

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the Name of Allāh, the Most Gracious, the Most Merciful

### Paper Pattern

MCQS 40 each 1 mark  
Short 4 each 2 marks  
Short 4 each 3 marks  
long 4 each 5 marks

Question No : 1 of 52

Marks: 1 (Budgeted Time 1 Min)

Target function for a call is selected at compile time in case of

Answer ( Please select your correct option )

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☒ Static binding

☐ Polymorphism

☐ Encapsulation

☐ Dynamic binding

Made by: Waqar Siddhu

Question No : 2 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is the best approach if it is required to have more than one functions having exactly same functionality and implemented on different data types?

Answer ( Please select your correct option )

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☒ Templates

☐ Overloading

☐ Data hiding

☐ Encapsulation

Made by: Waqar Siddhu



Question No : 3 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is the best approach to implement generic algorithms with minimum number of coding lines?

Answer ( Please select your correct option )

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- ☒ Templates
- ☐ Overloading
- ☐ Overriding
- ☐ Friend function/class

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Question No : 4 of 52

Marks: 1 (Budgeted Time 1 Min)

Identify the correct way of declaring an object of user defined template class A for char type members?

Answer ( Please select your correct option )

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- ☒ A< char > obj;
- ☐ <char>A obj;
- ☐ A obj<char>;
- ☐ Obj <char> A;

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Question No : 5 of 52

Marks: 1 (Budgeted Time 1 Min)

A class template \_\_\_\_\_

Answer ( Please select your correct option )

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- ☒ Facilitates reuse of class
- ☐ Does not facilitate reuse of class
- ☐ Does not support generic methods
- ☐ Does not support static members

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Question No : 6 of 52

Marks: 1 (Budgeted Time 1 Min)

Virtual functions allow you to

Answer ( Please select your correct option )

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- ☐ create an array of type pointer-to-base class that can hold pointers to derived classes.
- ☐ create functions that can never be accessed.
- ☐ group objects of different classes so they can all be accessed by the same function code.
- ☒ use the same function call to execute member functions of objects from different classes.

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Question No : 7 of 52

Marks: 1 (Budgeted Time 1 Min)

A pure virtual function is a virtual function that

Answer ( Please select your correct option )

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☐ causes its class to be abstract.

☐ returns nothing

☐ is used in a derived class.

☐ takes no arguments

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Question No : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

Suppose we have two derived classes from a single class, can we write a method with same name in both these derived classes ? Choose the best option.

Answer ( Please select your correct option )

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☐ No

☐ Only if the two classes have the same name

☐ Only if the main program does not declare both kinds

☐ Yes

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Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

An abstract class is useful when,

Answer ( Please select your correct option )

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☐ We do not derive any class from it.

☐ There are multiple paths from one derived class to another.

☐ We do not want to instantiate its object.

☐ You want to defer the declaration of the class.

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Question No : 10 of 52

Marks: 1 (Budgeted Time 1 Min)

Considering the resolution order in which compiler search for functions in a program, the first priority is given to,

Answer ( Please select your correct option )

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☐ general template

☐ partial specialization

☐ complete specialization

☐ ordinary function

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Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

The main function of scope resolution operator (::) is,

Answer ( Please select your correct option )

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- ☐ To define an object
- ☐ To define a data member
- ☒ To link the definition of an identifier to its declaration
- ☐ To make a class private

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Question No : 12 of 52

Marks: 1 (Budgeted Time 1 Min)

A virtual member function ding() in base and derived class, and pointer p to base class object contains the address of derived class object, then the statement p->ding() will execute ding() member function in \_\_\_\_\_ class.

Answer ( Please select your correct option )

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- ☐ Base
- ☒ Derived
- ☐ Virtual
- ☐ Implemented

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Question No : 13 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following ensures that data and behaviour are tightly coupled within an object?

Answer ( Please select your correct option )

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- ☐ Inheritance
- ☐ Abstraction
- ☐ Polymorphism
- ☒ Encapsulation

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Question No : 14 of 52

Marks: 1 (Budgeted Time 1 Min)

Which one of the following is not an object association?

Answer ( Please select your correct option )

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- ☐ Simple Association
- ☒ Inheritance
- ☐ Aggregation
- ☐ Composition

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Question No : 15 of 52

Marks: 1 (Budgeted Time 1 Min)

In \_\_\_\_\_, a pointer or reference to an object is created inside a class.

Answer ( Please select your correct option )

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Aggregation

☒

Composition

☐

Separation

☐

Association

☐

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Question No : 16 of 52

Marks: 1 (Budgeted Time 1 Min)

Friends are used in exactly the same way for \_\_\_\_\_.

Answer ( Please select your correct option )

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Template and non template classes

☐

Template classes

☒

Ordinary classes

☐

None template classes

☐

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Question No : 17 of 52

Marks: 1 (Budgeted Time 1 Min)

By default all members of a class are,

Answer ( Please select your correct option )

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Public

☐

Protected

☐

Private

☒

Public & protected

☐

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Question No : 18 of 52

Marks: 1 (Budgeted Time 1 Min)

A base class member or method that is alternatively defined in derived class is known as \_\_\_\_\_.

