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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) `rwrxrwx` ii) `r_r_` iii) `_r_r_` iv) _____ (08 Marks)
using both relative and absolute assigning permissions.
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 is 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: (06 Marks)
i) `length` ii) `index` iii) `substr`
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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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.