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Paper Code : BCA-502

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 *any ten* of the following: 1×10=10

   (i) Which command used for setting default permissions of files and directories?

   (a) chmod   (b) default

   (c) umask   (d) chstat

   (ii) What is "Inode"?

   (a) It is a node number

   (b) A kind of serial number containing information in the file

   (c) A address number for Inode table

   (d) None of the above

   (iii) If we use "xterm&" command with some job it will run in the _____.

   (a) Foreground   (b) Background

   (c) Both (a) and (b)   (d) None of these

(iv) The statement $head-c 10 a.txt b.txt displays

    (a) the first 10 lines of a.txt file only

    (b) the first 10 lines of a.txt and b.txt files

    (c) the first 10 characters of a.txt file only

    (d) the first 10 characters of a.txt and b.txt files

(v) PID stands for

    (a) Process identification   (b) Process is done

    (c) Parent input daemon   (d) Performance is developing

(vi) In the vi editor to switch between text mode and command which key is pressed?

    (a) dd   (b) Esc

    (c) :   (d) ZZ

(vii) Examples of repetitive tasks performed by system administrators

    (a) Disk space inventories   (b) Security audits

    (c) System backups   (d) All of these

(viii) to give group permission we use _____ option.

    (a) G   (b) O

    (c) U   (d) ATTRIB

(ix) To protect a file against accidental overwriting we use _____ code.

    (a) 400   (b) 644

    (c) 755   (d) 722

(x) Processes with a nice level of-20

    (a) are least nice   (b) are very nice

    (c) are kind of nice   (d) are the nicest

(xi) /dev file contain _____ file.

    (a) bout   (b) directory

    (c) device   (d) etc.

(xii) A shell program is a

    (a) Binary file   (b) System file

    (c) Text file   (d) Linked file

(xiii) Another term for shell programs is

    (a) Scripts   (b) C programs

    (c) Compiled programs   (d) Shell command language

Group – B

(Short Answer Type Questions)

Answer *any three* of the following. 5×3=15

2. What does the fork system call do? What does it return? 3+2=5

3. Differentiate between Multiprogramming and Multitasking.

4. What do you mean by positional parameters of shell programming?

5. What do you mean by a 'daemon'?

Group – C

(Long Answer Type Questions)

Answer *any three* of the following. 15×3=45

6. (a) Briefly explain different blocks of file system.

   (b) What is the difference between the following vi commands?

   (i) :w   (ii) :q!   (iii) :wq   (iv) zz.

   (c) What do you mean by link of a file? What is symbolic link? Why is it needed? 5+4+2+2+2=15

7. (a) How can you set your own directory (/home/student/henry) in the existing PATH?

   (b) Explain $#, $?, $@, $!, S* special parameters of shell.

   (c) Write a shell script, which get executed the moment the user logs in. It should display the messages "Good morning"/"Good afternoon"/"Good evening" depending upon the time at which the user logs in. 15

8. (a) Write a shell script to check whether an integer is prime or not.

   (b) Explain Unix file system.

   (c) What is signal? What is its Job? 6+6+3=15

9. (a) Interpret this command:

   grep "^[^^]" filename

   (b) What do you mean by a daemon? How will you kill a daemon? Which process cannot be killed by kill command?

   (c) What is the function of fork, exec, exit system call?

   (d) Explain filter commands. Give example. What does the command 'touch a' do?   15

10. Write short notes on *any three* of the followings: 5×3=15

   (a) Hard link and Soft link

   (b) head, tail, grep

   (c) Mounting and Un-Mounting partitions

   (d) chown and chmod