

**2014**

( 4th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Course No. : 403

**( UNIX and Shell Programming )**

( PART : A—OBJECTIVE )

( Marks : 25 )

*The figures in the margin indicate full marks  
for the questions*

**SECTION—I**

**I.** Put a Tick (✓) mark against the correct answer in the  
brackets provided : 1×10=10

1. To know the version number of your UNIX  
system, this command is used

(a) `uname -s`            (    )

(b) `uname -r`            (    )

(c) `uname -n`            (    )

(d) `uname -v`            (    )

2. The password encryption is stored in the file

(a) /etc/shadow ( )

(b) /etc/passwd ( )

(c) /usr/bin ( )

(d) None of the above ( )

3. The ls-l command

(a) lists the directory attributes ( )

(b) lists the attributes of all files in the current directory ( )

(c) sets the permissions for users ( )

(d) None of the above ( )

4. The size of the file /dev/null is always

(a) 1 ( )

(b) 2 ( )

(c) 0 ( )

(d) -1 ( )

( 3 )

5. To run a job with a low priority, the command name should be prefixed with

- (a) bg ( )
- (b) nice ( )
- (c) fg ( )
- (d) suspend ( )

6. This command displays the contents of all news items regardless of whether they have been read or not.

- (a) news -a ( )
- (b) news -n ( )
- (c) news -s ( )
- (d) news -o ( )

7. By default, the page size used by pr command is \_\_\_\_\_ lines.

- (a) 66 ( )
- (b) 90 ( )
- (c) 72 ( )
- (d) None of the above ( )

8. The symbol `—` is often referred to as a here document.

(a) `>>` ( )

(b) `$!` ( )

(c) `<<` ( )

(d) `&&!` ( )

9. The prompt of root is

(a) `#` ( )

(b) `$` ( )

(c) `!` ( )

(d) `&` ( )

10. Which command sends the word count of the file `infile` to the `newfile`?

(a) `wc <infile> newfile` ( )

(b) `wc infile > newfile` ( )

(c) `wc infile | newfile` ( )

(d) `wc infile _ newfile` ( )

( 5 )

II. Tick (✓) whether *True (T)* or *False (F)* :

1×5=5

1. The system commands used by all users are located in the directories /bin and /usr/bin.

( T / F )

2. The set command is used to alter file permissions.

( T / F )

3. The nohup command, when prefixed to a command, permits execution of the process only while the user is logged in.

( T / F )

4. A pattern can be matched at the beginning of a line with a ^, and at the end with a \$.

( T / F )

5. Shutdown -y -g|20 -i| means shutdown without grace period and reboot.

( T / F )

( 6 )

SECTION—II

III. Answer the following questions :

2×5=10

1. What is the difference between cat and more command?

( 7 )

2. How do you switch to a superuser status to gain privileges?

3. What is a pipe? Give examples.

4. What is ps? What is its purpose?



( 9 )

5. What are the two data structures that a kernel contains?

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## IV/BCA/403

2014

( 4th Semester )

### BACHELOR OF COMPUTER APPLICATIONS

Course No. : 403

( UNIX and Shell Programming )

Full Marks : 75

Time : 3 hours

( PART : B—DESCRIPTIVE )

( Marks : 50 )

*The figures in the margin indicate full marks  
for the questions*

1. (a) Explain the salient features of UNIX operating system. 6
- (b) Explain the following commands with example : 4
  - (i) cp
  - (ii) mv
  - (iii) rm
  - (iv) comm

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( Turn Over )

Or

- (c) What is shell? List out various features of shell. 4
- (d) Explain the process creation mechanism and list the various states in the life cycle of a process. 6
2. (a) What is parent-child relationship? With the help of a neat diagram, explain UNIX file system tree. 5
- (b) With suitable examples, bring out the difference between absolute and relative pathnames. 5
- Or
- (c) Briefly describe the different ways of setting file permissions. 6
- (d) What are hard links and symbolic links? 4
3. (a) What are the three modes of vi editor? Explain. 6
- (b) Explain the following commands with examples : 4
- (i) tee
- (ii) batch

Or

- (c) What is the difference between wildcard and regular expression? Explain with examples, basic regular expression and extended regular expression. 6
- (d) Explain the following filters with examples : 4
- (i) paste
  - (ii) sort
4. (a) Write a shell script to create a menu which displays the list of files, users of system and processes of users based on the user's choice. 6
- (b) Explain the following with reference to shell programming : 4
- (i) test
  - (ii) trap

Or

- (c) Write a shell script to accept a text filename and count the number of words, lines and characters. 6
- (d) Explain here document with an example. Also, mention its use. 4

( 4 )

5. (a) What are the various privileges of system administrator? How are these privileges exercised? 4
- (b) Explain how disk space management is performed and the commands involved in performing it with suitable examples. 6

Or

- (c) Which two commands in UNIX system let two users chat with each other? Explain them. 4
- (d) Discuss the process of mounting and unmounting a file system. Explain the commands for both with options, if any. 6

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