<table>
<tr><th colspan="2">B.Sc. (IT) (Semester - 3)
Practical List
Unix & Linux Programming</th></tr>
<tr><td>Practical No:1</td><td></td></tr>
<tr><td>Practical Problem</td><td>
1: Write a date command to display date in following format:
1. How to Display Future Dates?
2. Display Date and Time in MM/DD/YY HH:MM:SS Format.
3. Date and time of 2 years ago
4. How to Display Time in GMT?
5. What will be the output of following commands?
• $date “+This is Date”
• $date “+This is date: %B”

2: Write a cal command to do following:
1. Display current month calendar on the terminal with the current date highlighted.
2. Display calendar of previous, current and next month.
3. Display calendar of February month of 2040 year.

3: Write ls command for following:
1. Display all files Include hidden files and directories in the listing.
2. Sort files and directories by their sizes, listing the largest ones first.
3. Display all file names in one column.
4. List directories themselves, rather than their contents.
5. List all file names having only one character length.
6. List filenames with their inode numbers.

4: Do as directed.

1. Create three directories named BScIT, MScIT and BCA under your Home directory.
2. Write command to move into BScIT from current directoryby writing single command.
3. Write command to move directly to MScIT by writing singlecommand. (Your current directory is BScIT).
4. Create a directory named DBMS in Desktop directory by writing single command. (Your current directory is BScIT and do not use cd command.)
5. Write command to create text file named “Linux.txt”; Rename the file “Linux.txt” to “Unix.txt”.
6. Recursively list all of the directories you created in Home directory by writing single command. (Your current directory is BScIT and do not use cd command).
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5: Write a **bc** command for following:

1. To evaluate "41/2". Answer should contain 5 decimal places.
2. To convert 82 from decimal to hexadecimal.
3. To print digits from 1 to 10 using for loop.
4. To convert 1001 from binary to decimal.
5. To print digits from 11 to 20 using while loop.

6: Solve following using **echo** command:

1. Write the output of a command:
   $ echo "Current directory file list is `ls`" (` is back quote)
2. Write an interpretation of a command:
   $ echo Welcome to the LINUX's world.
3. Write the output of a command:
   echo {smart, analog, black, white}watch
4. Write an interpretation of a command:
   echo -e "Hello \c world."
   echo "Hello \c world."
5. Write the output of a command: echo *.txt
6. Write output and interpretation of:
   echo "0 && 0" | bc
   echo "0 || 0"
   echo "0 && 1" | bc
   echo "0 || 1" | bc
7. Write output and interpretation of:
   echo "4*4+6"|bc*
   echo "5*4+3"|bc
8. Write output and interpretation of:
   echo "length(56789)" | bc
   echo "length(56789)"
9. Write output of and interpretation:
   echo "(4+5)*3"|bc
   echo "(6-8)*9"
10. Write output and interpretation of following commands:
    a. echo "1 == 2" | bc
    b. echo "10 == 10" | bc
    c. echo "10 == 1 || 1 == 2" | bc
    d. echo "10 == 10 || 1 == 2" | bc

7: Write **ls** &**echo** command to display following list of files:
File names:

1. Having digit at the end of filename.
2. First characters should be capital rest of could be anything.
3. Having three consecutive alphabets.

	4. Having "?" and "*" characters in filename. 5. Minimum length is 5 characters. 6. First character may be in uppercase or lowercase & second character must in uppercase. 7. Having first and last character must be capital letter.
Objective	• Students will be able to learn **date** command with options andformats. • Students will be able to learn **cal** command with options. • Students will learn **echo** command with options & escapesequences. • Students will learn **bc** command with options & conditionalstatements. • Students will be able to get an idea of using **bc** command withpiping mechanism. • Students will learn **ls** command with options.Student will learn operations on directory and file.
Pre-requisite	✓ Use shell to run commands & usage of date command. ✓ Usage of **bc** command, use of 'banch calculator' in interactivemode. ✓ Usage of **echo** command and pipe. ✓ Usage of **ls** command, meaning of all options. Usage of **ls** &**echo** command and meaning of different meta characters.
Solution must contain	Command, output and interpretation
Nature of Submission	Handwritten
References	Book: i. Forouzan B. A., Gilberg R. R., UNIX and Shell Programming, Thomson ii. Das S., UNIX concepts and Applications, McGraw Hill

Post laboratory questions	1. What is the syntax of **date** command? 2. List out different options of **date** command. 3. List out different formats of **date** command. 4. What is the syntax of **cal** command? 5. List out different options of **cal** command. 6. How can you display calendar of year 1800? 7. What is the syntax of **echo** command? 8. List out different options of **echo** command. 9. List out different types of escape sequences of **echo** command. 10. What is the purpose of **bc** command? 11. What is the syntax of **ls** command? 12. List out different options of **ls** command. 13. Which fields are displayed in output of "**ls –l**" command? 14. What are meta characters? 15. List out different meta characters. 16. Write your observation on output of 9th practical while using ls and echo.