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LDRP Institute of Technology and Research
First Year(2nd Sem) Bachelor of Engineering (CE/IT)
Subject Name: Object Oriented Programming using C++ (CC-111 N)
PRACTICAL LIST

PRACTICAL SET-1 (Basics of C)	
1	Write a program to create students structure having name , subject and marks . Get the data of 5 students and display it. Use the concept of arrays and structure .
2	Write a program to create an employee structure having member's name and salary . Get data in employee structure through one function and display data using another function. Use concept of structure and function .
3	Write a program to create a person structure having age and weight as structure variables. Get the data and print the data using pointers. Use concept of pointers with structure.
4	Write a program to swap 2 values of a variables by using pointer .
5	Write a program to read data from the keyboard, write it to a file called INPUT , again read the same data from the INPUT file, and display it on the screen.
PRACTICAL SET-2 (Basics of C++)	
6	Write a program to find out the prime number of a given number
7	Write a program to find out the maximum number in a given array.
PRACTICAL SET-3 (Functions, Inline Functions and Function Overloading in C++)	
8	Write a program to demonstrate the use of inline functions by creating 2 inline functions. One inline function for multiplication operation and other inline function for demonstrating division operation.
9	Write a function power to raise a number m to power n. The function takes a double value for m and int value for n. Use default value for n to make the function to calculate squares when this argument is omitted.
10	Write a program that overloads absolute 3 functions namely absolute that return absolute values of int, floating point number and double.
11	Write a program that overloads volume functions that return volume of cube, cuboids and cylinder.
PRACTICAL SET-4 (Concept of Classs, Setters and Getters)	
12	Write a program to create a class for book having title, price and publisher having 2 member functions getdetails() and setdetails(). Also create the object of 2 different books
13	Write a program to create an array of 5 objects for previous program.
14	Write a program to find the maximum price of 2 books and return that book as object. Use object as function argument.
15	With reference to previous program, add 2 member variables serial_no and no_of_books (declare both as static variables) in class named books .Create a friend



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	function getcount() to demonstrate the concept of friend function.
	Write a Program to demonstrate the use of scope resolution
16	Write a program to create a class for defining COMPLEX numbers and overload three set functions (setters). The first set function which takes no argument is used to create objects which are not initialized, second which takes one argument is used to initialize real and imaginary parts to equal values and third which takes two argument is used to initialize real and imaginary to two different values. Define a display function that prints the complex number.
17	Write a program to create a class for defining COMPLEX numbers and overload three set functions (setters). The first set function which takes no argument is used to create objects which are not initialized, second which takes one argument is used to initialize real and imaginary parts to equal values and third which takes two argument is used to initialize real and imaginary to two different values. Define a display function that prints the complex number.
	PRACTICAL SET-5 (Constructor, destructor)
18	Write a program to create a class TEST with one int member. Define constructor, destructor and getter for the same. Define a function (outside class) find_square that takes object as an argument and returns square of int member of that object. Also define destructor.
19	Write a program to perform addition of two complex numbers using constructor overloading. Define add function outside the class that returns the addition. Also define destructor.
20	Write a program to perform addition of two complex numbers using constructor overloading. Define add function inside the class that returns the addition. Also define destructor.
21	Write a program to create a class TIME with members hours, minutes, and seconds. Read values from keyboard and add two TIME objects by passing objects to function and display result. Also define destructor.
	PRACTICAL SET-6 (Operator Overloading)
22	Implement a class string containing the following functions: - Overload + operator to carry out the concatenation of strings. - Overload = operator to carry out string copy. - Overload <= operator to carry out the comparison of strings. - Function to display the length of a string. - Function tolower() to convert upper case letters to lower case. - Function toupper() to convert lower case letters to upper case.
	PRACTICAL SET-7
23	Imagine a publishing company that markets both book and audiocassette versions of its works. Create a class publication that stores the title (a string) and price (type float) of a



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	publication. From this class derive two classes: book, which adds a page count (type int), and tape, which adds a playing time in minutes (type float). Each of these three classes should have a <i>getdata()</i> function to get its data from the user at the keyboard, and a <i>putdata()</i> function to display its data. Write a <i>main()</i> program to test the book and tape classes by creating instances of them, asking the user to fill in data with <i>getdata()</i> , and then displaying the data with <i>putdata()</i> .
24	Write a C++ Program to implement following inheritance structure. Write input/output functions to test your code.
25	Design three classes STUDENT, EXAM and RESULT. The STUDENT class has data members such as rollno, name. EXAM is created by inheriting STUDENT. EXAM class adds data members representing the marks scored in six subjects. Derive RESULT from EXAM and has its own data members such as totalmarks. Write a program to model this relationship.
26	Create a base class called SHAPE. Use this class to store two double type values. Derive two specific classes called TRIANGLE and RECTANGLE from the base class. Add to the base class, a member function <i>getdata</i> to initialize base class data members and another member function <i>display</i> to compute and display the area of figures. Make <i>display</i> a virtual function and redefine this function in the derived classes to suit their requirements. Using these three classes design a program that will accept driven of a TRINGLE or RECTANGLE interactively and display the area.
27	Create a function using the concept pointers that swaps the private data values of two objects of the same class type.
28	Write a program to find the larger of two given numbers in two different classes using friend function.
29	Create a class called LIST with two pure virtual function <i>store()</i> and <i>retrieve()</i> . To store a value call <i>store</i> and to retrieve call <i>retrieve</i> function. Derive two classes stack and queue from it and override <i>store</i> and <i>retrieve</i> .
30	Write a program to define the function template for calculating the square of given numbers with different data types.