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End Semester Examination 2024

Name of the Course: BCA
Name of the Paper: Introduction to Object Oriented Programming

Semester: 2
Paper Code: TBC 202

Time: 3 Hours

Maximum Marks: 100

Note:

- All Questions are compulsory.
- Answer any two sub questions among a,b and c in each main question.
- Total marks in each main question are twenty.
- Each question carries 10 marks.

Q1	(10*2=20 marks)	
(a)	Define Object-oriented programming and Explain feature of Object-oriented programming. How it is different than procedure-oriented programming.	CO1
(b)	Explain public, private and protected access specifiers and show their visibility when they are inherited as public, private and protected.	
(c)	What is the need of data types in C++? Describe different data types along with their representations and size in C++.	
Q2	(10*2=20 marks)	
(a)	Discuss Library and User-defined Functions. Discuss function overloading with the help of suitable example.	CO2
(b)	What is the role of friend function? Justify your answer with programming example.	
(c)	What are the differences between static memory allocation and dynamic memory allocation in C++? How to allocate and deallocate memory at run time in C++.	
Q3	(10*2=20 marks)	
(a)	What is the use of constructor and destructor in C++? Explain different types of constructor in C++. More than one constructor is possible in a class. Justify the correctness of this statement.	CO3
(b)	Explain static data member and static member function with the help of example.	
(c)	What is inheritance? Explain different types of inheritance in C++? How we can achieve code reusability?	
Q4	(10*2=20 marks)	
(a)	What is operator overloading? What are the various rules for operator overloading? Write a program to add two complex number using binary operator overloading using friend function.	CO4
(b)	What is type conversion in C++? Write a program to calculate area of rectangle with the help of parametrized value of triangle class type object (Class to class type conversion).	
(c)	What is diamond problem in C++? How can we overcome this problem? Explain with programming example.	
Q5	(10*2=20 marks)	
(a)	What are the differences between virtual function and pure virtual function? Explain with Example.	CO5
(b)	What is stream in file handling? What is the difference between input/output stream and file handling? Write a program to read content from one file and store in another file using file handling.	
(c)	Write the notes on the following" 1. STL 2. Exception Handling	