



Name : .....

Roll No. : .....

Invigilator's Signature : .....

**CS/BCA/SEM-5/BCA-502/2009-10  
2009**

**UNIX & SHELL PROGRAMMING**

Time Allotted : 3 Hours

Full Marks : 70

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**GROUP – A**

**( Multiple Choice Type Questions )**

1. Choose the correct alternatives of the following :

10 × 1 = 10

i) UNIX uses `ls` to list files in a directory. The corresponding command in MS environment is

- |                     |                         |
|---------------------|-------------------------|
| a) <code>if</code>  | b) <code>listdir</code> |
| c) <code>dir</code> | d) none of these.       |

ii) Which of the following files in the current directory is identified by the regular expression `a?b*?` ?

- |                       |                     |
|-----------------------|---------------------|
| a) <code>afile</code> | b) <code>aab</code> |
| c) <code>abb</code>   | d) none of these.   |



- iii) For some file the access permissions are modified to 764. Which of the following interpretations is valid ?
- a) everyone can read, group can execute only and the owner can read and write.
  - b) everyone can read and write, but owner alone can execute
  - c) everyone can read, group including owner can write, owner alone can execute
  - d) none of these.
- iv) Which of the following information is contained in inode structure ?
- a) The file size
  - b) The name of the owner of the file
  - c) The access permissions for the file
  - d) None of these.
- v) How could you check two strings are equal ?
- a) test \$a - eq \$b
  - b) test \$s - equal \$b
  - c) test \$a = \$b
  - d) test \$a == \$b.
- vi) sort -n emp
- a) sort by primary key
  - b) numeric sorting
  - c) sort by secondary key
  - d) none of these.



vii) echo '\$SHELL' will print

- a) SHELL
- b) \$SHELL
- c) value of SHELL variable
- d) none of these.

viii) \$ ? represents

- a) no. of arguments specified in command line
- b) name of executed command
- c) exit status of last command
- d) none of these.

ix) The available disk space can be determined under UNIX using the command

- a) dir
- b) df
- c) du
- d) file.

x) The command cp [ !0-9 ] ?? Prog will

- a) copy all files started with not a number to Prog directory
- b) copy all files whose filename is three characters in length started with not a number to Prog directory
- c) both of these
- d) none of these.



**GROUP – B**

**( Short Answer Type Questions )**

Answer any *three* of the following.  $3 \times 5 = 15$

2. Write short notes on the following Unix commands with different options :  $2 + 2 + 1$ 
  - a) Date
  - b) who
  - c) passwd.
3. Write a shell script that will accept a pattern and a filename from the user and display all lines containing the pattern within the file.
4. What is *i*-node ? What does it contain ?  $1 + 4$
5. When is a process forked ? What are the attributes inherited from the parent process by its child process ? What is the command to know the PID of the current shell ?  $1 + 3 + 1$
6. a) What is meant by command line arguments in shell programming ?  
b) Explain \$#, \$?, \$\* special parameters in shell.  $2 + 3$

**GROUP – C**

**( Long Answer Type Questions )**

Answer any *three* of the following.  $3 \times 15 = 45$

7. a) Briefly explain the features of UNIX Operating System.  
b) What are absolute and relative paths ? Explain with example.  
c) What are the security levels available in UNIX ?  
d) What is filter ? Is it possible to append contents using cat command ? How to display the 5th to 10th line of a file *f1* ? How to open the last modified file in vi editor ?

$4 + 4 + 3 + 1 + 1 + 1 + 1$



8. a) Name five administrative functions that cannot be performed by a general user.
- b) What are the commands used by system administrator to create, modify and delete user accounts ? Give example.
- c) What is the difference between su and su-aloke ?
- d) What are the activities performed by shutdown command ?
- e) What are block and character devices ?
- f) What are the different run levels in UNIX ?

2 + 2 + 2 + 4 + 2 + 3

9. a) Describe internal and external commands in Unix with example.
- b) Explain with examples the flexibilities of Unix command usage.
- c) Write short notes on the following :
- i) man
  - ii) uname
  - iii) script.

4 + 4 + ( 3 + 2 + 2 )



10. a) Name five administrative functions that cannot be performed by a non-privileged user.

b) Why is the su command terminated with exit ? What is the difference between su and su-vivek ?

c) What are block and character devices ?

d) What are the different run levels in Unix ?

3 + 5 + 4 + 3

11. a) What are the differences between scheduling processes using batch command and using at command ?

b) What do you mean by a daemon ?

c) How will you kill a daemon ?

d) Which process cannot be killed using the kill command ?

e) What is the function of exec system call ? What is the difference between a process run & and run with nohup ?



- f) Interpret the following crontab entries and explain if they will work :

i) \*\*\*\*\* dial.sh

ii) 00-60 22-24 30 2\* find.sh

- g) Frame a crontab entry to execute the connect.sh script every 30 minutes on every Monday, Wednesday and Friday between times 8 a.m. and 6 p.m.

$$2 + 1 + 1 + 1 + ( 2 + 2 ) + 3 + 3$$

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