

FINALTERM EXAMINATION
Spring 2009
CS201- Introduction to Programming

Question No: 1 (Marks: 1) - Please choose one

There are mainly ----- types of software

- ▶ Two
- ▶ Three
- ▶ Four
- ▶ Five

Question No: 2 (Marks: 1) - Please choose one

When $x = 7$; then the expression $x\%= 2$; will calculate the value of x as,

- ▶ 1
- ▶ 3
- ▶ 7
- ▶ 2

Question No: 3 (Marks: 1) - Please choose one

A pointer variable can be,

- ▶ Decrement only
- ▶ Increment only
- ▶ Multiplied only
- ▶ Both 1 and 2

Question No: 4 (Marks: 1) - Please choose one

setprecision is a parameter less manipulator.

- ▶ True
- ▶ False

Question No: 5 (Marks: 1) - Please choose one

We can change a Unary operator to Binary operator through operator overloading.

- ▶ False
- ▶ True

Question No: 6 (Marks: 1) - Please choose one

delete operator is used to return memory to free store which is allocated by the **new** operator

- ▶ True
- ▶ False

Question No: 7 (Marks: 1) - Please choose one

When we do dynamic memory allocation in the constructor of a class, then it is necessary to provide a destructor.

▶ True

▶ False

Question No: 8 (Marks: 1) - Please choose one

What is the functionality of the following statement?

String str[5] = {String("Programming"), String("CS201")};

▶ Default constructor will call for all objects of array

▶ Parameterized constructor will call for all objects of array

▶ Parameterized constructor will call for first 2 objects and default constructor for remaining objects

▶ Default constructor will call for first 3 objects and Parameterized constructor for remaining objects

Question No: 9 (Marks: 1) - Please choose one

What is the sequence of event(s) when allocating memory using new operator?

▶ Only block of memory is allocated for objects

▶ Only constructor is called for objects

- ▶ Memory is allocated first before calling constructor
- ▶ Constructor is called first before allocating memory

Question No: 10 (Marks: 1) - Please choose one

Deleting an array of objects without specifying [] brackets may lead to memory leak

- ▶ True
- ▶ False

Question No: 11 (Marks: 1) - Please choose one

Which of the following data type will be assumed if no data type is specified with constant?

- ▶ short
- ▶ float
- ▶ int
- ▶ double

Question No: 12 (Marks: 1) - Please choose one

There is an array of characters having name 'course' that has to be initialized by string 'programming' which of the following is the correct way to do this,

- i. `course[] = { 'p', 'r', 'o', 'g', 'r', 'a', 'm', 'm', 'i', 'n', 'g' };`
- ii. `course[] = 'programming' ;`
- iii. `course[12] = "programming" ;`
- iv. `course = "programming" ;`

Choose the correct options.

- ▶ (i) and (ii) only
- ▶ (i) and (iv) only
- ▶ (i) and (iii) only
- ▶ (ii) and (iii) only

Question No: 13 (Marks: 1) - Please choose one

What will be the correct syntax of the following statement?
ptr is a constant pointer to integer.

- ▶ `const int *ptr ;`
- ▶ `const *int ptr ;`
- ▶ `int const *ptr ;`
- ▶ `int *const ptr ;`

Question No: 14 (Marks: 1) - Please choose one

Overloaded member operator function is always called by _____

- ▶ Class
- ▶ Object
- ▶ Compiler
- ▶ Primitive data type

Question No: 15 (Marks: 1) - Please choose one

Loader loads the executable code from hard disk to main memory.

- ▶ True
- ▶ False

Question No: 16 (Marks: 1) - Please choose one

Which of the following is the correct C++ syntax to allocate space dynamically for an array of 10 int?

- ▶ `new int(10) ;`

- ▶ new int[10] ;
- ▶ int new(10) ;
- ▶ int new[10];

Question No: 17 (Marks: 1) - Please choose one

The prototype of friend functions must be written _____ the class and its definition must be written _____

- ▶ inside, inside the class
- ▶ inside, outside the class
- ▶ outside, inside the class
- ▶ outside, outside the class

Question No: 18 (Marks: 1) - Please choose one

Like member functions, _____ can also access the private data members of a class.

- ▶ Non-member functions
- ▶ Friend functions
- ▶ Any function outside class
- ▶ None of the given options

Question No: 19 (Marks: 1) - Please choose one

To perform manipulation with input/output, we have to include _____ header file.

