Government Engineering College, Modasa
CE/IT Engineering Department
Subject: PPS (3110003)

Instructions for preparing Lab file for subject PPS

- All students need to prepare a lab file in which all practical needs to write on 1 sided line page. Output needs to write on an opposite blank page.
- Start each practical with a new page.
- A total of 34 programs need to be written in the lab file that is given below.

PRACTICAL SET - 0	1
PRACTICAL SET - 1	2
PRACTICAL SET - 2	2
PRACTICAL SET - 3	5
PRACTICAL SET - 4	4
PRACTICAL SET - 5	3
PRACTICAL SET - 6	3
PRACTICAL SET - 7	2
PRACTICAL SET - 8	3
PRACTICAL SET - 9	3
PRACTICAL SET - 10	4
PRACTICAL SET - 11	2
Total:	34

PRACTICAL SET - 0

1. Print a "Hello World" on screen. And observe the software's menu and other features. List out available all C compilers and get the overview.

PRACTICAL SET - 1(Any 2)

1. Write a program to that performs as calculator (addition, multiplication, division, subtraction).
2. Write a program to find area of triangle(a=h*b*.5) a = area, h = height, b = base
3. Write a program to calculate simple interest (i = (p*r*n)/100) i = Simple interest, p = Principal amount, r = Rate of interest, n = Number of years
4. Write a C program to interchange two numbers.
5. Write a C program to enter a distance in to kilometre and convert it in to meter, feet, inches and centimetre.
6. Write a program to compute Fahrenheit from centigrade (f=1.8*c +32)
7. Write a C program to find out distance travelled by the equation d = ut + at^2

PRACTICAL SET - 2(Any 2)

1. Write a C program to find that the accepted number is Negative, or Positive or Zero.
2. Write a program to read marks of a student from keyboard whether the student is pass or fail(using if else) Write a program to read three numbers from keyboard and find out maximum out of these three. (nested if else)
3. Write a C program to check whether the entered character is capital, small letter, digit or any special character.
4. Write a program to read marks from keyboard and your program should display equivalent grade according to following table(if else ladder)

Marks	Grade
100-80	Distinction
79 - 60	First Class
59 - 40	Second Class
< 40	Fail

PRACTICAL SET - 3(Any 5, last 3 compulsory)

1. Write a c program to prepare pay slip using following data.
   Da = 10% of basic, Hra = 7.50% of basic, Ma = 300,
   Pf = 12.50% of basic, Gross = basic + Da + Hra + Ma, Nt = Gross – Pf.

2. Write a C program to read no 1 to 7 and print relatively day Sunday to Saturday.
3. Write a C program to find out the Maximum and Minimum number from given 10 numbers
4. Write a C program to input an integer number and check the last digit of number is even or odd.
5. Write a C program to find factorial of a given number.
6. Write a program to reverse a number.
7. Write a program to generate first n number of Fibonacci series

PRACTICAL SET - 4(Any 3 from 1,2,3,4,5 is compulsory, Any 1 from the last 4.)

1. Write a program to find out sum of first and last digit of a given number.
2. Write a C program to find the sum and average of different numbers which are accepted by user as many as user wants
3. Write a program to calculate average and total of 5 students for 3 subjects (use nested for loops)
4. Read five persons height and weight and count the number of person having height greater than 170 and weight less than 50.
5. Write a program to check whether the given number is prime or not.
6. Write a program to evaluate the series $1^2+2^2+3^2+\ldots\ldots+n^2$
7. Write a C program to find $1+1/2+1/3+1/4+....+1/n$.
8. Write a C program to find $1+1/2!+1/3!+1/4!+.....+1/n!$.
9. Write a program to evaluate the series $sum=1-x+x^2/2!-x^3/3!+x^4/4!.......-x^9/9!$

PRACTICAL SET - 5

1. Write a program to print following patterns :

*	*	* * * * *
* *	* *	* * * *
* * *	* * *	* * *
* * * *	* * * *	* *
* * * * *	* * * * *	*

2. Write a program to print following patterns :

1	1 2 3 4 5	5 5 5 5 5	1
1 2	1 2 3 4	4 4 4 4	2 2
1 2 3	1 2 3	3 3 3	3 3 3
1 2 3 4	1 2	2 2	4 4 4 4
1 2 3 4 5	1	1	5 5 5 5 5

3. Write a program to print following patterns :

A A A A A	A B C D E
B B B B	A B C D
C C C	A B C
D D	A B
E	A

PRACTICAL SET - 6(Any 2 + No. 5 is compulsory)

1. Write a C program to read and store the roll no and marks of 20 students using array.
2. Write a program to find out which number is even or odd from list of 10 numbers using array
3. Write a program to find maximum element from 1-Dimensional array.
4. Write a C program to calculate the average, geometric and harmonic mean of n elements in an array.
5. Write a program to sort given array in ascending order (Use Insertion sort, Bubble sort, Selection sort, Mergesort, Quicksort, Heapsort).

PRACTICAL SET - 7(Any 2)

1. Write a program to find a character from given string.
2. Write a program to replace a character in given string.
3. Write a program to delete a character in given string.
4. Write a program to reverse string.
5. Write a program to convert string into upper case

PRACTICAL SET - 8(Any 3)

1. Write a program that defines a function to add first n numbers.
2. Write a function in the program to return 1 if number is prime otherwise return 0

3. Write a function Exchange to interchange the values of two variables, say x and y. illustrate the use of this function in a calling function.
4. Write a C program to use recursive calls to evaluate $F(x) = x - x\,3 / 3! + x\,5 / 5! - x\,7 / 7! + \ldots x\,n / n!$.
5. Write a program to find factorial of a number using recursion.
6. Write a C program using global variable, static variable.
7. Write a function that will scan a character string passed as an argument and convert all lowercase character into their uppercase equivalents

PRACTICAL SET - 9(Any 3)

1. Write a program to read structure elements from keyboard.
2. Define a structure type struct personal that would contain person name, date of joining and salary using this structure to read this information of 5 people and print the same on screen.
3. Define structure data type called time_struct containing three member's integer hour, integer minute and integer second. Develop a program that would assign values to the individual number and display the time in the following format: 16: 40:51
4. Define a structure called cricket that will describe the following information:
   Player name
   Team name
   Batting average
   Using cricket, declare an array player with 50 elements and write a C program to read the information about all the 50 players and print team wise list containing names of players with their batting average.
5. Design a structure student_record to contain name, branch and total marks obtained. Develop a program to read data for 10 students in a class and print them.

PRACTICAL SET - 10(Any 4)

1. Write a program to print address of variable using pointer.
2. Write a C program to swap the two values using pointers.
3. Write a C program to print the address of character and the character of string using pointer.
4. Write a program to access elements using pointer.
5. Write a program for sorting using pointer.

PRACTICAL SET - 11

1. Write a program to write a string in file
2. A file named data contains series of integer numbers. Write a c program to read all numbers from file and then write all odd numbers into file named "odd" and write all even numbers into file named "even". Display all the contents of these file on screen.