# G H PATEL COLLEGE OF ENGINEERING AND TECHNOLOGY

((The Charutar Vidya Mandal (CVM) University))

DEPARTMENT OF INFORMATION TECHNOLOGY

**ACADEMIC YEAR: 2025-26** **SEMESTER: II** **TERM: EVEN**

**SUBJECT: 102001226—Object Oriented Programming with C++**

## PRACTICAL INDEX

| Name: | Enrollment No: |
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| Sr No | Name of the Experiment | Page No | Date | Sign | Marks |
|---|---|---|---|---|---|
| 1 | 1. Write a program to input a single character and print a message "It is a vowel" if it is a vowel otherwise print "It is a consonant" using if-else structure and OR (\|\|) operator.<br>2. Write a program that prints the tables from 1 to 12.<br>3. Write a program to display the following output using a single cout statement. Maths = 90, Physics = 77, Chemistry = 69 | | | | |
| 2 | 1. Write a program to find the largest of three integers using a function. The function accepts integer arguments by reference.<br>2. Write a program that creates an array of user given size using **new** operator. Initialise and display the array elements. | | | | |
| 3 | 1.Design a simple class to perform basic arithmetic functions. Use them in main( ) function.<br>2. Create a C++ program to convert temperature from Fahrenheit to Celsius and display. Use class.<br>3. Design classes named Triangle, Square and Circle. Create functions in each class to find areas of particular shape. | | | | |
| 4 | 1. Create a function called reverse ( ) that takes two parameters. The first parameter, called str is a pointer to a string that will be reversed upon return from the function. The second parameter is called count, and it specifies how many characters of str to reverse. Give count a default value that, when present, tells reverse ( ) to reverse the entire string.<br>2. Write a C++ program to implement function overloading in order to compute power(m,n) where<br>1) m is double and n is int<br>2) m and n are int. | | | | |
| 5 | 1. Create a program to understand and use static members and static member functions.<br>2. Create a class time with members hours and minutes. Write a member function 'add' which takes 2 arguments of type class time and demonstrate the use with a main program.<br>3. Create a class 'DISTANCE' with feet and inches as data members. Create member function to input distance, member function to output distance and member function to add two distance objects. Write a main function to create objects of DISTANCE class. Input two distances and output the sum. | | | | |

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| **6** | 1. Create a class sample with members a and b of type integer. Write a friend function that takes an object as argument and calculates the mean of the two members.<br>2. Create a class complex that has two members of type float. Write a friend function that calculate the sum of the two complex objects and returns the result as an object. Demonstrate the working using a main function. | | | | |
| **7** | 1. Create a class with string pointer as data member and member functions: Constructor to allocate memory dynamically and read value, Display( ) function to display the string and Destructor( ) function to free allocated memory. Demonstrate the working using a main function.<br>2. Write a program to demonstrate the use of copy constructor. | | | | |
| **8** | 1. Write a program to overload the + and – operators for the complex class. (as per the experiment 6)<br>2. Write a program to overload the unary – operator for a suitable class.<br>3. Write a program to overload the [ ] operator. | | | | |
| **9** | 1. Write a program to convert basic type to class type and vice versa.<br>2. Write a program to convert an object of one class to another class. | | | | |
| **10** | 1. Write a program to implement single inheritance. Show the consequences of deriving a class in public, protected and private manner with a simple example.<br>2. Consider a class student that stores the roll-number and a class test that stores the marks in two subjects. Inherit a class result from class student and class test, which contains the total marks obtained in the test. Write a program to demonstrate the same. | | | | |
| **11** | 1. Write a program to demonstrate how parameters are passed to the base class constructor via the derived class constructor.<br>2. Write a program to understand the use of **this** pointer. | | | | |
| **12** | 1. Write program to use a base class pointer to point to the derived class object.<br>2. Write a program to understand the use of virtual functions. Class media-the base class, two derived classes, tape and book.<br>3. Write a program to understand the use of pure virtual functions. | | | | |
| **13** | 1. Write a program to use the following functions: Put( ), Get( ), Getline( ), Write( ).<br>2. Write a program to produce formatted output using the following functions: Width( ), Precision( ), Fill( ), Setf( ), Unsetf( ).<br>3. Write a program to use manipulators setw, setiosflags and setprecision for formatted output.<br>4. Write a program to read a list containing item name, item code, and cost interactively and produce a three column output as shown below.<br>NAME CODE COST<br>_____<br>Turbo C++ 1001 250.95<br>C Primer 905 95.70 | | | | |
| **14** | 1. Write a program to create files with constructor function, open function, and using various file mode parameters.<br>2. Write a program to use the following functions:<br>3. Seekg( ), Tellg( ), Seekp( ), Tellp( ), Put( ), Get( ), Write( ), Read( ) | | | | |