



10TE661

**Sixth Semester B.E. Degree Examination, Aug./Sept.2020**  
**Programming in C++**

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO full questions from each part.

**PART - A**

- 1 a. What is object oriented programming? What are the advantages of object oriented languages over procedure oriented languages? (08 Marks)  
b. Explain with an example program how dynamic memory allocation is performed with the help of new and delete operator. (06 Marks)  
c. What is enumerated data type? Explain. (06 Marks)
- 2 a. What is pointer? Explain the difference between a pointer and reference types with a suitable example. (06 Marks)  
b. What are preprocessor directives? Explain with examples. (06 Marks)  
c. Define an array and write a C++ program to find the largest element of an array. (08 Marks)
- 3 a. With an example, explain the precedence of operators in C++. (06 Marks)  
b. Explain the call-by-value and call-by-reference parameter passing methods with an example program each. (08 Marks)  
c. Explain two ways of type conversion using a suitable C++ program. (06 Marks)
- 4 a. Write a C++ program to reverse all the digits of a number (integer) using function. (06 Marks)  
b. Explain function declaration, function calling and function definition with syntax and example. (08 Marks)  
c. Write a C++ program to find GCD of 2 numbers using recursive function. (06 Marks)

**PART - B**

- 5 a. What is exception handling, with an example explain try, throw and catch mechanisms in C++. (10 Marks)  
b. Write a C++ program to demonstrate multiple catch statements. (10 Marks)
- 6 a. Input name, role number and marks in 3 subjects for 10 students. Calculate their total percentage print a report name, role number, total and percentage. (12 Marks)  
b. Explain constructor and destructor function with suitable program. (08 Marks)
- 7 a. Explain the following with example : overloaded operators ++ and --. (08 Marks)  
b. What is operator overloading? Write a program in C++ to concatenate two strings by overloading operators +.  
 $S_1 = \text{VTU}$   $S_2 = \text{KARNATAKA}$   $S_3 = S_1 + S_2$ . (12 Marks)
- 8 a. Explain the multiple inheritance with an appropriate example. (10 Marks)  
b. Explain public, private and protected inheritance with example. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