Answer ( Please select your correct option )

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Overloaded

☐

Copy riding

☐

Overwriting

☐

Overriding

☒

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Question No : 19 of 52

Marks: 1 (Budgeted Time 1 Min)

If a class D has been derived using protected inheritance from class B (If B is a protected base and D is derived class) then public and protected members of B \_\_\_\_\_ accessed by member functions and friends of class D and classes derived from D.

Answer ( Please select your correct option )

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☐ can be☐ cannot be☐ does restrict to be☐ never

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Question No : 20 of 52

Marks: 1 (Budgeted Time 1 Min)

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.

Answer ( Please select your correct option )

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☐ specialization☒ inheritance☐ abstraction☐ composition

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Question No : 21 of 52

Marks: 1 (Budgeted Time 1 Min)

Consider the following statements:

1) int iArray[5];

2) int \*pArr = iArray;

Answer ( Please select your correct option )

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☐ Error in first statement☐ Error in second statement☐ Error in both statements☒ No error in both statements

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Question No : 22 of 52

Marks: 1 (Budgeted Time 1 Min)

Consider the following definition.

```
template < class T > class Xyz ( ... );
```

Answer ( Please select your correct option )

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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☐ it defines template functions

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Question No : 23 of 52

Marks: 1 (Budgeted Time 1 Min)

```
template<> class Vector<void*>{  
    void** p;  
    //...  
    void*& operator[] ((int i);  
};
```

Answer ( Please select your correct option )

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☐ This specialization can be used as the common implementation for all Vectors of pointers.

☒ This specialization can then be used as the implementation for all types of classes.

☐ This specialization can then be used for double type pointers.

☐ This specialization should be used for Vectors of int types.

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Question No : 24 of 52

Marks: 1 (Budgeted Time 1 Min)

Template functions use \_\_\_\_\_ than ordinary functions.

Answer ( Please select your correct option )

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☐ More Memory

☒ Less Memory

☐ Same Memory

☐ Different Memory

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Question No : 25 of 52

Marks: 1 (Budgeted Time 1 Min)

Vectors contain contiguous elements stored as a[an] \_\_\_\_\_.

Answer ( Please select your correct option )

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☐ variable

☒ array

☐ function

☐ datatype

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Question No : 26 of 52

Marks: 1 (Budgeted Time 1 Min)

An STL algorithm is

Answer ( Please select your correct option )

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☒ A standalone function that operates on containers.

☐ A link between member functions and containers.

☐ A friend function of appropriate container classes.

☐ A member function of appropriate container classes.

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Question No : 27 of 52

Marks: 1 (Budgeted Time 1 Min)

Vector V with default constructor is defined, and another vector W is defined with one argument constructor with size 11, and insert 3 elements into each of these vectors with push\_back(), then the size() member function will return \_\_\_ for V and \_\_\_ for W.

Answer ( Please select your correct option )

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☐ 11 for v and 3 for w.☐ 0 for v and 0 for w.☐ 0 for v and 3 for w.☒ 3 for v and 11 for w.

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Question No : 28 of 52

Marks: 1 (Budgeted Time 1 Min)

The copy() algorithm returns an iterator to

Answer ( Please select your correct option )

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☐ the last element copied from.☐ the last element copied to.☐ the element one past the last element copied from.☒ the element one past the last element copied to.

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Question No : 29 of 52

Marks: 1 (Budgeted Time 1 Min)

Using catch blocks in **incorrect order** is \_\_\_\_\_ error.

Answer ( Please select your correct option )

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☐ Syntax☒ Logical☐ Grammatical☐ Runtime

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Question No : 30 of 52

Marks: 1 (Budgeted Time 1 Min)

The property in which existing class is modified to form a new class is called.....

Answer ( Please select your correct option )

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☒ Polymorphism☐ Inheritance☐ Encapsulation☐ Information hiding

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Question No : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

"This" pointer returns:

Answer ( Please select your correct option )

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☒ Reference of previous object

☐ Reference of preceded object

☐ Reference of current object

☐ Reference of next object

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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

A real world object can be transformed into programming entity by defining its respective

Answer ( Please select your correct option )

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☐ Class

☐ Function

☐ Only states

☒ Only behaviour

i think...  
page 10

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Question No : 33 of 52

Marks: 1 (Budgeted Time 1 Min)

C2+C1 is equivalent to \_\_\_\_\_, when plus operator is overloaded, and C2, C1 are objects.

Answer ( Please select your correct option )

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☐ C1.operator + (C2)

☐ C1.operator + (C1)

☒ C2.operator + (C1)

☐ C2.operator + (C2)

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Question No : 34 of 52

Marks: 1 (Budgeted Time 1 Min)

\_\_\_\_\_ ensure that the correct function is called for an object, regardless of the expression used to make the function call.

