**LAB ASSIGNMENT REPORT**

**on**

**(BCA 356 “OOPS &C++ Lab”)**



**College of Computing Science and Information Technology**

**TMU, MORADABAD**

**Session: August.2023 – Dec. 2023**

**Submitted By:**

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**Enrollment No.**

**Course:**

**Semester:**

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**Lab Assignment-1**

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| **S.NO** | **PROGRAM NAME** | **PAGE NO** | **DATE** | **SIGN** | **REMARK** |
|  | Write a program in C++ to swap two numbers without using the third variable. |  |  |  |  |
|  | Write a program in C++ to read integer (N) and print first three powers (N^1,N^2,N^3) |  |  |  |  |
|  | Write a program in C++ to check If the three sides of a triangle are entered through the keyboard, the program will check whether the triangle is isosceles, equilateral or scalene. |  |  |  |  |
|  | Write a C++ program to reverse a number. |  |  |  |  |
|  | Write a program in C++ to generate Fibonacci series as per given range which is entered by the user. |  |  |  |  |
|  | Write a program in C++ to Print all the prime number between 1 to 300. |  |  |  |  |
|  | Write a program in C++ to check a given number is palindrome or not. |  |  |  |  |
|  | Write a program in C++ to convert a person's name in abbreviated name using array. |  |  |  |  |
|  | Write a program in C++ to convert number in characters. |  |  |  |  |
|  | Write a program in C++ to convert decimal number to binary. |  |  |  |  |
|  | Write a program in C++ to find the factorial of the given number using the recursive function. |  |  |  |  |
|  | Write a program in C++ to perform operation of call by reference and call by value using function. |  |  |  |  |
|  | Write a program in C++ to print alphabet triangle.  A  ABA  ABCBA  ABCDCBA  ABCDEDCBA |  |  |  |  |
|  | Write a program in C++ to calculate by using function.   1. Area of circle (area=3.14 \* r2) 2. circumference of the circle (c=2 \* 3.14 \* r) 3. Volume of the cylinder  ( v=3.14 \* r2 \* h) 4. Surface area of the closed cylinder ( s = 2 \* 3.14 \* r \* h + 2 \* 3.14 \* r2 ) |  |  |  |  |

**Lab Assignment-2**

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| **S.NO** | **PROGRAM NAME** | **PAGE NO** | **DATE** | **SIGN** | **REMARK** |
|  | Write a program in C++ to read time in seconds and convert in time format (HH:MM:SS) using class. |  |  |  |  |
|  | Write a program in C++ to create multiple objects of a class and assign data to the data members of a class such as day, month, and year then, to display the contents on the screen. |  |  |  |  |
|  | Write a program in C++ to read students particular such as roll number, age, gender, height and weight from the keyboard and display the content of the class on the screen. The class ‘Student’ is defined as an array of class objects. |  |  |  |  |
|  | Write a program in C++ to demonstrate of the constructor: default Constructor, Parameterized Constructor, copy constructor**.** |  |  |  |  |
|  | Write a program in C++ to destroy the object of class, the destructor member function is defined. |  |  |  |  |
|  | Write a program in C++ to demonstrate of working of inline member function. |  |  |  |  |
|  | Write a program in C++ to display how many instantiation of a class object has been created using static data member declaration. |  |  |  |  |
|  | Write a program in C++ to demonstrate how a static data is accessed by a static member function. |  |  |  |  |
|  | Write a C++ program to demonstrate how ambiguity is avoided in single inheritance using scope resolution operator. |  |  |  |  |
|  | Write a CPP program to demonstrate of Friend Function. |  |  |  |  |

**Lab Assignment-3**

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| **S.NO** | **PROGRAM NAME** | **PAGE NO** | **DATE** | **SIGN** | **REMARK** |
|  | A program to calculate the sum of private data of the class first with private data of another class second through the common friend function. |  |  |  |  |
|  | A program to demonstrate how a class first has granted its friendship to the class second to access the private data of the class first through the public member function of the class second. |  |  |  |  |
|  | WAP in C++ to demonstrate Multilevel Inheritance. |  |  |  |  |
|  | WAP in C++ to demonstrate Hybrid Inheritance. |  |  |  |  |
|  | Write a CPP program to implement function overloading. |  |  |  |  |
|  | WAP in C++ to overload + operator on string. |  |  |  |  |
|  | WAP in C++ to overload = operator on string. |  |  |  |  |
|  | Depict the concept of virtual base class using a program. |  |  |  |  |
|  | WAP in C++ to demonstrate the working of virtual functions and pure virtual function. |  |  |  |  |
|  | WAP in to accepts a string of characters and write it into a file then display the content of the file on the screen. |  |  |  |  |
|  | Write a C++ program to write and read text in/from file. |  |  |  |  |
|  | Write a C++ program to demonstrate example of tellg() and tellp() function. |  |  |  |  |