- ▶ iostream.h
- ▶ stdlib.h
- ▶ iomanip.h
- ▶ fstream.h

Question No: 20 (Marks: 1) - Please choose one

The **endl** and **flush** are _____

- ▶ Functions
- ▶ Operators

- ▶ Manipulators
- ▶ Objects

Question No: 21 (Marks: 1) - Please choose one

If we want to use stream insertion and extraction operators with _____ then we have to overload these operators.

- ▶ int, float, double
- ▶ objects of class
- ▶ int, float, object
- ▶ int, char, float

Question No: 22 (Marks: 1) - Please choose one

The static data members of a class can be accessed by _____

- ▶ only class
- ▶ only objects
- ▶ both class and objects
- ▶ none of given options

Question No: 23 (Marks: 1) - Please choose one

Classes defined inside other classes are called _____ classes

- ▶ looped
- ▶ nested
- ▶ overloaded
- ▶ none of the given options.

Question No: 24 (Marks: 1) - Please choose one

Which value is returned by the destructor of a class?

- ▶ A pointer to the class.
- ▶ An object of the class.
- ▶ A status code determining whether the class was destructed correctly
- ▶ Destructors do not return a value.

Question No: 25 (Marks: 1) - Please choose one

Consider the following code segment

```
class M {  
    friend int operator!(const M &);  
    ...  
};  
  
!s // code of line implies that operator!(s)  
...
```

Let assume if s is an object of the class then function is implemented as _____

- ▶ Member function

- ▶ Non-member function
- ▶ Binary operator function
- ▶ None of the given options

None of the given options

Question No: 26 (Marks: 1) - Please choose one

When the compiler overloads the assignment (=) operator by default then _____

- ▶ compiler does member wise assignment.
- ▶ compiler does not allow default overload of assignment (=) operator
- ▶ member of the class are not assigned properly
- ▶ None of the given options

Question No: 27 (Marks: 1) - Please choose one

If **text** is a pointer of class **String** then what is meant by the following statement?
text = new String [5];

- ▶ Creates an array of 5 string objects statically

- ▶ Creates an array of 5 string objects dynamically
- ▶ Creates an array of pointers to string
- ▶ Creates a string Object

Question No: 28 (Marks: 1) - Please choose one

Static variable which is defined in a function is initialized _____.

- ▶ Only once during its life time
- ▶ Every time the function call
- ▶ Compile time of the program
- ▶ None of the above

Question No: 29 (Marks: 1) - Please choose one

The appropriate data type to store the number of rows and columns of the matrix is _____.

- ▶ float
- ▶ int
- ▶ char
- ▶ none of the given options.

Question No: 30 (Marks: 1) - Please choose one

Copy constructor becomes necessary while dealing with _____ allocation in the class.

- ▶ Dynamic memory
- ▶ Static memory
- ▶ Both Dynamic and Static memory
- ▶ None of the given options

Question No: 31 (Marks: 1)

What is drawback of writing the definitions of all the functions before main function?

Question No: 32 (Marks: 1)

How do we provide the default values of function parameters?

Question No: 33 (Marks: 2)

What is difference between endl and \n?

Question No: 34 (Marks: 2)

When does an object get destroyed?

Question No: 35 (Marks: 3)

What is the difference between structure and class?

Question No: 36 (Marks: 3)

What will be the output of following functions if we call these functions three times?

1)

```
void func1(){  
int x = 0;  
x++;  
cout << x << endl;  
}
```

2)

```
void func2(){  
static int x = 0 ;  
x++;  
cout << x << endl ;  
}
```

Question No: 37 (Marks: 3)

Why stream insertion and stream extraction operators cannot be overloaded as member functions?

Question No: 38 (Marks: 5)

What is difference between Unary and binary operators and how they can be overloaded?

Question No: 39 (Marks: 5)

What steps we must follow to design good program?

Question No: 40 (Marks: 10)

Write the program that inputs an **octal** number from the user and then display the entered octal number into **hexadecimal** number using **manipulators** (parameter-less, parameterized) and **member function** of input/output streams.

Question No: 41 (Marks: 10)

Develop a class **Vector** having two data members; x and y.
The class should also provide the following Overloaded operator capabilities.

- a) Overload the addition operator(+) to add two **Vectors**
- b) Overload the assignment operator(=) to assign **Resultant Vector**
- c) Write function **Display()** to display x, y coordinates

Note: Addition of vector Let suppose there are two vectors A and B with their x, y coordinates.