

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY-GURUJADA VIZIANAGARAM**  
**II B. Tech I Semester Supplementary Examinations, November – 2024**  
**OBJECT ORIENTED PROGRAMMING THROUGH C++**  
**(COMMON TO CSE, IT)**

**Time: 3 hours****Max. Marks: 70**

***Answer any FIVE Questions  
ONE Question from Each unit  
All Questions Carry Equal Marks  
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|----|--|-----|
| 1  | a) Describe the important features of object-oriented program and mention the disadvantages of conventional program. | [7] |
|    | b) What is the structure of C++ program explain with syntax and write a C++ program for simple calculator.           | [7] |
|    | (OR)   |     |
| 2  | a) Differentiate C and C++ programming.  | [7] |
|    | b) Write a program in C++ to check whether the given no is prime or not.   | [7] |
| 3  | a) What is Constructor? How the Constructors are used explain with example.  | [7] |
|    | b) How the member function can be defined inside the class and outside the class explain.                            | [7] |
|    | (OR)   |     |
| 4  | a) Define object. Explain how C++ objects act as data types.   | [7] |
|    | b) Explain the parameterized constructor with suitable example.  | [7] |
| 5  | a) Write a C++ program to overload unary '+' and unary '-' operator.   | [7] |
|    | b) Explain the concept of abstract classes and virtual base classes with a suitable example.                         | [7] |
|    | (OR)   |     |
| 6  | a) Define operator overloading? Explain how to overload unary operator and binary operator.                          | [7] |
|    | b) What is single level inheritance? Explain suitable example with C++ program.                                      | [7] |
| 7  | a) Write a C++ program demonstrating use of the pure virtual function with the use of base and derived classes       | [7] |
|    | b) What is pointer variable? What are basic data and derived data types which can be expressed in pointer variable?  | [7] |
|    | (OR)   |     |
| 8  | a) Describe the different implementation methods of polymorphisms in C++.  | [7] |
|    | b) What is a virtual function? Write rules for virtual function and explain with example.                            | [7] |
| 9  | a) Write a C++ program bubble sort using function templates.   | [7] |
|    | b) What is STL? Briefly explain use of container, vectors, lists and maps.   | [7] |
|    | (OR)   |     |
| 10 | a) Differentiate between templates and macros.   | [7] |
|    | b) Write a C++ program exception handling with the help of try, throws and catch.                                    | [7] |

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