NOV – 1 SC arrive

Manipal Centre for Information Science

2nd Sessional

Linux and Scripting Languages

1) Alternate commands using sed **1X7=7marks**

a) sed -n '3!p' filename — sed '3d' filename

b) sed –n '/word/{

p

}' filename → sed '/Hai/!{d}

a) sed -n '$p' filename → sed $!{d}

b) grep -c "" filename → sed -n '$=' <filename>

c) sed '2q' filename → sed -n '1,2p' sed script.

d) sed '$!d' filename → sed -n '$p'

e) grep -v 'word' filename Sed '/Hai/{p' filename

2) Consider "people" is the name of the file. The contents of file is as follows

Hai everyone

Hai Boby

Hai priya

Priya Hai

sed -n '/^Hai/' people | wc -l.

or

sed -n '/^Hai/=' People | wc -l 1X5=5

a) Write a sed script to print how many times the word "Hai" used in the starting of a line in the file "people"

b) Write a sed script to print only the lines which contain "Hai" in the above file mentioned

c) Delete only the last line of the above file using sed → sed '$d' Keeps

d) Delete all the lines other than the last line in the given file using sed → sed '$!{d}'

e) Delete the whole file content using sed sed '1d' filename.

sed 'd' filename

3) Consider the file "snap" below

1 * * * * * *

2 * * * * *

3 * * * *

4 * * *

5 * *

6 *

2, 4, 6

1, 3, 5

And frame your sed scripts inorder to get these patterns below 1X5=5marks

1)
1
2
3
4
5
6

2)
* * * * * *
* * * * *
* * * *
* * *

3)
* * * * * *
* * * *
* *

4)
* * * * *
* * *
*

5)
* * * @ * *
* * * @ *
* * * @
* * *
* *
*

4) Write a script to display only Emb or Vlsi user accounts, each field must be sepearted by | 3X1=3marks

5) Alternate commands

a)cat > filename.txt

b)cat >> filename.txt

1X2=2marks

6) List all the files (exculde directories) using sed 1mark

7) Write sed command to extract a list of user names from the password file 2marks

8) Use the cut & paste commands to swap fields 2 and 3 in "my table". (Call it mytable) tabs to separate the fields (3)

1425 Ravi 15.65

4320 Ramu 26.27

6830 Sita 36.15

1450 Raju 21.8

4marks

9) Write a script to convert decimal number in to binary,hexadecimal,octal 5marks

10) Write a script to reverse a number using functions 5marks

11) Write a script to check whether the given number is amstrong or not. 4marks

12) Write shell script to implement library functionality using dialog utility in which "ctl C, ctl Z" should be deactivated. Menu-items and action according to select menu-item is as follows:

i. Issue a book
ii. Return a book
iii. Delete a book.

Each of the above options should have a sub menu that asks for the name of the book and the then echo the action that is done. Explain the working of the commands used and the conditional statement used in the script. 7 marks

ES,ITM,V&C

Linux and scripting 50Marks

1)The file named a.txt which has 4 fields/columns, where as each field is separated by a tab and that field contains some data like below

Player	Country	Ranking	Average
Ram	USA	105	25
Rag	UK	115	26
Pat	IND	234	23
Sah		425	24
Tat	USA	344	28
Rat	BRZ	536	29

Solve the scripts below using awk only? 1X5=5

a)Display only 2nd field data, that should be like this

Country
USA
UK
IND

USA
BRZ

b)Use the awk builtin variable to eleminate the player who didnt mention his country from the sample given

c)Number all the lines in the sample file

d)Write a script tocount the number of lines in the file

e)Write the awkscript which will be able to give you the given below as output if u take the given a.txt file as sample input

Name:Country:Ranking:Average

Ram:USA:105:25

Rag:UK:115:26

Pat:IND:234:23

Sah::425:24

Tat:USA:344:28

Rat:BRZ:536:29

2)Explain the below variables with examples

a)NF,NR b)OFS,FS c)ORS,RS d)FILENAME,FNR 2X4=8

3)Use the awk script to print the users who have the default shell as bash 1X2=2

4)Using dialog utility write a script to implement ATM functionality. Let it offer the user the choice of Cash withdrawal,Cash Remitting ,Change Password,Third party transfer and exit. Once the user has made a choice, have the program ask the user for necessary information,in such a way that his current password is "123" and the total amount in his account is Rs 20000/-. If the user input is wrong means it has to work accordingly. (1X10=10)

conditions:-

(1)title-ATM machine

(2)backtitle:-SBI BANK
(3)Only for exit it need to come out of the utility
(4)Cash Withdrawal ,cash remitting and third party transfer you need to show the balance amount

