

2012

## UNIX AND 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 for the following :  $10 \times 1 = 10$ 
  - i) To counting number of lines in a file which command is used
    - a) cat
    - b) ls
    - c) wc
    - d) chmod.
  - ii) In the core of the operating system is called
    - a) hardware
    - b) kernel
    - c) shell
    - d) X-window.
  - iii) Which one works as interface between the user & the kernel ?
    - a) Hardware
    - b) Kernel
    - c) Shell
    - d) X-window.

- iv) To display an informative listing of the users .....  
is used.
- a) who
  - b) ls
  - c) both (a) and (b)
  - d) none of these.
- v) To remove a directory ..... command is used.
- a) rmdir
  - b) mkdir
  - c) tree
  - d) none of these.
- vi) To know your current directory we use
- a) cd
  - b) chmod
  - c) both (a) and (b)
  - d) pwd.
- vii) The UNIX command 'cp ch \* book'
- a) copies all files starting with ch to the directory book
  - b) copies all files with three character names and starting with ch to the directory book
  - c) compares whether file starting with ch exists in directory book
  - d) none of these.
- viii) Suppose the current directory is / home / user / xyz / prog. A possible command to change to a directory / home / user / abc / letter is
- a) cd .. / .. / abc / letter
  - b) cd ./ ./ abc / letter
  - c) cd ./ home / user / abc / letter
  - d) none of these.

- ix) The UNIX command 'rm -r project' will
- a) delete the file project from the current directory
  - b) delete all the files from the directory project
  - c) recursively delete the directory project and all its sub-directories
  - d) none of these.
- x) The hidden file in UNIX
- a) have a special status bit associated with the file descriptor
  - b) have names starting with a dot
  - c) can be accessed only by the operating system kernel
  - d) none of these.

### GROUP - B

#### ( Short Answer Type Questions )

Answer any *three* of the following

2. How do you change File Access Permissions in Unix ?  $3 \times 5 = 15$
  3. What is i-node ? Explain fields of an i-node.  $2 + 3$
  4. Discuss mount and unmount system calls.
  5. What happens when you execute a program ? Define zombie.  $3 + 2$
- Define hard link and soft link.

**GROUP - C**

**( Long Answer Type Questions )**

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

7. Describe mechanism of process creation. How a shell is created ? What are internal and external commands ? Where are the security levels available in UNIX ?  $5 + 3 + 4 + 3$
8. Define kill command. How you can kill the last background job ? How you can execute a low priority job before a high priority job ? What are the different environment variables in Unix ? Explain ps command.  $2 + 3 + 3 + 3 + 4$
9. What are piping operators ? What is redirection ? Describe different redirection operators. Write a shell script to find out prime numbers within 100 to 500.  $2 + 2 + 3 + 8$
10. a) What is quoting ? What are three quote tokens ?  
b) What is regular expression ? List out the components of it.  
c) What are egrep and fgrep ? Give examples.  
d) Differentiate between line editor and screen editor.  $( 2 + 2 ) + 4 + 4 + 3$
11. Write short notes on any *three* of the following :  $3 \times 5$
- a) gzip and gunzip  
b) awk  
c) tar  
d) Common shells in Unix.

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