MAKE-UP EXAM

BPLCK105D/BPLCKD105

First Semester B.E./B.Tech. Degree Examination, Nov./Dec.2023
Introduction to C++ Programming

Time: 3 hrs.   Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Differentiate between object-based and object oriented programming. Also write the features of C++ and give reason, why C++ is not pure object-oriented programming?	6	L2	CO1
	b.	With help of first C++ program, explain the basic syntax of C++ program.	8	L1	CO1
	c.	With suitable example, explain the concept of classes and objects.	6	L1	CO1
		OR			
Q.2	a.	How objects communicate by using message passing? Explain with suitable example.	6	L2	CO1
	b.	What are abstract classes? With suitable example, explain the advantages of abstract classes.	6	L1	CO1
	c.	Describe the terms Abstraction, Encapsulation, Inheritance and Polymorphism.	8	L1	CO1
		Module – 2			
Q.3	a.	List and explain the different types of expressions supported in C++, write at least one example for each.	10	L1	CO2
	b.	What is function in C++? With syntax explain the importance of function prototyping.	4	L2	CO2
	c.	Write a C++ program to swap two integer numbers by writing a function that uses call by reference method.	6	L3	CO2
		OR			
Q.4	a.	What are inline functions in C++? When compiler ignore the request of inline function? Also write the situations when inline functions may not work.	8	L2	CO2
	b.	What do you mean by function overloading? Write a C++ program to demonstrate function overloading for the following prototypes. add(int a, int b) ; add(double a, double b) ;	8	L3	CO2
	c.	What are default arguments? When they are useful?	4	L2	CO2
		Module – 3			
Q.5	a.	What are constructors in C++? Write any six characteristics of constructors.	8	L1	CO3
	b.	With suitable example, explain default constructor and parameterized constructor.	8	L2	CO3
	c.	What are destructors in C++? Describe.	4	L1	CO3

		OR			
Q.6	a.	What is multiple inheritance? When ambiguity arises in multiple inheritance? Write a program to demonstrate ambiguity in multiple inheritance and to resolve the same.	10	L3	CO3
	b.	Create a class named shape with a function that prints "This is a shape". Create another class named polygon inheriting the shape class with the same function that prints polygon is a shape. Create two other classes named Rectangle and Triangle having the same function which prints "Rectangle is a polygon" and "Triangle is a polygon" respectively. Again make another class named square having the same function which prints "Square is a rectangle". Now, try calling the function by the object of each of these classes.	10	L3	CO3
		Module – 4			
Q.7	a.	What are C++ streams? With a neat diagram, explain C++ stream class hierarchy.	10	L1	CO4
	b.	Write a C++ program to create a text file, check file created or not, if created write some text into file and then read the text from the file to display on the screen.	10	L3	CO4
		OR			
Q.8	a.	With syntax explain the functions used to open, close, read data from, write data to text files and detect the end of file.	10	L1	CO4
	b.	Write a C++ program to write and read time to/from binary file using fstream.	10	L3	CO4
		Module – 5			
Q.9	a.	What is an exception? Write the common reasons for exception to occur and explain the exception handling mechanism in C++.	10	L2	CO4
	b.	Write the general format of try-catch block which invokes a function that generates exception. Write C++ program to demonstrate how a try block invokes a function that generates division by zero exception and catch it in catch block.	10	L3	CO4
		OR			
Q.10	a.	Write the general format of multiple catch statements. Write a C++ program to demonstrate multiple catch statements.	10	L3	CO4
	b.	With suitable example, explain generic catch statement and exception rethrowing mechanism.	10	L2	CO4

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