



# CBCS SCHEME

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15EC562

## Fifth Semester B.E. Degree Examination, Aug./Sept.2020 Object Oriented Programming using C++

Time: 3 hrs.

Max. Marks: 80

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Explain the structure of a C++ program. (04 Marks)
- b. What is the difference between a reference and a pointer variable? Explain with examples. (06 Marks)
- c. Explain about the memory management operators in C++. (06 Marks)

OR

- 2 a. Explain about the built-in datatype used in C++. (04 Marks)
- b. Mention different types of expression in C++ with examples. (06 Marks)
- c. Explain control structures in C++ with its syntax. (06 Marks)

### Module-2

- 3 a. Explain the format of a class definition. Also explain the importance of friend function with an example. (10 Marks)
- b. Explain function overloading with an example. (06 Marks)

OR

- 4 a. Explain the difference between call by value and call by reference. (08 Marks)
- b. What is recursion? Write a recursive program to find the factorial of a number. (08 Marks)

### Module-3

- 5 a. Mention the use of parameterized constructors and multiple constructors in a class. (06 Marks)
- b. Develop a class STUDENT containing the following data members: NAME, USN, MARKS. Provide appropriate set of constructors for the class and write supporting main( ) that exercises these constructor. (06 Marks)
- c. Write a note on destructor in a C++ program. (04 Marks)

OR

- 6 a. What is operator overloading? Write a program for overloading unary minus operator. (08 Marks)
- b. Write a program with class name TIME that has three data members hour, minute and second. Write two constructors of which one should initialize to all zero and another initialize to values provided as parameters. Write supporting main( ) to exercise these constructor. (08 Marks)

### Module-4

- 7 a. Define multilevel inheritance and multiple inheritance with example program. (10 Marks)
- b. Mention the role of access specifiers in inheritance. (06 Marks)

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.

- OR**
- 8 a. Briefly explain virtual function with rules. (06 Marks)  
b. Illustrate how to use pointers can point to an object created by a class. (06 Marks)  
c. Mention the use of 'this' pointer. (04 Marks)

**Module-5**

- 9 a. List and explain C++ stream classes. (08 Marks)  
b. Elaborate any four ios format functions with example. (08 Marks)

**OR**

- 10 a. Describe the classes for file stream operations. (08 Marks)  
b. Write a program to append "VTU" and "BELGAVP" texts to a file and display it on the monitor. (05 Marks)  
c. In file stream operation which function is used to find the end of a file. Illustrate with syntax. (03 Marks)

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