Reg. No.										

MANIPAL UNIVERSITY

FIRST SEMESTER ME (EMBEDDED SYSTEMS / EMBEDDED SYSTEMS AND INSTRUMENTATION (ESIGELEC, FRANCE) / AUTOMOTIVE EMBEDDED SYSTEMS (ESIGELEC, FRANCE)) THIRD SEMESTER MSc. TECH (EMBEDDED SYSTEMS AND INSTRUMENTATION (ESIGELEC, FRANCE) / EMBEDDED SYSTEMS / FOURTH SEMESTER MSc. Tech (VLSI DESIGN) DEGREE EXAMINATION – NOVEMBER 2015

SUBJECT: ESD 615.2 (ELECTIVE 1) / ESI 615.5 (ELECTIVE 1) / AES 615.1 (ELECTIVE 1) / ESI 615.5 (ELECTIVE 1) / ESD 615.2 (ELECTIVE 1) / EDA 616.1 (ELECTIVE 2)

LINUX AND SCRIPTING LANGUAGES

Wednesday, November 18, 2015

Time: 10:00 – 13:00 Hrs. Max. Marks: 100

1. Write a shell script to do the following task and explain each:

1A. To re-run the last command
1B. To count total number of files/directories starts with *a*
1C. To create an alias "ll" for displaying long listing of files in current working directory
1D. To List currently working users in a file called *current_user*
1E. Assign the read and write permission to the owner and the read permission to the group and others.

(2 marks × 5 = 10 marks)

2. 'Write a script to sort 'n' numbers in ascending and descending order using functions, 'n' should be input by the user.

(10 marks)

3. Use *grep* and explain each:

3A. How do you search for a string inside a directory?
3B. How do you search for a string in a directory with the subdirectories recursed?
3C. How will you list only the empty lines in a file?
3D. How do you search the string for vowel's occurrence and number of occurrences of each vowel?
3E. Can you find an alternative for *wc −l*?

(2 marks × 5 = 10 marks)

4. Write a one line script to do the following task and explain the script. (don't use sed, grep and awk)

4A. Extract 5th and 10th character from the file.
4B. Find out the difference between the two files, display the value in standard output and store in the file called '*diff_file*'(don't use Redirection)
4C. Delete all the duplicate lines
4D. Replace 'a' to 'A'
4E. Display 3rd line to 10th line from the file.

(2 marks × 5 = 10 marks)

5. Using dialog utility create a menu which need to have following options:

i) Open a file
ii) Remove a file
iii) Copy a file
iv) Move a file
v) Exit

Need to be continuous selection of menu and output need to be displayed?

(10 marks)

6. Write a *sed* script that will take two strings and a file name as input from the user. Let the inputs be string1, string2, and filename. The script should do the following:

6A. Append the string2 at every place string1 is present in the file '*test*'
6B. Insert the string2 at every place string1 is present in the file '*test*'
6C. Delete all the lines in the file '*test*' that have the string test
6D. Print the all the line numbers in which string1 is present in the file '*test*'.
6E. Replace the whole line that has the string1 with only stirng2

(2 marks 5× = 10 marks)

7A. Explain the functionality of *shift* with an example.
7B. Write a script using *trap* and explain about *ERR* and *exit* signal.

(5 marks × 2 = 10 marks)

8. Describe the following system variables used in AWK with examples.

8A. NF
8B. NR
8C. FILENAME
8D. ORS
8E. OFS

(2 marks 5 × = 10 marks)

9A. Write a Perl program to search for a given number in an array using binary search. Also display the number of comparisons done.
9B. Write short notes on scalar, hash variables in Perl.

(5 marks × 2 = 10 marks)

10A. Write a shell script using *grep* that checks whether a user exist or not. Give the username as input to the script. Explain the script.
10B. Write a shell script that displays a list of all the files in the current directory to which the user has read, write, and excecute permissions and explain the script.
10C. Develop an interactive *grep* script that ask for a word and file name and then tells how many lines contain that word. Explain the script.

(3+3+4 = 10 marks)