Subject: Operating System Lab   Discipline: CSE
Subject Code: PCC CS592   Semester: 5TH

GROUP-A (Shell Programming)
Solve the following problems using shell script.

Topic 1 - (commands)
1. Basic shell commands

Topic 2 - (if-else)
1. All arithmetic operations
2. Greatest & least of among 3 nos.
3. Leap year
4. Grade calculation
5. Electric bill calculation

Topic 3 - (While & for loop , command line argument)
1. Fibonacci series (up-to range/term)
2. Palindrome no.
3. GCD & LCM
4. Armstrong
5. Pattern :

```
    *              * * * *
   ***             * * *
  *****            **
 *******           *
```

Topic 4 - (bc calculator, function, recursion)
1. Area of Triangle
2. Factorial with recursion
3. Series $f(x,n)=1+x^2/2!+x^4/4!+….+x^{2*n}/(2*n)!$
4. Pascal triangle

Topic 5 - (case-menu driven)
1. commands (pwd, ps, date etc.) using case
2. basic calculator ('+','-'...case)
3. given date is v
4. alid or not
5. Number to Word conversion (Ex. i/p-123, o/p-One Two Three)

Topic 6 - (Array, IFS)
1. Searching
2. Sorting
3. DOB calculation (using IFS)

Topic 7 - (File permission, Count on file)
1. Check & Change the file permission using **chmod** command
2. Count the number of line, word & character of a file using **wc** command

Topic 8 - (File read/write)
1. Grade calculation
2. Weekly temperature calculation
3. String palindrome

Topic 9 - (tput cup command)
Print the patterns
1. Circle
2. Square
3. Rectangle
4. Triangle

Topic 10 - (head & tail command)
Student Database
1. Insert
2. Update
3. Delete
4. Display

GROUP-B (C Programming)

Topic 11 - (Process creation)
1. Child process creation using fork() system call.

Topic 12 - (Inter Process Communication)
1. Any one process can send a number/string to the another process using pipe() system call.