5)Write a script using functions which reads a number in units of seconds and converts it to the units hours:minutes:seconds and prints the result to standard output.
Your script must prompt for re-input if a negative value is input 1X5=5

6)Consider the below file p1.txt as your sample file and write scripts using sed
one two two three
two four five
1
five six two two
125
five two six
12
a)Change only the second occurance of "two" in all the lines to "twothree" 5X1=5
b)print the last line of a file
c)print only the first two lines
d)Delete only the 7th and 9th line of a file
e)print only the odd numbers in the file

7)Consider this as the input file and write the scripts with out using awk,sed and grep
1:1=2
2:2=4
3:3=9
4:4=16

a)output file must be like the one below
1+1=2
2+2=4
3+3=9
4+4=16
b)print the first field alone 1X3=3
c)print the second field alone 2X1=2

8)Write the alternate comands using awk
(a)cut -d"-" -f1,2 file 2X1=2
(b)cat filename

9)Write the alternate comands using sed
(a)cat filename | tr -d "[0-9]" 3X1=3
(b)cat filename
(c)sed '3q' filename

10)Write a script to change any decimal number to Hex,oct,binary.During the excecution of the script the signals Ctrl+C and Ctrl+z should not interrupt. 1X5=5

(4)Cash Withdrawal ,cash remitt

4. Explain the difference between until and while with an example. [1X5 Marks]

5. Use grep and explain each [2X4=8 Marks]
   a) How do you search for a string inside a directory?
   b) How do you search for a string in a directory with the subdirectories?
   c) How will you list only the empty lines in a file?
   d) count the total number of the pattern "o" in the file.

6. Write sed scripts that will do the following. [5X2=10 Marks]
   a) That will delete every line that starts with a T.
   b) Print the all the line numbers in which string1 is present in the file "test".
   c) Replace the whole line that has the string1 with only stirng2.
   d) Substitute "Bangalore" with "Manipal" only for the first occurrence in the line.
   e) Replace "y" with "Y"

7. For the following command, store the output in out. File and error in error. File and explain the script. COMMAND: (du `which bash ` ; echo1 "welcome") [1X2 Marks]

assignments. mcis@gmail.c
assignments. bk@gmail.com
Jananeeea

4. Explain the difference between until and while with an example. [1X5 Marks]

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svn status
svn update
svn revert
svn delete
svn move
svn copy
svn import

svn log
svn diff

Subject: Linux and Scripting languages

Course: MSC

Duration: 90 Minutes

Max. Marks: 50

File name: Contacts

Mr/ Temple street /Aravind/ Udupi

Miss/Cox Town/Anu/Bangalore

Mrs/Gandhi Nagar/Jaya/Mangalore

Mr/Avenue Road/Pranav/Bangalore

Miss/Park Road/ Suja/Udupi

a. Write a script to replace all slash in to tab and store in new file " NEW"
b. Write a script to replace the column 3 to column 2
c. Write a script to get information about jaya
d. Write a script to pick the name starts from the character 'A'.
e. Write a script to pick the contacts who are from 'udupi'.
f. Write a script to delete empty lines.
g. Write a script count number of contacts
h. Write a script to pick 1st contact
i. Write a script that pick the line start with Mr
j. Write a script that display contacts details both Manglore and udupi

1. Define the term Kernel and shell

(05 MARKS)

2. Write the difference between programming and shell scripting languages

(05 MARKS)

3. Write a shell script which receives two file names as arguments.
   It should check whether the two files contents are same or not.

if they are same then first file should be deleted otherwise display the message that files are different.

