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FINALTERM EXAMINATION
Spring 2010
CS304- Object Oriented Programming

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

A template argument is preceded by the keyword _____.

- ► vector
- ► class
- ► template
- ► type*

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

What is true about function templates?

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- ► The compiler generates only one copy of the function template
- ► The compiler generates a copy of function respective to each type of data
- ► The compiler can only generate copy for the int type data
- ► None of the given.

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

It is sometimes useful to specify a class from which no objects will ever be created.

- ► True
- ► False

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

Consider the following statements:
1) int iArray[5];
2) int *pArr = iArray;

- ► These statements will compile successfully
- ► Error in first statement
- ► Error in second statement
- ► None of given options

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

If there is a pointer p to objects of a base class, and it contains the address of an object of a derived class, and both classes contain a nonvirtual member function, ding(), then the statement p->ding(); will cause the version of ding() in the _____ class to be executed.

- ► Base
- ► Derived
- ► Abstract
- ► virtual

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

The user must define the operation of the copy constructor.

- ► True
- ► False

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

Statement I: All the non-private members of the base class can be accessed from the derived class as if they were members of the derived class.
Statement II: The protected data members can be accessed in the same class or in its derived class

- ► Both are true
- ► Both are false
- ► Statement I is true, statement II is false
- ► Statement I is false, statement II is true

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

Template functions use _____ than ordinary functions.

- ► Greater Memory
- ► Lesser Memory
- ► Equal Memory
- ► None of the given options

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

The find() algorithm

- ► finds matching sequences of elements in two containers.
- ► finds a container that matches a specified container.
- ► takes iterators as its first two arguments.
- ► takes container elements as its first two arguments.

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

Behaviors of objects are represented through,

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- ► Data
- ► States
- ► Attributes
- ► Operations

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

```
class DocElement
{
public:
    virtual void Print() { cout << "Generic element"; }
};
class Heading : public DocElement
{
public:
```

```
    void Print() { cout << "Heading element"; }
};
class Paragraph : public DocElement
{
public:
    void Print() { cout << "Paragraph element"; }
};
void main()
{
    DocElement * p = new Paragraph();

    p->Print();
}
```

When you run this program, it will print out a single line to the console output.

What will be in that line?

Select one correct answer from the following list:

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- ► Generic element
- ► Heading element
- ► Paragraph element
- ► Nothing will be printed.

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

Compiler performs _____ type checking to diagnose type errors,

- ► Static
- ► Dynamic
- ► Bound
- ► Unbound

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

Function overloading should be use where behavior must be similar to some extent but code may differ.

- ► True
- ► False

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

Consider the following definition

template < class T > class Xyz { … };

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- ► it defines a class template for integers only
- ► it defines a class template for any data type
- ► class templates are not defined in this way
- ► none of given options

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

Which one of the following is example of complete specialization,

- ► template <typename T> class Vector { };
- ► template <typename T> class Vector<T*> { };
- ► template<> class Vector <char*> { };

► None of given.

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

By default the vector data items are initialized to ____

► 0

► 0.0

► 1

► null

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

Which one of the following functions returns the total number of elements in a vector.

► length();

► size();

► ele();

► veclen();

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

An STL container can not be used to,

► hold objects of class employee.

► store elements in a way that makes them quickly accessible.

► compile c++ programs.

► organize the way objects are stored in memory

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

A range is often supplied to an algorithm by two _____ values.

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► italic

► iteration

► iterator

► None of given

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

Which of the following is the way to extract common behaviour and attributes from the given classes and make a separate class of those common behaviours and attributes?

► Generalization

► Sub-typing

► Specialization

► Extension

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

In inheritance, a child class is a sub-type of base class.

► True

► False

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

By default all members of a class are,

► Public

► Protected

► Private

► Public & protected

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

This pointers are not accessible for const member functions.

► True

► False

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

Object can be declared constant with the use of **Constant** keyword.

► True

► False

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

---------- members are somewhere between public and private members. They are used in inheritance

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► protected

► public

► private

► global

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

In Private ---------- only member functions and friend classes or functions of a derived class can convert pointer or reference of derived object to that of parent object

► specialization

► inheritance

► abstraction

► composition

Question No: 27 (Marks: 2)

Give the basic difference between Iterators and cursors?

Question No: 28 (Marks: 2)

What are the non - type parameters for templates?

Question No: 29 (Marks: 2)

State any conflict that may rise due to multiple inheritance?

Question No: 30 (Marks: 2)

What is **behavior** of an object. Explain it with the help of one real life example..

Question No: 31 (Marks: 3)

Give the general syntax of nested try catch blocks?

Question No: 32 (Marks: 3)

Write a template function that takes one template parameter and always returns value that is always equal to double of its parameter value (parameter * 2).

Question No: 33 (Marks: 3)

If we declare a function as friend of a template class will it be a friend for a particular data type or for all data types of that class.

Question No: 34 (Marks: 5)

The code given below has one template function as a friend of a template class,

1. You have to identify any error/s in this code and describe the reason for error/s.
2. Give the correct code after removing the error/s.

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```
template<typename U>
void Test(U);
template< class T >

class B {
        int data;
        public:
        friend void Test<>( T );
};

template<typename U>
void Test(U u){
   B < int> b1;
   b1.data = 7;
   }
int main(int argc, char *argv[])
{
   char i;
   Test(i);
   system("PAUSE");
   return 0;
}
```

Question No: 35 (Marks: 5)

Examine the following code and determine the output of the program

a. if A and B methods are virtual
b. if A and B methods are not virtual

```
class A
{
public:
void method() { cout<<"A's method \n"; }

};

class B : public A
{

public:
void method() { cout<<"B's method\n"; }

};

void main()
{

A obj1;
B obj2;
A* aptr;
aptr = & obj2;
obj2. method();
obj1. method();
aptr -> method();

}
```

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Question No: 36 (Marks: 5)

Q. What do you know about Exception in initialization ? Expalin it with a help of an example.