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BPLCK205D/BPLCKD205

Second Semester B.E./B.Tech. Degree Examination, June/July 2024

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. | List and explain any five characteristics of C++. | 10 | L1 | CO1 |
| | b. | Explain the structure of C++ program with syntax and program. | 10 | L2 | CO1 |
| OR | | | | | |
| Q.2 | a. | Define the following terms with an example : i) Object ii) Classes iii) Abstraction iv) Encapsulation v) Polymorphism. | 10 | L1 | CO1 |
| | b. | Explain Inheritance in details. | 5 | L2 | CO1 |
| | c. | Write a C++ program to find the sum of all the natural numbers from 1 to n. | 5 | L3 | CO1 |
| Module – 2 | | | | | |
| Q.3 | a. | List and explain any five expressions and their types. | 10 | L1 | CO2 |
| | b. | Explain Inline functions with a programming example. | 10 | L2 | CO2 |
| OR | | | | | |
| Q.4 | a. | Explain Scope Resolution Operator, with an example. | 5 | L2 | CO2 |
| | b. | Explain call by reference with a programming example. | 5 | L2 | CO2 |
| | c. | Write a C++ program to demonstrate function overloading for the following prototypes. add (int a, int b) add (double a, double b). | 10 | L3 | CO2 |
| Module – 3 | | | | | |
| Q.5 | a. | Explain constructors with syntax and suitable example. | 10 | L2 | CO3 |
| | b. | Describe the syntax of Multiple Inheritance with a programming example. | 10 | L2 | CO3 |
| OR | | | | | |
| Q.6 | a. | Explain Single Inheritance with Syntax and programming example. | 10 | L2 | 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 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. | With a neat diagram , explain Stream Class hierarchy in C++. | 10 | L2 | CO4 |
| | b. | Write a C++ program to create a text file, check file created or not , if created it will write some text into the file and then read the text from the file. | 10 | L3 | CO4 |
| OR | | | | | |
| Q.8 | a. | Explain the method of read. Write using get () and put () functions in Text files. | 10 | L2 | CO4 |
| | b. | Write a C++ program to write and read time in / from binary file using f-stream. | 10 | L3 | CO4 |
| Module – 5 | | | | | |
| Q.9 | a. | Define Exception. Explain mechanism of exception handling in C++ with syntax and programming example. | 10 | L2 | CO4 |
| | b. | Write a C++ program function which handles array of bounds exception using C++. | 10 | L3 | CO4 |
| OR | | | | | |
| Q.10 | a. | Discuss Multiple catch statements with syntax and programming example. | 10 | L2 | CO4 |
| | b. | Write a function which throws a division by zero exception and catch it in catch block. Write a C++ program to demonstrate usage of try, catch and throw to handle exception. | 10 | L3 | CO4 |
