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**Third Semester B.E. Degree Examination, June/July 2014**  
**UNIX and Shell Programming**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting  
atleast TWO questions from each part.**

**PART – A**

- 1 a. Explain the salient features of UNIX operating system. (06 Marks)
- b. What is parent – child relationship? With the help neat diagram explain, UNIX file system tree. (06 Marks)
- c. Explain the following, with examples :
  - i) Absolute and relative pathnames
  - ii) Internal and external commands. (08 Marks)
- 2 a. Give the significance of seven attributes of the `ls -l` command. (07 Marks)
- b. Explain the different modes of operation in a vi editor with a suitable diagram. (07 Marks)
- c. Explain two commands to change the ownership of a file or directory, with example. (06 Marks)
- 3 a. What are environment variables? Explain different environment variables available in UNIX operating system. (08 Marks)
- b. Explain concept of escaping and quoting with suitable examples. (06 Marks)
- c. Explain mechanism of process creation. (06 Marks)
- 4 a. Explain the sort command. Briefly discuss the important sort options. (08 Marks)
- b. Explain the following commands with examples : i) `umask` ii) `touch`. (06 Marks)
- c. Briefly explain the significance of read, write and execute permission for a directory. (06 Marks)

**PART – B**

- 5 a. With suitable examples, explain the `grep` command and its various – options. (08 Marks)
- b. Explain briefly extended regular expression (ERE) and `egrep`. (06 Marks)
- c. Explain line addressing and context addressing in `sed` with examples. (06 Marks)
- 6 a. Explain the use of `test` and `[ ]` to evaluate expressions in shell. (08 Marks)
- b. Explain the shell features of “while” and “for” with syntax. (06 Marks)
- c. Explain `set` and `shift` commands, with examples. (06 Marks)
- 7 a. What is AWK? Discuss any 3 built- in functions available in `awk`. (08 Marks)
- b. Explain built – in variables used by `awk`. (06 Marks)
- c. Explain `awk` supports Looping with `for`. (06 Marks)
- 8 a. Discuss how lists and arrays are used in PERL with examples. (08 Marks)
- b. Explain the following string handling functions of PERL, with example.
  - i) `Length` ii) `Substr` iii) `Reverse`. (06 Marks)
- c. Using command line arguments, write a PERL program to find whether a given year is leap year. (06 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.