USN ☐☐☐☐☐☐☐☐☐☐ 10CS44

Fourth Semester B.E. Degree Examination, Dec.2017/Jan.2018
UNIX and Shell Programming

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, selecting*
at least TWO questions from each part.

PART – A

1   a. With a neat diagram, explain the architecture of UNIX operating system.   (08 Marks)
    b. List and explain different features of UNIX operating system.   (08 Marks)
    c. Explain briefly absolute pathname and relative pathname.   (04 Marks)

2   a. Assuming that a file current permissions are rw_r_xr__, specify the chmod expression required to change them to
       i) rwxrwxrwx   ii) r__r_____   iii) ___r_r__   iv) _____
       using both relative and absolute assigning permissions.   (08 Marks)
    b. Explain briefly the file attributes listed using $ls - l$ command.   (06 Marks)
    c. With a neat diagram, explain different modes of Vi editor.   (06 Marks)

3   a. Explain the mechanism of process creation in UNIX and also explain the process of shell creation.   (08 Marks)
    b. Explain the three standard files with respect to UNIX operating system.   (06 Marks)
    c. Explain Job control with suitable example.   (06 Marks)

4   a. Differentiate between Hard link and Symbolic link.   (04 Marks)
    b. Discuss find command with all its options.   (10 Marks)
    c. Explain in detail the following command with options and example:(i) tr, (ii) cut.   (06 Marks)

PART – B

5   a. Explain grep command with any four option with suitable example.   (06 Marks)
    b. What is sed command? With example explain the difference between line addressing and context addressing in sed.   (08 Marks)
    c. Explain with example BRE and ERE.   (06 Marks)

6   a. List and explain any six special parameters used by shell.   (06 Marks)
    b. What is shell programming? Write a shell script to test and display the file attributes which is accepted as command line argument.   (08 Marks)
    c. Explain looping construct (for and while) in shell with example.   (06 Marks)

7   a. List and explain built-in variables used in awk.   (06 Marks)
    b. Write an awk sequence to find DA, HRA and gross pay of an employee, where DA if 55% of basic, HRA is 25% of basic and gross pay is sum of basic, DA and HRA. Also find the average gross pay.   (08 Marks)
    c. Explain the looping construct for in awk with example.   (06 Marks)

8   a. Explain the following string handling function in perl with example:
       i) length   ii) index   iii) substr   (06 Marks)
    b. Write a perl program that accepts decimal number as argument and convert it to binary.   (07 Marks)
    c. Using command line arguments, write a perl script to check whether a given year is leap year or not.   (07 Marks)

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