

BCA (H)Semester-III Examination, 2021  
Subject : Computer Application  
Paper B.C.A. 303  
(Object Oriented Programming using C++)

F.M. 80

Time – 3Hr.

**Group – A**

Answer any Six questions

6 X 5 = 30

1. What is Polymorphism in OOP? Describe it with a suitable example in C++ 2+3
2. What are the advantages of OOP? 5
3. What is parameterized constructor in C++? Describe it with a suitable example. 2+3
4. What is abstract base class? How can you create an abstract base class in C++? 2+3
5. In what order the constructor and destructors are executed in case of inheritance in C++? Describe with suitable example. 5
6. How do you dynamically initialize objects in C++? Describe with a suitable example. 5
7. How do you dynamically allocate and free memory in C++? Write a simple C++ code to dynamically create an array of integers. 2+3
8. What is reference in C++? What are the differences between reference and pointer? 2+3

**Group – B**

Answer any five questions

5 X 10 = 50

1. Describe the principles of OOP. Compare between the procedural programming and OOP. 6+4
2. Describe the various types of inheritances with respect to C++ with suitable examples. Why copy constructor is used in C++? 7+3
3. Write a program in C++ to demonstrate the standard operations of stack. What is function overriding? 8+2
4. Write a simple C++ program to overload the + and – operators for complex number. What is virtual function in C++? 8+2
5. Describe the various access specifier in C++. What is friend function in C++? What is inline function in C++? 6+2+2
6. What is runtime polymorphism? How runtime polymorphism is implemented in C++? Write a simple program in C++ to demonstrate runtime polymorphism in C++. 2+2+6
7. What is template in C++? Write a C++ program using template function to sort 10 numbers (using any sorting algorithm). What is exception? 2+6+2