

Faculty Code : 003**Subject Code : 007201****Time : 2½ Hours]****[Total Marks : 70****1. Attempt the following multiple choice questions :****15**

- (1) Which of the following is true ?
 - (a) A Class is an instance of object
 - (b) A object is an instance of class
 - (c) (a) and (b) both
 - (d) None of these
- (2) Which of the following is true ?
 - (a) A constructor can be overloaded
 - (b) A destructor can be overloaded
 - (c) A destructor can be in private section
 - (d) All of the above
- (3) Which of the following is true ?
 - (a) A constructor can be overloaded
 - (b) A constructor can have parameter
 - (c) It must be in public section
 - (d) All of the above
- (4) Which of the following is true ?
 - (a) cout is an object
 - (b) cin is an object
 - (c) cerr is an object
 - (d) All of the above
- (5) _____ is a special member function which will be invoked first for an object.
 - (a) Constructor
 - (b) Destructor
 - (c) Operator member function
 - (d) None of these

- (6) _____ is a special member function which will be invoked last for an object.
- (a) Constructor
 - (b) Destructor
 - (c) Operator member function
 - (d) None of these
- (7) To make the conversion from one user define data type to the other user define data type the conversion function in the destination class, then the function must be in the form of
- (a) one parameterized constructor
 - (b) type operator member function
 - (c) (a) and (b) both
 - (d) None of these
- (8) To make the conversion from one user define data type to the other user define data type the conversion function in the source class, then the function must be in the form of
- (a) one parameterized constructor
 - (b) type operator member function
 - (c) (a) and (b) both
 - (d) None of these
- (9) If for the conversion of two user defined data type, which of the following will be given the first priority for the conversion ?
- (a) one parameterized constructor
 - (b) type operator member function
 - (c) = operator overloading
 - (d) None of these
- (10) Which of the following is true for virtual function ?
- (a) They can not be a static members.
 - (b) They can be a friend function to another class.
 - (c) They are accessed using object pointer.
 - (d) All of the above
- (11) Which of the following is false ?
- (a) A base class pointer can not point to the object of the derived class.
 - (b) A base class pointer can point to the object of the derived class.
 - (c) A base class point can not access the methods of the derived class which is only defined in the derived class.
 - (d) All of the above

(12) Which of the following is true ?

- (a) Both base and derived class can never have constructor
- (b) Only base class can have constructor
- (c) Only derived class can have constructor
- (d) None of these

(13) Which of the following is false ?

- (a) Destructors are invoked in reverse order then constructor.
- (b) Constructors are invoked from top base class to derived class.
- (c) Destructor are invoked from top base class to derived class.
- (d) All of the above

(14) Which of the following is not access specifier ?

- (a) public
- (b) virtual
- (c) protected
- (d) None of these

(15) Which of the following not visibility mode ?

- (a) public
- (b) virtual
- (c) protected
- (d) None of these

2. Attempt any **five** of the following :

15

- (1) What is copy constructor ? Explain with suitable example.
- (2) Explain the need of the virtual function ? Justify your answer with suitable example.
- (3) Briefly explain extern storage type.
- (4) What is variable number of argument ? Explain it with suitable example.
- (5) List and explain the different visibility mode.
- (6) How the memory is assigned to the object ? Explain in brief.

3. Attempt any **three** of the following :

15

- (1) Explain the multi path inheritance with suitable example.
- (2) Differentiate : Over loading and over riding with suitable example.
- (3) What is type operator overloading ? Explain it with suitable example.
- (4) What is template ? Write a template that will generate the swap function for two similar type of parameters.

4. Attempt any **two** of the following :

15

- (1) Write a C++ program to overload new and delete operator. Take the example of your choice.
- (2) Write a C++ program that will overload a "+" operator to do the addition of two given matrix of size $m \times n$. Take a matrix is class. Take appropriate data member and member functions as per your choice.
- (3) Explain an example of hierarchical inheritance of your choice. Write a C++ program that will implement it.

