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17CS35

Third Semester B.E. Degree Examination, Jan./Feb. 2021
Unix and Shell Programming

Time: 3 hrs.   Max. Marks: 100

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. What is Operating System? With a diagram, explain the architecture of UNIX OS. **(08 Marks)**
   b. Explain the following commands with examples :
      i) echo   ii) ℓs   iii) who   iv) date   v) tty   vi) man.   **(06 Marks)**
   c. Differentiate between External and Internal commands in UNIX with suitable examples.
                                                                                (06 Marks)

OR

2 a. Explain the contents of /etc/passwd and /etc/shadow files with respect to UNIX OS.
                                                                                (08 Marks)
   b. Explain the Commands used to add , modify and delete a user with examples.   **(06 Marks)**
   c. Write a note on man documentation and explain the keyword option.   **(06 Marks)**

Module-2

3 a. With the help of a diagram, explain the Parent – Child relationship in UNIX file system.
                                                                                (06 Marks)
   b. Briefly explain the different types of files supported in UNIX.   **(06 Marks)**
   c. What is Pathname? Describe the different types of Pathnames, with suitable examples.
                                                                                (08 Marks)

OR

4 a. Which command is used for listing file attributes? Explain the significance of each field in the output.   **(08 Marks)**
   b. Assuming that a files current permission are rw – r – xr - -. Write the chmod expressions required to change them for the following : i) rwxrwxrwx   ii) r - - r - - - -
      iii) - - - r - - - - -   iv) - - - - - - - - - .
      Using both Relative and Absolute methods of assigning permissions.   **(08 Marks)**
   c. Explain the following commands with example :
      i) cat   ii) mv   iii) rm   iv) cp.   **(04 Marks)**

Module-3

5 a. Explain the three different modes in which vi editor works and explain how you can switch from one mode to another.   **(10 Marks)**
   b. List and explain the navigation commands in vi editor with example.   **(06 Marks)**
   c. Explain what these wild – card pattern match :
      i) [A – Z] ? ? ? ?*   ii) *[! 0 – 9]*   iii) *. [!s] [!h]   iv) [!a – z A – Z]*.
                                                                                (04 Marks)

OR

6 a. Explain the standard input, standard output and standard error with respect to UINIX OS. **(10 Marks)**

b. With suitable examples, explain the grep command and its various options. **(06 Marks)**

c. Explain Shell's Interpretive cycle. **(04 Marks)**

Module-4

7 a. Explain the shell features of 'while' and 'for' with syntax. **(08 Marks)**

b. Explain the special parameters used by the shell. **(06 Marks)**

c. Distinguish between hard link and soft link, with suitable examples. **(06 Marks)**

OR

8 a. Write a shell program to create a menu and execute a given options based on user choice. Options include i) List of users   ii) List of processes   iii) Current date and iv) Quit to UNIX. **(08 Marks)**

b. Explain the following commands with example : i) head   ii) tail   iii) cut   iv) paste. **(06 Marks)**

c. Briefly explain the sort command with its options. **(06 Marks)**

Module-5

9 a. Explain the three distinct phases of process creation. And explain how shell is created. **(08 Marks)**

b. Use find command to locate from home directory :
i) All files within the extension .htmℓ.
ii) All files having inode number 1006.
iii) All directories having permissions 777.
iv) All files not accessed for more than a year.
v) All but the C program files.
vi) All files named a.out and all 'c' source files and remove them interactively. **(06 Marks)**

c. Explain the nice command with example. **(06 Marks)**

OR

10 a. Explain the following string handling functions of PERL with examples :
i) length   ii) index   iii) substr   iv) reverse. **(08 Marks)**

b. Write a PERL program to determine whether the given year is a leap year or not. **(08 Marks)**

c. With examples, briefly explain split and join functions in PERL. **(04 Marks)**

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