

# CBCS SCHEME

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15EC562

## Fifth Semester B.E. Degree Examination, June/July 2019 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. What is C++? How is it different from C? (06 Marks)  
b. List and explain the various data types in C++? (06 Marks)  
c. Write a note on : i) Enumerated Data Type ii) Const and Volatile. (04 Marks)

OR

- 2 a. Discuss the types of operators supported in C++. (06 Marks)  
b. Illustrate the difference between pointers and reference variables in C++. (04 Marks)  
c. Explain loops in C++? Give example. (06 Marks)

### Module-2

- 3 a. Design a function call cal\_SI( ), that has three parameters, principle, tenure, rate. Provide default argument to rate. Write a C++ program to find the simple interest using the above function. (06 Marks)  
b. What are static variables and functions in C++. (04 Marks)  
c. What are local classes in C++? Illustrate with an example program. (06 Marks)

OR

- 4 a. Define friend function. Demonstrate with an example program. (06 Marks)  
b. With an example, mention the various circumstances in which, the scope resolution operators are used. (06 Marks)  
c. Write a C++ program to overload two functions to find area of a circle and square. (04 Marks)

### Module-3

- 5 a. What is a constructor? Write the need of constructor in a class. (04 Marks)  
b. Can a class have many constructors? Justify. (04 Marks)  
c. Create a class called Clock with data members as hour, minute and member functions readtime ( ), showtime ( ). Write a C++ program to input two clock objects and add using operator overloading +. (08 Marks)

OR

- 6 a. What is a destructor? Mention the destructor rules. (04 Marks)  
b. Demonstrate unary operator and binary operator overloading. (08 Marks)  
c. What is nesting of member functions? (04 Marks)

### Module-4

- 7 a. Discuss base class and derived class with suitable example. (04 Marks)  
b. What is Hybrid Inheritance? Explain the diamond problem of inheritance in C++ with suitable example. (08 Marks)  
c. List the rules for virtual function in C++. (04 Marks)

OR

- 8 a. Give the significance of 'this' pointer with a program. (06 Marks)  
b. What is an abstract class? Write the advantages with an example program. (06 Marks)  
c. Differentiate virtual and pure virtual functions. (04 Marks)

**Module-5**

- 9 a. Explain the stream class hierarchy with a neat diagram. (08 Marks)  
b. Describe the following unformatted I/O functions. (08 Marks)  
i) get() ii) put() iii) getn() d) write().

OR

- 10 a. Write the syntax and example to create user defined manipulators. (05 Marks)  
b. Write a C++ program to copy the content of one file to another. (07 Marks)  
c. Why it is necessary to detect the EOF? Give example. (04 Marks)

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