

Code: 19IT2501A

**III B.Tech - I Semester – Regular Examinations – JANUARY 2022**

**OOP WITH C++**  
**(Common for CSE, ME ECE, EEE)**

Duration: 3 hours

Max. Marks: 70

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- Note: 1. This question paper contains two Parts A and B.  
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.  
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.  
4. All parts of Question paper must be answered in one place.
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**PART – A**

1. a) Differentiate between ‘keyword’ and ‘identifier’.
- b) Write down the syntax and example to create a class.
- c) Write down the example to overload unary operators in C++.
- d) Define Message Passing.
- e) Write the need of templates in C++.

**PART – B**

**UNIT – I**

2. a) What is meant by function overloading? Explain with example program. 6 M
- b) Differentiate between break and continue statement. Illustrate with an example. 6 M

OR

3. a) Classify different looping statements available in C++. Illustrate with examples. 6 M

- b) Differentiate between nested if-else and switch statement. Illustrate with examples. 6 M

### UNIT – II

4. a) Illustrate the use of static member variable in C++ with an example program. Write the advantages of static variable. 6 M
- b) Write a C++ program to add two complex numbers using object as arguments. 6 M

OR

5. a) What is the need of constructor? How it is different from the member function? Illustrate with example. 6 M
- b) Write down the example of parameterized constructor in C++. 6 M

### UNIT-III

6. a) Write down a C++ program to implement binary operator overloading. 6 M
- b) Illustrate the use of virtual base class in C++ with example. 6 M

OR

7. a) Discuss the role of access specifiers in inheritance and show their visibility when they are inherited as public, private and protected. 6 M
- b) List the features of pointers. Illustrate the use of ‘this’ pointer in C++ with example. 6 M

### UNIT – IV

8. a) What is a user defined exception? Write down the scenario where we require user defined exceptions. 6 M

b) When do we need multiple catch blocks for a single try block? Give an example. 6 M

OR

9. a) Discuss about try, catch, throw with an example program. 6 M

b) Illustrate the use of virtual function in C++ with an example program. Also write its advantages. 6 M

**UNIT – V**

10. a) Differentiate non mutating and mutating operations in STL. 6 M

b) Illustrate overloading of template functions in C++ with an example program. 6 M

OR

11. a) Discuss function templates with an example. 6 M

b) Discuss about associative and sequence containers. 6 M