5. Attempt any of the following :

10

- (1) Write a C++ program that will perform the complete conversion for given two classes i.e. kg and gram (1kg = 1000 gram)
 - (2) What is stream operator ? Overload the "<<" and ">>" operator.
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**Time : 2½ Hours]****[Total Marks : 70****I. Answer the following multiple choice questions : 15**

- (1) What is function overloading ?
 - (a) Calling function from other function
 - (b) Having more than one function of same name
 - (c) Calling function from itself
 - (d) There is no such term in C++
- (2) Which of the following is not a type of a constructor
 - (a) Copy constructor
 - (b) Friend constructor
 - (c) Default constructor
 - (d) Parameterized constructor
- (3) Which of the following statement is incorrect ?
 - (a) Pointer to base class cannot be created
 - (b) Pointer to derived class cannot be created
 - (c) Base class pointer cannot point to derived class
 - (d) Derived class pointer cannot point to base class
- (4) Which of the following is not the member of the class ?
 - (a) Friend function
 - (b) Static function
 - (c) Cost function
 - (d) Virtual function
- (5) Which of the following statement is correct ?
 - (a) A constructor is called at the time 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.

- (6) Which of the following is the correct class of the object count ?
(a) iostream (b) istream
(c) ostream (d) ifstream
- (7) Which of the following cannot be used with keyword virtual ?
(a) Class (b) Member function
(c) Constructor (d) Destructor
- (8) Which of the following concept is used to implement late binding ?
(a) Virtual function (b) Operator function
(c) Const function (d) Static function
- (9) Which of the following is correct about statement given below :
(1) We can change basic meaning of an operator in C++.
(2) All operators can be overloaded in C++
(a) only (1) is true (b) both (1) and (2) are false
(c) only (2) is true (d) both (1) & (2) are true
- (10) Which of the following are available only in class hierarchy chain ?
(a) Public data member (b) Protected data member
(c) Private data member (d) None of the above
- (11) Which allows you to create a derived class that inherits properties from more than one base class ?
(a) Multilevel inheritance
(b) Hierarchical inheritance
(c) Hybrid inheritance
(d) Multiple inheritance
- (12) Which of the following statement regarding inline function is correct ?
(a) It speeds up execution
(b) It slows down execution
(c) It increases the code size
(d) Both (a) and (c)

- (13) Which of the following two entities (reading from left to right) can be connected by the dot operator ?
- (a) A class member and a class object.
 - (b) A class object and a class.
 - (c) A class and a member of that class.
 - (d) A class object and a member of that class.
- (14) Which of the following can access private data members or member functions of a class ?
- (a) Any function in the program.
 - (b) All global functions in the program.
 - (c) Any member function of that class.
 - (d) Only public member functions of that class.
- (15) Which of the following statement is correct about constructors ?
- (a) A constructor has a return type.
 - (b) A constructor cannot contain a function call.
 - (c) A constructor has no return type.
 - (d) A constructor has a void return type.

2. Attempt any **five** of the following :

15

- (1) Write a C++ program to check whether given string is palindrome or not.
- (2) Explain scope and extent of variable.
- (3) Explain in brief array of structure.
- (4) Differentiate Procedural vs. Object Oriented Approach.
- (5) What is friend function ? How is it useful ?
- (6) Explain in brief default arguments.

3. Attempt any **three** of the following : **15**
- (1) How many ways parameter can be passed to function ? Explain pass by address with suitable example.
 - (2) Define operator overloading. Explain with example to overload new and delete operator.
 - (3) What are C++ streams ? Explain following function of C++ I/O
(i) put() (ii) write() (iii) setf() (iv) precision() fill()
 - (4) What is function template ? Write a c++ program to demonstrate function template.
4. Attempt any **two** of the following : **15**
- (1) What is date conversion ? Explain with example conversion of object (user-defined type) to basic type.
 - (2) Explain any **two** :
 - (i) Inline function
 - (ii) This pointer
 - (iii) Polymorphism
 - (3) What is virtual function ? Explain pointer to derived class object.
5. Attempt any **one** of the following : **10**
- (1) What is inheritance ? How it is useful ? List out types of inheritance explain any two type of inheritance with example.
 - (2) List out various file modes. Write a C++ program to demonstrate saving object data to file & retrieving a object from file.
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MV-834

