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Course Code

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Second Semester B.E. Degree Examinations, Sept/Oct 2023

Introduction to C++ Programming

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
 2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTL:CO: PI)</u>
MODULE – 1			
1.	a. Define the following terms with examples: i) Object ii) Class iii) Access specifiers.	6	(1 :1: 3.5.1)
	b. What is the need of Object-Oriented Programming paradigm? Differentiate between object-oriented programming and procedure-oriented programming.	7	(2 :1: 3.5.1)
	c. Draw the basic structure of a C++ program, and write student details program as an example. Highlight the program components with comments.	7	(3 :1: 3.5.1)
OR			
2.	a. Write the shorts note on: i) Member functions or methods. ii) Polymorphism and its types.	6	(1 :1: 3.5.1)
	b. List and explain the basic concepts (features) of object-oriented programming.	7	(2 :1: 3.5.1)
	c. Write a C++ program to sort the array elements in both the ascending order and descending order.	7	(3 :1: 3.5.1)
MODULE – 2			
3.	a. Write the shorts note on: i) Operators available in C++. ii) Special Assignment Expressions.	6	(1 :2: 3.5.1)
	b. What call by reference? Write a Program to add two numbers using call by reference technique.	7	(2 :2: 3.5.1)
	c. Write a C++ program to show different uses of scope resolution operator. Highlight the different uses with comments and appropriate output.	7	(3 :2: 3.5.1)
OR			
4.	a. Write the shorts notes on: i) Function overloading ii) Recursive function	5	(1 :2: 3.5.1)
	b. Explain return by reference with a suitable program?	7	(2 :2: 3.5.1)
	c. Write a program to narrate the use of inline functions. Also discuss whether the request to make a function as inline is always granted by the compiler?	8	(3 :2: 3.5.1)

MODULE – 3

5. a. Which functions will be called implicitly as soon as object is created? And when the objects get destroyed. Explain with syntax. 6 (1 :3: 3.5.1)
- b. Define Inheritance. Explain the different types of Inheritance with syntax for defining derived classes. 7 (2 :3: 3.5.1)
- c. Write a program for function overloading or operator overloading with comments and appropriate output. 7 (3 :3: 3.5.1)

OR

6. a. What is Polymorphism? How to achieve polymorphism in C++? Explain in detail. 6 (1:3: 3.5.1)
- b. How is the visibility of private, protected, and public members of a base class, when the class is privately inherited, protectdly inherited, and publically inherited by different derived classes? 7 (2 :3: 3.5.1)
- c. Write a program to show dynamic binding of polymorphism, explain in detail. 7 (3 :3: 3.5.1)

MODULE – 4

7. a. Explain Unformatted I/O functions. 6 (1 :4: 2.6.1)
- b. Explain C++ Stream Classes Hierarchy in detail. 7 (2 :4: 2.6.1)
- c. Develop a program to read a few lines and then display each word in a different line. 7 (3 :4: 2.6.1)

OR

8. a. Explain Writing to a binary file with suitable program. 6 (1 :4: 2.6.1)
- b. Explain the following with syntax and example for text file: i) Opening a File ii) Reading from and Writing to File. iii) Closing File. 7 (2 :4: 2.6.1)
- c. Develop a program to reads lines until \$ and displays the lines as they are back on the screen using get () function. 7 (3 :4: 2.6.1)

MODULE – 5

9. a. What is exception? Explain basics of exception handling. 6 (1 :5: 3.5.1)
- b. Explain the concept of namespace with syntax and suitable example. 7 (2 :5: 3.5.1)
- c. Write a program where multiple catch statements are used to handle various types of exception. 7 (3 :5: 3.5.1)

OR

10. a. Explain try block throwing exception using diagram and syntax. 6 (2 :5: 3.5.1)
- b. Write a program to invoke the function that generates exception. 7 (3 :5: 3.5.1)
- c. Write the shorts notes on: i) Template ii) STL 7 (2 :5: 3.5.1)

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