

**2015**

( 4th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Paper No. : BCA-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) Write the architecture of UNIX with diagram and explain it.

6

*Or*

- (b) Explain the following commands with examples :

(i) mkdir

(ii) cat

(iii) wc

2. (a) Explain each column of the output ls -l command. 7

(b) What are hard links and soft links? 4

Or

(c) What are the different modes in the vi editor? Explain each of them. 6

(d) How will you perform the following by vi editor? 5

(i) Deleting current 2 lines

(ii) Deleting one word from current cursor position

(iii) Moving the cursor to the top of the screen

(iv) Moving to the beginning of the next word

(v) End of the current line

3. (a) Write the shell interpretive cycle. 4

(b) Explain the working of wildcard with examples. Mention the difference of single quote and double quote. 5+2=7

Or

(c) What is background processing? Explain any four background processing commands. 1+8=9

(d) Write a note on /dev/tty. 2

4. (a) What is filter? Explain the following commands of filter : 6

- (i) pr
- (ii) head
- (iii) cut
- (iv) uniq

Or

(b) What are the different types of grep family? 3

(c) Explain the following commands : 3

- (i) finger
- (ii) talk

5. (a) Write a program to calculate gross salary if the DA is 45% of basic salary and house rent allowance is 20% of basic salary. 5

(b) Explain for loop in UNIX. 3

Or

(c) Explain export, eval and exec in detail. 6

(d) How does UNIX handle the signals using the trap? 2

6. (a) Briefly explain user management in UNIX system. 4

(b) Explain /etc/passwd and /etc/shadow. 4

Or

(c) Write the steps of starting up the system in detail. 4

(d) How is sync operation used for shutting down the system? 4

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**2 0 1 5**

( 4th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Paper No. : BCA-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. The directory containing all device files is

(a) /etc ( )

(b) /dev ( )

(c) /temp ( )

(d) /urs/bin ( )

2. The command 'comm' gives

- (a) what is common ( )
- (b) comparing two files ( )
- (c) compressing the file ( )
- (d) copying a file ( )

3. Each entry in Inode table is of size

- (a) 64 KB ( )
- (b) 32 KB ( )
- (c) 32 bytes ( )
- (d) 64 bytes ( )

4. The difference between the commands ps -e and ps -a is

- (a) ps -e gives details of every process running in memory whereas ps -a gives output for all the processes that you have launched ( )
- (b) ps -a gives details of every process running in memory whereas ps -e gives output for all the processes that you have launched ( )
- (c) ps -e gives details of every process running in memory whereas ps -a gives details of all user processes ( )
- (d) No difference, both give same output ( )

5. The default program sh in UNIX OS is

- (a) jsh ( )
- (b) Bourne shell ( )
- (c) csh ( )
- (d) ksh ( )

6. Command substitution requires the command to use

- (a) standard input ( )
- (b) standard output ( )
- (c) Both (a) and (b) ( )
- (d) special input/output ( )

7. The incoming mail of the user with the login name aa12 is stored in the file

- (a) /usr/spool/mail/aa12 ( )
- (b) /usr/mbox/aa12 ( )
- (c) /usr/aa12/mbox ( )
- (d) /usr/spool/aa12/mail ( )

8. The statement `x='expr 21/2'` would store in x a value of

(a) 10 ( )

(b) 10.5 ( )

(c) 11 ( )

(d) 0 ( )

9. The logical operator symbol in shell programming is

(a) || ( )

(b) \$! ( )

(c) && ( )

(d) \$& ( )

10. The state of the file system is contained in

(a) boot block ( )

(b) a special block created by boot block ( )

(c) super block ( )

(d) Inode block ( )



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

1×5=5

1. UNIX is a multiprogramming system.

( T / F )

2. The process cannot be changed by the user.

( T / F )

3. The /dev/null does not add any space in the hard disk.

( T / F )

4. The while loop gets executed so long as the exit status of the test command is 1.

( T / F )

5. If there are number of file systems, then each one will have its own boot block.

( T / F )

SECTION—II

**III.** Answer the following questions :

2×5=10

1. What are internal and external commands? Give examples.

2. Mention any four contents of Inode.

4. What is extended regular expressions?

3. What is /dev/null?

III. Answer the following questions: (10)

1. What are internal and external commands? Give examples.

4. What is extended regular expression?

5. Write simple shell program to illustrate do-while loop.

IV/BCA/404

2015

4th Semester

## BACHELOR OF COMPUTER APPLICATIONS

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(Re-marking-1)

Full Marks : 75

Time : 3 hours

[PART : B--DESCRIPTIVE]

( Marks : 50 )

The space in the margin indicate full marks for the questions

1. (a) What is OSI model? Explain different

layers of OSI model.

1-7-8

- (b) Draw the sine wave form for the following data

 $E = 110\text{ V}$ ,  $f = 50\text{ Hz}$ ,  $\phi = 90^\circ$ 

2

- (c) Explain how parity is used to correct error. Also check how many data word 1001 having check word produces error or not.

6

- (d) Explain data bus.

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