+8]
8. (a) Write the syntax for the following system calls:
i. Symlink
ii. link
iii. fstat
iv. lstat.
(b) Explain any two API Directories. [8+8]

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1. What would be the effect of the following commands?
 - (a) date
 - (b) mkdir xyz
 - (c) ls -la
 - (d) mv myfile1 myfile2
 - (e) rm myfile
 - (f) wc myfile
 - (g) pwd
 - (h) uname. [16]
2. (a) What will be the effect of following UNIX commands?
 - i. umask022
 - ii. umask
 - iii. ulimit 1024
 - iv. du../..(b) Discuss telnet and rlogin. [8+8]
3. (a) What would be the effect of the following commands:
 - i. fg ss + ctlz
 - ii. bg tt + ctlc
 - iii. alias c = clear
 - iv. tee x.dat.(b) Write a shell script to lock your terminal till you enter a password. [8+8]
4. (a) How do you replace “/some/UNIX/path” in a substitution?
(b) How do you delete only the first occurrence of a pattern? [8+8]
5. (a) What are the different types of operators used in awk shell script? Explain.
(b) Mention different types of loop statements in awk shell script. [8+8]
6. (a) Explain the substitution string function format with an example.
(b) Explain the global substitution string function format with an example.

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- (c) What is the use of toupper & tolower functions, explain them with the suitable example. [5+5+6]
7. (a) Describe the relational expressions of C shell program.
(b) Distinguish between user defined variable and predefined variable. [8+8]
8. Write the syntax for the following and explain with an example:
- (a) Making directories
 - (b) Removing directory
 - (c) Copying files
 - (d) Deleting file. [4+4+4+4]
