

**END TERM EXAMINATION**

SIXTH SEMESTER [BCA] SEPTEMBER- OCTOBER 2020

Paper Code: BCA-306

Subject: Linux Environment

Time: 2 Hours

Maximum Marks: 75

Note: Attempt any three questions including Q.no1 which is compulsory.  
Internal choice is indicated.

- Q1 Explain the following in brief (Any five) (5x5=25)
- Explain the contents of `/etc/passwd` and `/etc/shadow` with respect to LINUX operating system.
  - What is LILO?
  - Mention the commands using which one can know
    - Storage space already utilized.
    - Storage space that is still available.
  - What are `dot(.)` and `double dot(..)` files? Discuss.
  - Explain the 'awk' command with example.
  - Differentiate between 'A System Call', 'A Library Function' and 'A Linux Command'.

**UNIT-I**

- Q2
- Explain salient features of LINUX operating system. (8)
  - Compare internal and external commands in LINUX with suitable examples. Give atleast five example of each. (3)
  - Draw structure of i-node and explain. Differentiate between relative and absolute path. (9)

**OR**

- Q3
- Illustrate with diagram, typical LINUX file system and explain different types of files supported in LINUX. (8)
  - With the help of diagram, explain the architecture of LINUX operating system. (8)
  - Differentiate between multiuser, multitasking and parallel operating system. Give example. (9)

**UNIT-II**

- Q4
- A file's current permissions are "`rw-r-x-r--`". Specify the 'chmod' expressions required to change them for the following.
    - `rxwx rwx rwx`
    - `r--r-- ---`
    - `--- --- ---`
    - `--r --r ---`

Using both the relative and absolute methods of assigning permissions. (8)

- Write the sequence of 'vi' commands to exchange top 3 lines with bottom 3 lines of the screen on a 'vi' session. (8)
- What are shell variables? Briefly describe shell's responsibilities. (9)

**OR**

- Q5
- Explain the basic attributes displayed by 'ls-l' command. (8)
  - Using 'vi' editor
    - How do you save your work without leaving the editor?
    - How will you write the selected lines to a files? Mention all options. Give suitable example.
    - What is "yanking"? What does the "I" operator do in vi editor?

- c) Differentiate cmp command from diff command using suitable example. Who is super user? (9)

### UNIT-III

- Q6 a) How are these two commands are similar and different? Sort -u abc.in ; uniq abc.in. (8)  
 b) Differentiate between pipes and filters using example. (8)  
 c) Write a shell script, which asks the user to enter the login name. If name is not in the 'LOGFILE', display the message "sorry ! you can't work" other ask for password. The password is not echoed. Check the password with the file "PASSWORD". If it is not there , display "Access denied." (9)

OR

- Q7 a) With the help of examples, explain grep and sed commands and list their options with their significance. (8)  
 b) Apply the 'tr' command to the file 'FILE1.in' with the appropriate options and arguments to translate lower case characters to upper case characters. Place output in 'FILE1.out'. (8)  
 c) What are the various types of pipes? (9)

### UNIT-IV

- Q8 a) Explain the mechanism of process creating using system calls in LINUX. (8)  
 b) Mention and explain the command with example using which, the priority of execution of a process can be altered. (8)  
 c) What are some common shells? What are their indicators? Discuss key features of Korn-shell. (9)

OR

- Q9 a) What do you mean by term kernel in Linux operating system? Explain any 2 Linux scheduling algorithm. (8)  
 b) Explain the following: (8)  
     i) Kernel debugger.  
     ii) Process Descriptor.  
 c) What is shell? What are the various types of shells? Explain. (9)

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