GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–VI (NEW) EXAMINATION – WINTER 2024

Subject Code:3160922   **Date:28-11-2024**

Subject Name:Object Oriented Programming

Time:02:30 PM TO 05:00 PM   **Total Marks:70**

Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	Discuss arithmetic operators in C++ programing.	**03**
	(b)	Discuss the programing structure of C++ language.	**04**
	(c)	Enlist Distinguishing features of Object-oriented programing, and justify any two of the features.	**07**
Q.2	**(a)**	Classify IO Stream Library	**03**
	(b)	Give the applications of any one Manipulators in file operation	**04**
	(c)	Enlist any 7 Major differences between C++ and C programing language.	**07**
		OR	
	(c)	Distinguish between the following terms: (a) Objects and classes, (b) Data abstraction and data encapsulation, (c) Inheritance and polymorphism, (d) Dynamic binding and message passing	**07**
Q.3	**(a)**	Write a program depicting operator overloading.	**03**
	(b)	What is function overloading, explain it with a suitable example.	**04**
	(c)	Discuss the application of Constructor & Destructor and give example for the same.	**07**
		OR	
Q.3	**(a)**	Discuss the application of Inline function and give example for the same.	**03**
	(b)	What is friend function? Explain with a suitable example.	**04**
	(c)	Write a program using C++ which calculates area of square, rectangle, and circle.	**07**
Q.4	**(a)**	Explain Poly-Morphism in detail?	**03**
	(b)	What is Inheritance? Explain single inheritance with an example.	**04**
	(c)	Write a program of multiplying numbers, using the function overloading phenomenon of C++.	**07**
		OR	
Q.4	**(a)**	Explain virtual functions.	**03**
	(b)	What do you mean by function prototype, function call, function arguments and function return type.	**04**
	(c)	Write a program to demonstrate the use of static member data.	**07**
Q.5	**(a)**	Explain 'this' pointer with example.	**03**
	(b)	Write down the rules for implementing operator overloading.	**04**

(c) Define a class to represent a bank account. include the following   **07**
Data members:
1. Name of the depositor.
2. Account number.
3. Type of account.
4. Balance amount in the account.

Member functions:
1. To assign initial value.
2. To deposit an amount.
3. To withdraw an amount after checking the balance.
4. To display name and balance.

Also write a main function to test the program.

OR

Q.5 **(a)** Explain the exception handling of C++ language.   **03**
    (b) List various access specifiers of C++ language, and explain all of them in short   **04**
    (c) Create a class called ITEM that has separate member data for item number(int) and   **07**
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.

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