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**Third Semester B.E. Degree Examination, June/July 2011**  
**UNIX and Shell Programming**

Max. Marks:100

Time: 3 hrs.

**Note: Answer any FIVE full questions.**

- 1
  - a. With neat diagram, explain the architecture of Unix Operating System. (06 Marks)
  - b. With the help of a diagram, explain the parent-child relationship. Explain the Unix file system. (06 Marks)
  - c. Explain the following with examples : (08 Marks)
    - i) Absolute and Relative pathnames
    - ii) Internal and External commands.
- 2
  - a. Give the significance of seven attributes of the `ls - l` command. (07 Marks)
  - b. What is file permissions? Explain how to change basic file permission with an example. (06 Marks)
  - c. Explain the different modes in which a Vi editor works. (06 Marks)
- 3
  - a. Explain the three standard files with respect to Unix operating system. (06 Marks)
  - b. Explain the mechanism of process creation. (06 Marks)
  - c. Explain the following commands with an example : (08 Marks)
    - i) Running jobs in Background (`&` and `nohup`)
    - ii) Execute later (`at` and `batch`).
- 4
  - a. What are Environment variables? Explain different environment variables available in Unix operating system. (06 Marks)
  - b. What are the differences between Softlink and Hardlink? Give examples. (06 Marks)
  - c. Write short notes on Find and Sort commands. (08 Marks)
- 5
  - a. Explain "grep" command with all options. (08 Marks)
  - b. Explain BRE (Basic Regular Expression) character subset used for constructing regular expressions. (05 Marks)
  - c. Give the syntax of a Sed command line and briefly explain each component of this line. (07 Marks)
- 6
  - a. Explain the use of `test` and `[ ]` to evaluate an expression in shell. (06 Marks)
  - b. What is shell programming? Write a shell program to create a menu which displays the list of files, current date, process status and current users of the system. (08 Marks)
  - c. Explain the shell features of "while" and "for" with syntax. (06 Marks)
- 7
  - a. What is AWK? Explain any three built in functions in AWK. (07 Marks)
  - b. Write an AWK sequence to find HRA, DA and Netpay of an employee, where DA is 50% of basic, HRA is 12% of basic and the netpay is the sum of HRA, DA and Basic pay. (07 Marks)
  - c. Explain the list and arrays in PERL. (06 Marks)
- 8
  - a. Explain string handling function in PERL and also write a program to find the number of characters, words as well as to print the reverse of a given sentence. (08 Marks)
  - b. What do the Chop ( ) and Split ( ) functions do? Explain. (06 Marks)
  - c. Explain file handling in PERL. (06 Marks)

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