

**Babu Madhav Institute of Information Technology,
Uka Tarsadia University**

5 years Integrated M.Sc. (IT) (4th Semester)

**Subject: 060010403 – Linux and Shell Programming
Unit Test 2**

Duration: 90 minute

**Max. Marks: 30
Date: 04/03/2016**

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks allocated to that question.
4. Draw diagrams/figures whenever necessary.

Q-1 (A) Do as directed.

[1 * 4 = 4]

- I) What is the output of following command?
sed 's/the/a/g' file1
- II) Write a command to select 5 to 15 lines from emp.dat file.
- III) How can you temporarily change the primary prompt (\$) to percentage sign (%)? How can you change it permanently?
- IV) What is the key difference between "i" and "a" commands in sed?

Q-1 (B) Answer the following in brief. (Any 3)

[2 * 3 = 6]

- I) What is the output of the following commands? Why?
1) x=23
y=x
echo \\$\$y
2) x=23
y=x
eval echo \\$\$y
- II) Why you need to substitute the command in shell? Give example.
- III) Evaluate the following regular expressions. Write the possible matching strings for the given regular expressions.
1) CA\{4\
2) X(YZ)\{5\
IV) Write the purpose of "-n" and "-i" options in grep. Draw the flowchart of grep command.

Q-2 Answer the following

[5 * 2 = 10]

- A) Do as directed. (Use grep command)
- 1) Write a command that select the lines from "file1" that have at least three characters.
 - 2) Write a command that count non-blank lines from "file1" file.
 - 3) Write a command that gives the lines from the "file1" which having first and last character same.
 - 4) Write a command that gives the lines from "file1" that have only the string BMIT.
 - 5) Write a command that gives the lines from "file1" that contain string "unix", "UNIX" or "Unix".
 - 6) Write a command that gives the line from "file1" that have at least two digits without any other character in between.
 - 7) Write a command that copy the "file1" to the monitor, but delete the blank lines.

- 8) Write a command that gives the lines from “file1” that have three or fewer characters.
- 9) Write a command that gives the lines from “file1” that have exactly 4 characters.
- 10) Write a command that gives the lines from “file1” which start with “This” and end with and end with “moon”.

OR

A) Do as directed (Use sed command).

- 1) Write a command that deletes lines that contains at least one digit in “file1” file.
- 2) Write a command that replaces all occurrence of word “UNIX” with “LINUX” from “file1” file.
- 3) Write a command that displays only top 8 lines from “file1” file.
- 4) Write a command that deletes all blank lines from “file1” file.
- 5) Write a command that replace last line with “END”.

B) Write a script to display the total salary of the employee who are having department name and city are same as passed by user from **command line**. Put appropriate command line validations. Below given the data file namely **emp.dat**. If user pass department “**surat**” and department name “**sales**” then display the output as given below.

emp.dat	Output
1 Amit surat 20000 sales	Id Name City Salary
2 Nilesh Bardoli 15000 HR	1 Amit surat 20000
3 Anil surat 10000 sales	3 Anil surat 10000
4 Ketan Baroda 22000 manufacture	6 Laxman surat 21000
5 Sachin bardoli 30000 HR	=====
6 Laxman surat 21000 sales	Total salary 51000

OR

B) Write a script that generate the report of gross salary based on the basic salary, HRA and DA. Below given the data file namely **salary.dat**. Pass file name as a command line argument. Put appropriate validations on command line.

Note: HRA and DA given as percentage.

salary.dat	Output
1:Ramesh:20000:30:40	Name Basic salary Gross salary
2:Mahesh:10000:40:50	Ramesh 20000 27000
3:Suresh:6000:25:45	Mahesh 10000 19000
	Suresh 6000 13000

Q-3 Answer the following in detail. (Any 2)

[5 * 2 = 10]

- A) Define filter? Explain diff and comm filters with its output description.
- B) List three Quotes used by the Linux. Explain each of them in details with appropriate example.
- C) What do you mean by regular expression? Explain save and repetition operator in detail with example.