(05 MARKS)

4. Write a shell script to display "Good Morning", Good Afternoon", "Good Evening" . depending upon the current time

(05 MARKS)

5. Write a shell script to find factorial of N.

(05 MARKS)

6. Write a shell script that gives information which receives file name as argument. If file already exist you have display information about file
   a. Type of the file
   b. I node number
   c. Size of the file
   d. Total number of characters in the file otherwise create a empty file.

(05 MARKS)

7. Write a script to
   a. Find currently working directory
   b. Find todays date
   c. Find OS Type
   d. Count how many directories
   e. Delete file name "Contacts "
   f. Count number of users currrently logged in
   g. List the file name that starts with 'a'

(07 MARKS)

8. Write a shell script to schedule that to delete all temporary files every Friday at 10:PM

(03 MARKS)

```
for item in *
do
    if [ -f $item ]
    then
    echo $item
    fi
```

MANIPAL CENTRE FOR INFORMATION SCIENCE

REG.NO:

Subject: Linux and Scripting Languages
Course: III MSc Tech (EMB A)/III ITM/III ESIGELEC

Duration: 90 Minutes
Marks: 50

1. Explain any 2 features of Linux operating and List out the 2 drawbacks of shell scripting [5 Marks]
2. What is the importance of cron command. Execute the script backup.sh " 00:30 hrs on 1st of jan, june and December" using cron command . [3 Marks]
3. For the following command , store the output in out.file and error in error.file and explain the script.
   COMMAND: (du `which bash ` ; echo1 "welcome") [2 Marks]
4. Use wild cards and explain the resultant scripts [10 marks]
   a) List all the files ending with "h"
   b) Remove all the files having "i" as second letter in the folder
   c) Give only execute permission to the owner or user of all the files starts with "a"
   d) Copy all the files in directory "/rose" with .sh as extension to "/pre" named directory
5. Explain the difference between until and while loop with an example [10 Marks]

P.T.O

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P.T.O

6. Write a command using grep, [5 Marks]
   a. To select the lines from the file1 that have exactly three characters
   b. To select the lines from the file1 that have minimum 3 characters to maximum 5 characters long .
   c. To count the number nonblank lines in the file1
   d. To select the lines from the file1 that have only the string "UNIX".
   e. To select the lines from the file1 that do not start with A to G

7. Write the bash script and explain using the below given guidelines [10 Marks]
   a) Get the filename and pattern from the user
   b) Check the file is exist or not , if not create the file (the file name entered by the user)
   c) Check the file is having execute permission or not.
   d) Count the number of lines in the file entered by the user
   e) Count the total number of times the pattern appears in the file

8. Get the three numeric values from the user and Find the biggest among three numbers using positional parameter , if user gives other than 3 values, it has to print invalid parameter. [5 Marks]

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REG.NO:

Subject: Linux and Scripting Languages **Duration:** 90 Minutes **Marks:** 50

1. Define the term Shell and Process, [5 Marks]
2. Explain the importance of at command with an example [5 Marks]
3. Compare Absolute path and Relative path with relevant example. [5 Marks]
4. Write a shell scripts
   a. To display the message Good Morning"/"Good Afternoon"/"Good Evening" based on time. [5 Marks]
   b. To get a number from the user in units of seconds and converts it to the unit hours:minutes:seconds and prints the result to standard output.Your script must prompt for re-input if a negative value is input [5 Marks]
   c. To get the user name as input and check user account is exists or not if already exists display "account exists" otherwise creates the account. [5 Marks]
   d. To find whether given file exist or not, file name is supplied as command line argument, also check for sufficient number of command line argument [5 Marks]

[P.T.O]

5. Write a shell script using GREP command, explain the script [10 Marks]

a. Count total number of blank lines
b. Find the line that end with the pattern "end"
c. Search recursively all files and directories under given directory for the pattern "script"
d. Pick all the lines that has 100 characters in length.
e. List all the lines in the file that contain the pattern "$"

6. Write a shell command to do the following [5 Marks]

a. To count total number of files/directories starts with "a"
b. To Copy all the contents of the directory "me2015" to "backup15"
c. To create an alias for clear command as "c"
d. To List all the files in your directory in long format saving the output in a file called all_my_files
e. Assign the read and write permission to the owner and the read permission to the group and others for the file "file1".