SARVAJANIK COLLEGE OF ENGINEERING AND TECHNOLOGY
COMPUTER ENGINEERING DEPARTMENT
B.E. III (COMPUTER ENGINEERING) SEM-IV
Subject Name Object Oriented Programming with C++ (OOPC)

PRACTICALS LIST

Sr. No.	**Write C++ programs to do the following.**
1.	Write a program to print "hello World".
2.	Write a program that will allow computer to be used as an ordinary calculator. Consider only common arithmetic operations.(+, -, *, /) The program should display a menu showing the different options available. Do using **if** and also using **switch** statements.
3.	Write a program to find the sum of the digits of a integer constant.
4.	Write a program to arrange an array of N elements into ascending order.
5.	Write a program to demonstrate the use of Scope Resolution Operator:: with variable name.
6.	Write a program to demonstrate the use of Manipulators (setw () and endl).
7.	Write a program to swap two variables using function.(call by value & call by reference).
8.	Write a program which calculates volume of cube, cylinder, and rectangular box. (Use function overloading).
9.	Write a simple program that multiplies two numbers and then also divides the two numbers.(Use Inline Functions)
10.	Create a class called ITEM that has separate member data for item number(int) and item cost(float).Include the following member functions: • setdata( )to set these values to predefined values in the program • getdata( )to get these values from the user • putdata( ) to display these values.
11.	Implement a program that displays the largest of two numbers entered by the users using nesting of member functions.
12.	Write a program to demonstrate the use of static member data and static member function.
13.	Create a class called EMPLOYEE that has separate member data for name(string) and age(int).Include the following member functions: • getdata( )to get these values from the user • putdata( ) to display these values. • Create array of object for class EMPLOYEE and use gedata() and putdata() to display all employee information.
14.	Create a class called TIME that has separate member data for hour(int) and minutes(int).Include the following member functions: • setdata( )to set these values to predefined values in the program • getdata( )to get these values from the user • putdata( ) to display these values. • Member function add_time( ) to add two time objects to a third time object (e.g. T3.add_time(T1,T2). • Make new function to return a time object, so that the function works as follows: T3=T1.add_time(T2).

15.	Create two classes ABC and DEF having member data a(int) and x(int) respectively. Create a function MAX that will find the largest value from both class member data. (use friend function)
16.	Write a program to exchange the private values of two classes.(use friend function and call by reference).
17.	Write a program to demonstrate pointers to member functions.
18.	Write a program to overload constructor.
19.	Write a program to create a copy constructor. A constructor should be created, then a second constructor should be created which should have values of the previous constructor.
20.	Create a class SPACE having three member data x(int),y(int),z(int).overload the unary '-' operator for the class SPACE.

21.	Create a Rational class as follows,
	
	Class rational{
	
	      public:
	
	          rational ( ) { };
	
	     private:
	
	        int num; //numerator
	
	        int den; //denominator
	
	    };
	
	    Implement the +, /,*,- operators for the rational class.

22.	Implement a string class containing the following functions. • overloaded + operator function to carry out the concatenation of strings. • Overloaded = (assignment) operator function to carry out string copy. • Function to display the length of a string. • Function to overload comparison operator (= =) for two strings.
23.	Write a program that consists of two class time12 and time24. The first one maintains time on a 12-hour basis, where as the other one maintains it on a 24-hour basis. Provide conversion function to carry out the conversion from object of one type to another using friend function and also using type conversion.
24.	To write a program to find out the payroll system using single inheritance.
25.	WAP To find out the student details using multiple inheritance. .
26.	Derive the two classes son and daughter and demonstrate polymorphism in action
27.	Create a class called Person, that has member data name. Include member functions getdata() to get data from the user, and putdata() function to display its data. Write a main( ) program that creates an array of pointers, persPtr[100] to Person. In a loop, ask the user for data, and use new to create an object of type Person to hold the data. Put the pointer to the object in the

	array. When the user has finished entering the data for all the persons, use a for loop and a single statement such as persPtr[I]->putdata( ) to display the data from each object in the array
28.	WAP in c++ to convert lowercase to uppercase from a file.
29.	A hospital wants to create a file regarding its indoor patients. The information to store include _ Name of the patient _ Date of admission _ Disease _ Date of discharge Create a base class to store the above information. The member function should include functions to enter information and display a list of all the patients in the database. And apply the search function also.
30.	WAP to swap the numbers using the concept of function template.
31.	WAP to sort 5 float and integer number using bubble short using template function.
32.	Write a program with the following: A functin to read two double type numbers from keybord. A function to calculate divison of these two numbers. A try block to throw an exception when a wrong type of data is keyed in . A try block to detect and throw an exception if the condition "divide by zero " occurs. Appropriate catch block to handle the exception thrown.