003-007201

M. C. A. (Sem. II) (CBCS) Examination

April / May – 2012

CCA - 2001 : Object Oriented Prog. Using C++

Faculty Code : 003

Subject Code : 007201

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

Q : 1 Answer the following multiple choice questions:

[15]

- [1] Which of the following is the extraction operator?
 - a) <<
 - b) >>
 - c) endl
 - d) ?:
- [2] The return type of all destructor is
 - a) The class
 - b) Void
 - c) Same as class name
 - d) None
- [3] When a program calls function that has default parameter, if omitting an argument, you must _____
 - a) Omit all arguments to the right of that argument
 - b) Omit all arguments to the left of that argument
 - c) Omit all arguments
 - d) Not omit any other arguments
- [4] Inline functions are invoked at a time of
 - a) Compile time
 - b) Run time
 - c) Depends on how it is invoked
 - d) Both b and c above
- [5] How destructor is defined
 - a) a~() {}
 - b) a() {}~
 - c) a() ~ {}
 - d) ~a() {}
- [6] What defines a general set of operations that will be applied to various types of data?
 - a) Template class
 - b) Function template
 - c) Class template
 - d) Both a and c above

- [7] What is the difference between overloaded functions and overridden functions?
- a) Overloading is a dynamic or run-time binding and Overriding is static or compile-time binding
 - b) Redefining a function in a friend class is called function overriding while redefining a function in a derived class is called a overloaded function.
 - c) Overloading is a static or compile-time binding and Overriding is dynamic or run-time binding
Redefining a function in a friend class is called function overloading while redefining a function in a derived class is called as overridden function.
- [8] A static data member is given a value
- a) Within a class definition
 - b) Outside the class definition
 - c) When the program is executed
 - d) Never
- [9] The statement class derived : virtual public base indicates that
- a) The member of a base will be included more than once in derived.
 - b) The member of a base will be included only once in derived.
 - c) The member of a derived will be included more than once in base.
 - d) The member of a derived will be included only once in base.
- [10] Which of the following form, making changes to the object inside function will reflect to the actual object?
- a) Pass by value
 - b) Pass by reference
 - c) Pass by pointer
 - d) Both b and c above
- [11] To define member function outside of the class body following operator is used
- a) :?
 - b) ::
 - c) #
 - d) <<
- [12] Which of the following operator cannot be overloaded?
- a) New
 - b) =
 - c) ::
 - d) >>
- [13] Which of the following is a form of compile time polymorphism
- a) Function Overloading
 - b) Operator Overloading
 - c) Virtual Functions
 - d) Both a and b above

- [14] Reference variables and const class members
- a) Must be assigned values in any derived class
 - b) Must never be initialized in base class
 - c) Must be initialized, rather than assigned values
 - d) Must not exist if a class is to be a base class
- [15] Assume that class D is privately derived from class B. An object of class D located in main() can access
- a) Public member of B
 - b) Protected member of B
 - c) Private member of B
 - d) All of the above

Q : 2 Attempt any five of the following: [15]

- [1] Write syntax for creating custom manipulators.
- [2] Explain this pointer.
- [3] List rules to be considered for defining destructor for a given class.
- [4] Explain array of structure.
- [5] Explain in brief default arguments.
- [6] Differentiate pass by value and pass by reference.

Q : 3 Attempt any three of the following: [15]

- [1] Explain following member functions of ios class with example
 - a) precision()
 - b) width()
 - c) fill()
 - d) stef()
 - e) unsetf()
- [2] What is an inline function? In which situations would you make a function inline? Explain taking suitable example.
- [3] Explain friend function taking suitable example.
- [4] What is function template? Explain overloading template functions with suitable example.

Q : 4 Attempt any two of the following: [15]

- [1] What is the need of a virtual function? Explain virtual function taking suitable example.
- [2] What is operator overloading? Explain with example overloading new and delete operator.
- [3] List out various file modes. Write a CPP code that gets a file name as a input and copy that file in reverse order to another file.

Q : 5 Attempt any one of the following: [10]

- [1] Explain with example conversion between objects of different class.
- [2] What is inheritance? List benefits of inheritance. Explain multiple and multipath inheritance with example.



