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**Fourth Semester B.E. Degree Examination, June/July 2013**  
**UNIX and Shell Programming**

Time: 3 hrs.

Max. Marks:100

**Note: Answer 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. With the help of a neat diagram, explain the parent-child relationship. Explain unix file system. (06 Marks)
- c. Explain briefly absolute pathname and relative pathname with examples. (06 Marks)
- 2 a. Give the significance of the seven fields of the “ls -l” command. (07 Marks)
- b. What is file permission? Explain how to use “Chmod” command to set the permissions in a relative manner with an example. (07 Marks)
- c. Explain the three different modes in which “Vi” editor works. (06 Marks)
- 3 a. Explain the standard input, standard output and standard error with respect to UNIX operating system. (07 Marks)
- b. Explain the mechanism of process creation. (07 Marks)
- c. What are environment variables? Explain any four. (06 Marks)
- 4 a. Differentiate between hard link and soft link with examples. (06 Marks)
- b. Explain “sort” command briefly. Also discuss its important options with examples (any five). (06 Marks)
- c. Explain the following commands with example:  
      i) head      ii) tr      iii) uniq      iv) find (08 Marks)

**PART – B**

- 5 a. Explain ‘grep’ command with its options. (08 Marks)
- b. Explain line addressing and context addressing in “sed” with examples. (06 Marks)
- c. What are extended regular expression (ERE)? Explain any four ERE set used by “grep” and “egrep”. (06 Marks)
- 6 a. Explain the use of “test” and [ ] to evaluate an expression in shell. (06 Marks)
- b. Explain the shell features of “while” and “for” with syntax. (06 Marks)
- c. Explain the “expr” command applicable to computation and string functions. (08 Marks)
- 7 a. What is AWK? Explain any three built-in functions in AWK. (07 Marks)
- b. Write short notes on operators and expressions in AWK. (06 Marks)
- c. Explain built-in variables in AWK. (07 Marks)
- 8 a. List the string handling functions in PERL. Write a program to find number of characters, words as well as to print reverse of a given string. (08 Marks)
- b. Explain “chop( )” and “split( )” functions with examples. (06 Marks)
- c. Explain file handling in PERL. (06 Marks)