

Seat No. : _____

NC-114

November-2013

S.Y.B.C.A., (Sem.-III)

CC-203 : Object Oriented Concept & Programming

Time : 3 Hours]

[Max. Marks : 70

1. (A) (1) Explain briefly reference variable. 4
(2) Differentiate C and C++ 3

OR

- (1) Define the following terms : 4
(a) Encapsulation
(b) Data Abstraction
(c) Object
(d) Polymorphism
(2) Under what conditions do the function cannot be made inline by the compiler ? 3

- (B) (1) Explain the concept of default argument. 4
(2) What is cin and cout ? 3

OR

- (1) List out the features of function overloading. 4
(2) Explain access specifiers. 3

2. (A) What is constructor ? Explain with its syntax and examples. Also include its type. 7

OR

Explain dynamic memory allocation in C++.

- (B) (1) What are the characteristics of friend function ? 4
(2) Write a function that accepts an object in its parameter and returns an object. 3

OR

- (1) What is destructor ? What are its characteristics ? 4
(2) Explain set_new_handler function. 3

3. (A) What is inheritance ? Explain its different forms. 7

OR

What is virtual function ? Explain with syntax and examples. Also list out its rules.

(B) (1) What is an abstract class ? Write down the syntax to make a function as pure virtual function. 4

(2) Compare early binding and late binding. 3

OR

(1) Explain the famous diamond shaped problem with its solution. 4

(2) Explain VTBL. 3

4. (A) Write a short note on operator overloading. 7

OR

Write a short note on function templates.

(B) Explain class to class type conversion. 7

OR

Write a short note on orders of invocation of constructors and destructors.

5. Choose the correct option : 14

(1) The _____ operator is used to resolve the global scope of a particular object.

- (a) Scope resolution operator (b) New
(c) Delete (d) This operator

(2) Which allows you to create a derived class that inherits properties from more than one base class ?

- (a) Multilevel inheritance (b) Multiple inheritance
(c) Hybrid inheritance (d) Hierarchical inheritance

(3) To hide a data member from the program, you must declare the data member in the _____ section of the class.

- (a) Concealed (b) Confidential
(c) hidden (d) private

- (4) In case of arguments passed by values when calling a function such as `z = addition(x,y)`
- (a) Any modifications to the variables x & y from inside the function will not have any effect outside the function.
 - (b) The variables x and y will be updated when any modification is done in the function.
 - (c) The variables x and y are passed to the function addition.
 - (d) None of above is valid.
- (5) Which of the following statements is correct ?
- (a) Base class pointer cannot point to derived class.
 - (b) Derived class pointer cannot point to base class.
 - (c) Pointer to derived class cannot be created.
 - (d) Pointer to base class cannot be created.
- (6) Can two classes contain member functions with the same name ?
- (a) No
 - (b) Yes, but only if the two classes have the same name.
 - (c) Yes, but only if the main program does not declare both kinds.
 - (d) Yes, this is always allowed
- (7) Which of the following programming technique focuses on the algorithm ?
- (a) Procedural language
 - (b) Object oriented language
 - (c) Object based language
 - (d) Structural language
- (8) Which of the following concepts means determining at runtime, what method to invoke ?
- (a) Data hiding
 - (b) Dynamic Typing
 - (c) Dynamic binding
 - (d) Dynamic loading
- (9) How many instances of an abstract class can be created ?
- (a) 1
 - (b) 5
 - (c) 13
 - (d) 0
- (10) Which of the following statement is correct ?
- (a) A constructor is called at the times of declaration of an object.
 - (b) A constructor is called at the time of use of an object.
 - (c) A constructor is called at the time of declaration of a class.
 - (d) A constructor is called at the time of use of a class.

- (11) Which of the following is correct about class and structure ?
- (a) Class can have member functions while structure cannot.
 - (b) Class data members are public by default while that of structure are private.
 - (c) Pointer to structure or classes cannot be declared.
 - (d) Class data members are private by default while that of structure are public by default.
- (12) Which of the following cannot be used with the keyword *virtual* ?
- (a) class
 - (b) member functions
 - (c) constructor
 - (d) destructor
- (13) Which of the following functions are performed by a constructor ?
- (a) Construct a new class
 - (b) Construct a new object
 - (c) Construct a new function
 - (d) Initialize objects
- (14) Which of the following ways are legal to access a class data member using *this* pointer ?
- (a) *this->x*
 - (b) *this.x*
 - (c) **this.x*
 - (d) **this-x*
-