

Seat No. : \_\_\_\_\_

**DC-101**

**December-2018**

**B.C.A., Sem.-III**

**CC-203 : Object Oriented Concepts and Programming  
(New Course)**

**Time : 2:30 Hours]**

**[Max. Marks : 70**

1. (A) (1) What is Arrow Operator ? Explain with example **7**  
(2) How to define the Function outside the class body ? Explain with example. **7**

**OR**

- (1) Write a short-note on Default Arguments in C++.  
(2) Write a short-note on Function Overloading in C++.
- (B) Answer the following : (Any **four**) **4**
- (1) Give the full form of POP.  
(2) What is the data abstraction ?  
(3) How to give the comments in C++ ? Give small example of it.  
(4) What is the main difference between public and private access specifier in C++ ?  
(5) Define Class.  
(6) A/An \_\_\_\_\_ is an instance of class.  
(a) object (b) variable  
(c) keyword (d) None of these

2. (A) (1) Explain Dynamic Memory Allocation and De-allocation in C++ with example. **7**  
(2) What is Constructor ? Explain the characteristics of it in detail. **7**

**OR**

- (1) Explain Friend Member Function with example.  
(2) What is static member function ? Explain with example.
- (B) Answer the following : (Any **four**) **4**
- (1) What is namespace in C++ ?  
(2) A constructor that has zero parameter lists is called  
(a) Default Constructor (b) Parameterized Constructor  
(c) Copy Constructor (d) None of these  
(3) What is 'Memory leakage' problem ?  
(4) What is Constant member function ?  
(5) What is Destructor ?  
(6) What is Mutable data member ?

3. (A) (1) Explain Virtual destructor with example. 7  
(2) Explain the Hybrid Inheritance with example. 7

**OR**

- (1) Give the difference between Compile-time Polymorphism and Run-time Polymorphism.  
(2) What is Virtual Base class ? Explain with example.  
(B) Answer the following : (Any **three**) 3  
(1) Define Inheritance.  
(2) What is Abstract class ?  
(3) Define VTBL.  
(4) What is function overriding ?  
(5) What is Polymorphism ?

4. (A) (1) How to convert a data of basic type to class type ? Explain with example. 7  
(2) Write a simple program to demonstrate class template. 7

**OR**

- (1) Write a program to concatenate two string by overloading binary '+' operator.  
(2) Explain the function template with multiple parameters using example.  
(B) Answer the following : (Any **three**) 3  
(1) What is the purpose of istream and ostream class ?  
(2) What is the use of put() function for text mode output operation ?  
(3) Define the get() and getline() functions for text mode input operations ?  
(4) What is class template ?  
(5) Operator overloading is a/an \_\_\_\_\_ polymorphism.  
(a) compile time (b) run time  
(c) executable (d) None of these

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## CC-203 : Object Oriented Concepts and Programming (Old Course)

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[Max. Marks : 70

1. (A) (1) Give the difference between OOP and POP. 7
- (2) Write a short-note on Reference Variables in C++. 7

**OR**

- (1) Write a short-note on function prototyping in C++.
- (2) Write a short-note on Inline Function in C++.
- (B) Answer the following : (Any **four**) 4
  - (1) Define Object.
  - (2) What is Encapsulation ?
  - (3) \_\_\_\_\_ are reserved words whose meaning is already been defined for a particular language.
    - (a) Keywords (b) Variables
    - (c) Arguments (d) None of these
  - (4) What is 'this' pointer ?
  - (5) Which operator is known as insertion operator ?
  - (6) What is 'bool' data type in C++ ?

2. (A) (1) Give the difference between Constructor and Destructor. 7
- (2) Explain Array of Class Object with example. 7

**OR**

- (1) What is Friend Class ? Explain with example.
- (2) Write a short-note on Copy Constructor with example.
- (B) Answer the following : (Any **four**) 4
  - (1) What is nested member function ?
  - (2) \_\_\_\_\_ are those members whose members are accessed by all the objects of a class.
    - (a) Static data members (b) Constant data members
    - (c) Mutable data members (d) None of these
  - (3) What is Friend Function ?
  - (4) Define Namespace.
  - (5) What is nested class ?
  - (6) Which operator is used to allocate memory dynamically during run-time ?

3. (A) (1) Explain Inheritance using different access specifier in detail. 7  
(2) Write a short-note diamond-shaped inheritance. 7

**OR**

- (1) What is Inheritance ? Explain different forms of inheritance.  
(2) Explain the Type casting the pointer with example.
- (B) Answer the following : (Any **three**) 3
- (1) What is virtual table ?  
(2) What is pure virtual function ?  
(3) What is virtual pointer ?  
(4) What is early binding ?  
(5) What is the main difference between function overloading and function overriding ?

4. (A) (1) Write a program of Overload the Binary Operator +, -, \*, and / using friend Functions. 7  
(2) Explain Nested Class Templates with example. 7

**OR**

- (1) Write a C++ program to initialize the data member of base class using the constructor of derived class.  
(2) How to convert a data of class type to basic type? Explain with example.
- (B) Answer the following : (Any **three**) 3
- (1) Which are the operators that can't be overloaded ?  
(2) What is operator function ?  
(3) What is function template ?  
(4) What do you mean by operator overloading ?  
(5) The destructors in the class hierarchy are always invoked in the \_\_\_\_\_ order of the constructor invocation.  
(a) reverse (b) same  
(c) execution (d) None of these
- \_\_\_\_\_