

III SEMESTER EXAMINATION, 2023 – 24
2nd year, B.Tech. –Computer Science & Engg/Information Technology
Object Oriented Programming

Duration: 3:00 hrs

Max Marks: 100

Note: - Attempt all questions. All Questions carry equal marks. In case of any ambiguity or missing data, the same may be assumed and state the assumption made in the answer.

Q 1.	<p>Answer any four parts of the following.</p> <p>a) Explain object oriented programming and its features.</p> <p>b) What is Class and Object? Explain with help of suitable example</p> <p>c) What is constructor and destructor? Explain with the help of suitable example?</p> <p>d) Write a C++ program to calculate and print the Fibonacci series till nth term. The number n will be entered by the user from keyboard.</p> <p>e) Write a program the calculate mean of the given n number with the help of friend function.</p> <p>f) If a five digit number is input through the keyboard. Write a program to calculate the sum of digit.</p>	5x4=20
Q 2.	<p>Answer any four parts of the following.</p> <p>a) Create a Class Polar which describe a point in the plane using polar coordinates radius and angle. Use the overloaded + operator to add two objects of polar.</p> <p>b) How a class is passed in contractor? Explain with the help of suitable example?</p> <p>c) Define a class String. Use overloaded == operator to compare two string.</p> <p>d) Write a program to show the hybrid inheritance also show the virtual class.</p> <p>e) Write a program the calculate mean of the given n number with the help of friend ^{Class} function.</p> <p>f) Explain the use of static member function in C++ programming.</p>	5x4=20
Q 3.	<p>Answer any two parts of the following.</p> <p>a) What is Operator overloading? Create a class ABC that contain one data member as double. Overload the unary addition operator so that it operate on object of ABC.</p> <p>b) What is constructor and dynamic constructor? Explain with the help of suitable example?</p> <p>c) Write a C++ program to store N integers using dynamic memory allocation then search and print the smallest available number along with its position</p>	10x2=20
Q 4.	<p>Answer any two parts of the following.</p> <p>a) Write a program in C++ to declare classes X,Y and Z. Each class contain one character array as a data member. Apply multiple inheritances. Concatenate string of classes X and Y and store it in the class Z. The program prints all the three strings.</p> <p>b) Write down a detailed C++ program to demonstate the use of try, catch , throw and nested try.</p> <p>c) Write a C++ program using function template to find the product of two integer or floating point type of data.</p>	10x2=20
Q 5.	<p>Answer any two parts of the following.</p> <p>a) Create a base class called shape. Use this class to store two double type values that could be used to compute the area. Derived two specific classes called triangle and rectangle from shape. Add to the base class, a member function get_data() to initialized base class data member and another member function display_area() to compute and display the area. Make display_area() as a virtual function and redefine this function in the derived classes to suit their requirements.</p> <p>b) Write a C++ program to read a text file "ABC.TXT" and write its contents into another text file "XYZ.TXT".</p> <p>c) Explain the Standard Template Library and how it is working.</p>	10x2=20

© Write a program to calculate