Total No. of printed pages = 3

CS 131303 NR

Roll No. of candidate

20/2/22 2021

B.Tech. 3rd Semester End-Term Examination

ECE / EEE & CSE

Computer Science

OBJECT ORIENTED PROGRAMMING IN C++

(New Regulation)

Full Marks – 70   Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *four* from the rest.

1. Answer the following (MCQ/Fill in the blanks) :   (10 × 1 = 10)

    (i)   Which is not a feature of OOP in general definitions?

           (a) Efficient Code   (b) Code reusability

           (c) Modularity   (d) Duplicate/Redundant data

    (ii)   Which feature of OOP indicates code reusability?

           (a) Abstraction   (b) Polymorphism

           (c) Encapsulation   (d) Inheritance

    (iii) Which among the following doesn't come under OOP concept?

           (a) Data hiding   (b) Message passing

           (c) Platform independent   (d) Data binding

    (iv)   Compile time polymorphism in C++ language are

           (a) Operator overloading   (b) Function overloading

           (c) Function overriding   (d) (a) and (b) Only

[Turn over

(v) C++ abstract class can contain

    (a) Pure virtual function

    (b) Non-virtual function

    (c) Only pure virtual function

    (d) Both pure virtual and non-virtual function

(vi) False statements about function overloading is

    (a) Defining multiple functions with same name in a class is called function overloading

    (b) Overloaded function must differ in their order and types of arguments.

    (c) Overloaded functions should be preceded with virtual keyword

    (d) No statement is false

(vii) True statement about Class and structure in C++ is

    (a) Default access specifier is private in class and public in structure

    (b) Way of creating objects of class and structure are different

    (c) Way of inheriting class and structure are different

    (d) None

(viii) Which is Abstract Data Type in C++

    (a) Class   (b) Int

    (c) Float   (d) Array

(ix) Which operator is used to allocate an object dynamically of a class in C++?

    (a) Scope resolution operator   (b) Conditional operator

    (c) New operator   (d) Membership access

(x) When you create an object of a class A like A obj ; then which one will be called automatically?

    (a) Constructor   (b) Destructor

    (c) Copy constructor   (d) Assignment operator

2. (a) What do you mean by constructor and destructor? Show their uses with example. (4 + 3)

   (b) Write a program to overload the '+' operator to carry out the addition of two complex numbers. (8)

3. (a) Can we access private data members of a class without using a member or a friend function? Explain with example. (7)

   (b) What do you mean by static member of a class? Explain the features of static data member. (3 + 5)

4. (a) What is virtual function? Why do we need virtual function? (3 + 4)

   (b) What is file handling in C++? What are different modes available while opening a file. (3 + 5)

5. (a) Explain different types of inheritance with examples. (7)

   (b) Write a program to add members of two different classes using friend function. (8)

6. (a) Write difference between static binding and late binding. (7)

   (b) What do you mean by pure virtual function? Write a program to implement pure virtual function. (8)

7. (a) Write short notes on :

   (i) Functional programming

   (ii) Object oriented programming. (7)

   (b) What is class template? How it is differ from function template? Explain with example. (8)