

DA-108

December-2017

B.C.A., Sem.-III**CC-203 : Object Oriented Concept and Programming****Time : 3 Hours]****[Max. Marks : 70**

- Instructions :** (i) Figures to the right indicate marks.
(ii) **All** the questions are compulsory.

1. (A) (1) Differentiate between Object oriented programming and Procedure oriented programming. 4
(2) What is function signature in function overloading ? List all the rules for function overloading. 3
- OR**
- (1) Differentiate between cin and cout. 4
(2) Explain Scope resolution operator with suitable example. 3
- (B) (1) List all access specifiers and explain characteristics of Access specifier. 4
(2) Explain "this" pointer with example. 3
- OR**
- (1) How to create class, object and pointer to object ? Explain with example. 4
(2) Explain Default arguments in a function with example. 3
2. (A) (1) What is constructor ? List all characteristics of a constructor. 4
(2) Write short note on Namespace. 3
- OR**
- (1) Explain parameterized constructor with suitable example. 4
(2) Explain new and delete operators with example. 3
- (B) (1) Write short note on Nested classes. 4
(2) Write short note on Static member data. 3
- OR**
- (1) How to create Array of objects ? Explain with example. 4
(2) How to make member function inline ? Explain with example. 3
3. (A) (1) What is Inheritance ? Explain Multilevel inheritance with example. 4
(2) Write short note on Function overriding. 3
- OR**
- (1) Explain Hybrid inheritance with example. 4
(2) How to initialize base class member through derived class object ? Explain. 3

- (B) (1) What is Virtual function ? List rules for virtual function. 4
 (2) Write short note on Late binding. 3

OR

- (1) What is Polymorphism ? Explain all types of polymorphism in brief. 4
 (2) What is pure virtual function ? List features of pure virtual function. 3

4. (A) Demonstrate the invocation of Constructors and destructors in multiple inheritance with suitable example. 7

OR

Demonstrate overloading of any binary operator with suitable example.

- (B) (1) Explain Function template with suitable example. 4
 (2) List all the rules for operator overloading. 3

OR

- (1) How to do type conversion from class type to basic type ? Explain with example. 4
 (2) Explain with example - Class template with multiple template types as parameters. 3

5. Do as directed : 14

- (1) cin and cout are the objects of Istream and Ostream classes respectively.
 (2) Friend function does not require :: operator while defining outside the class. (true/false)
 (3) Static member data are shared by all objects of a class.
 (4) To allocate memory dynamically, new operator is used.
 (5) Which is a default access specifier ?
 (a) private (b) public (c) protected (d) None
 (6) Type conversion from class to class can be achieved through
 (a) constructor (b) casting operator
 (c) Both (a) and (b) (d) None of the above
 (7) Function overloading is Static polymorphism. / compile / early
 (8) A variable can be declared anywhere in a C++ program. (True/False)
 (9) A process in which more than one parent class are inherited in one child class is known as multiple inheritance
 (10) A class having pure virtual function is treated as Abstract class. (True/False)
 (11) An object of Derived class is larger than object of Base class in Inheritance.
 (12) Function templates can have more than one template type as parameters. (True/False)
 (13) To overload Unary operator, at least 2 arguments are required as parameters in operator function. (True/False)
 (14) A function can be a friend function of more than one class. (True/False)