003-007-201/RN-462

M.C.A. (Sem. II) Examination

May/June – 2011

CCA-2001 : Object Oriented Programming Using C++

Faculty Code : 003

Subject Code : 007-201

Time : 3 Hours]

[Total Marks : 70

[15]

Q. 1 Answer the following multiple choice question:

- (1) Which of the following is not true in C++
 - (a) new is an operator
 - (b) sizeof() is an operator
 - (c) delete is an operator
 - (d) None of these
- (2) _____ symbol is used for scope resolution operator
 - (a) ::
 - (b) \$
 - (c) #
 - (d) None of these
- (3) Which of the following is not access specifier
 - (a) public
 - (b) private
 - (c) protected
 - (d) none of these
- (4) which of the following is true in C++
 - (a) private member can be access outside the body of the class
 - (b) public member can be access outside the body of the class
 - (c) protected member can be access outside the body of the class
 - (d) All of the above
- (5) Which of the following is true in C++
 - (a) Object of own class can be pass by value to the constructor
 - (b) Object of own class can be pass by reference to the constructor
 - (c) (a) and (b) both
 - (d) None of these
- (6) Which of the following is not true in C++
 - (a) Constructor can be define in private section
 - (b) Constructor cab be define in public section
 - (c) Constructor can not be overloaded.
 - (d) All of the above
- (7) Which of the following is true in C++
 - (a) Name of the constructor must be same as class name
 - (b) Constructor is the first function to be invoked by the object.
 - (c) Constructor is invoked automatically
 - (d) All of the above

- (8) In `set_new_handler()` which of the header file must be included
- (a) `new.h`
 - (b) `process.h`
 - (c) (a) and (b) both
 - (d) none of these
- (9) which of the following is true in C++
- (a) this is a pointer
 - (b) this is an object
 - (c) this is a alias
 - (d) None of these
- (10) To overload the unary operator in C++ it takes
- (a) One argument
 - (b) Two argument
 - (c) No argument
 - (d) None of these
- (11) Which of the following is true in C++
- (a) Only derived class can have constructor
 - (b) Only base class can have constructor
 - (c) (1) and (2) both
 - (d) none of these
- (12) Which of the following in not visibility mode in C++
- (a) `public`
 - (b) `private`
 - (c) `virtual`
 - (d) None of these
- (13) Which of the following is true with respect to virtual function in C++
- (a) They can not be static members.
 - (b) They can be a friend function to another class
 - (c) They are accessed using object pointer
 - (d) All of the above
- (14) Which of the following is not true for inheritance in C++
- (a) Constructor are executed from base to derive
 - (b) Destructor are executed from base to derive
 - (c) Constructor can be overloaded
 - (d) None of these
- (15) Which of following is not key word in C++
- (a) `virtual`
 - (b) `public`
 - (c) `for`
 - (d) none of these

[15]

Q. 2 Attempt any five of the following:

- (1) Briefly explain friend function.
- (2) Differentiate : constructor Vs Destructor
- (3) What is abstract class
- (4) Explain hybrid inheritance.
- (5) Define: class, object and data abstraction
- (6) What is function overloading?

Q. 3 Attempt any three of the following:

- (1) What is copy constructor? Explain it with suitable example.
- (2) What is access specifier? List and explain different access specifier with respect to inheritance.
- (3) Write a C++ program that will convert a basic define data type to user define data type. Take the example of your choice.
- (4) What is overriding? How it differs from overloading? Explain it with suitable example.

[15]

Q. 4 Attempt any two of the following:

- (1) Write a C++ program that will overload the new and delete operator. Take example of your choice.
- (2) What is virtual function? Explain the utility of the virtual function? Also justify your answer with a suitable C++ program.
- (3) What is scope and extent of the variable? Explain it with suitable example.

[10]

Q. 5 Attempt any one of the following:

- (1) Write a C++ program that will create a date class with d, m and y as instance variable and appropriate member function. Your program takes a valid date from the key board and it prints the next date on the monitor.
- (2) Create a C++ program that will convert the two user define data type with each other. Take kg and gram as two different class.