Answer ( Please select your correct option )

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☐ Static functions

☒ Virtual functions

☐ Friend functions

☐ Inline functions

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Question No : 35 of 52

Marks: 1 (Budgeted Time 1 Min)

In abnormal termination our program is terminated \_\_\_\_\_.

Answer ( Please select your correct option )

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☐ Manually☐ Normally☒ Abnormally☐ Routinely

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Question No : 36 of 52

Marks: 1 (Budgeted Time 1 Min)

Suppose you create an uninitialized vector as follows:

```
vector<int> evec;  
After adding the statment,  
evec.push_back(21);  
what will happen?
```

Answer ( Please select your correct option )

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☐ It will add an element to the start of evec and will initialize it with 21.☐ It will add an element to the center of evec and will reinitialize it with 21.☐ It will delete an element to the end (the back) of evec and will reinitialize it with 21.☒ It will add an element to the end (the back) of evec and initialize it with 21.

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Question No : 37 of 52

Marks: 1 (Budgeted Time 1 Min)

A static function

Answer ( Please select your correct option )

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☐ should be called when an object is destroyed.☐ is closely connected to an individual object of a class.☒ can be called using the class name followed by function name.☐ is used when a dummy object must be created.

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Question No : 38 of 52

Marks: 1 (Budgeted Time 1 Min)

Default constructor either has no \_\_\_\_\_ or parameters with \_\_\_\_\_ values.

Answer ( Please select your correct option )

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☐ Parameters, temporary☐ Parameters, null☒ Parameters, default☐ Parameters, zero

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Question No : 39 of 52

Marks: 1 (Budgeted Time 1 Min)

Which is not the Advantage of inheritance?

Answer ( Please select your correct option )

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☐ providing class growth through natural selection.

☐ facilitating class libraries.

☐ avoiding the rewriting of code.

☐ providing a useful conceptual framework.

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Question No : 40 of 52

Marks: 1 (Budgeted Time 1 Min)

Each try block can have \_\_\_\_\_ no. of catch blocks.

Answer ( Please select your correct option )

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☐ 1

☐ 2

☐ 3

☐ As many as necessary.

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Question No : 41 of 52

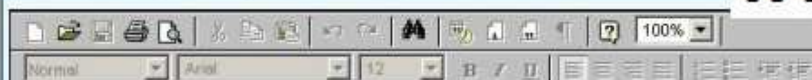
Marks: 2 (Budgeted Time 4 Min)

What will be output when this code will be executed?

1. #include <iostream.h>
2. #include <stdlib.h>
3. using namespace std;
4. template< typename T >

Answer ( Please click here to Add Answer )

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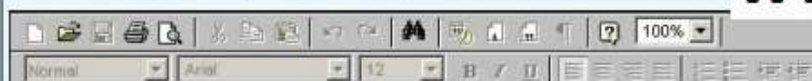
Question No : 42 of 52

Marks: 2 (Budgeted Time 4 Min)

Why we need to use friend functions when overloading insertion and extraction operators?

Answer ( Please click here to Add Answer )

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Question No : 43 of 52

Marks: 2 (Budgeted Time 4 Min)

Update following code to make it capable of terminating gracefully in case of variable value2 is zero:

```
int Quotients (int value1, int value2 ) {  
    if(value2 == 0){  
        cout << "cannot be zero" << endl;  
    }  
    return value1 / value2;  
}
```

Answer ( [Please click here to Add Answer](#) )

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Question No : 44 of 52

Marks: 2 (Budgeted Time 4 Min)

State any conflict that may arise due to multiple inheritance.

Answer ( [Please click here to Add Answer](#) )

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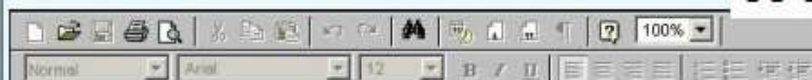
Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

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.

Answer ( [Please click here to Add Answer](#) )

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Question No : 46 of 52

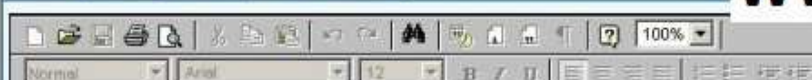
Marks: 3 (Budgeted Time 6 Min)

In both virtual inheritance and multiple inheritance, copy/copies of base class are created. Please list down, how many copy/copies of base class are created for:

- Virtual Inheritance
- Multiple inheritance

Answer ( [Please click here to Add Answer](#) )

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Question No : 47 of 52

Marks: 3 (Budgeted Time 6 Min)

Mobile is a good entity for being an object. List down any two characteristics, behavior and one unique ID in this context

Answer ( [Please click here to Add Answer](#) )

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Normal Arial 12 B I U

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Question No : 48 of 52

Marks: 3 (Budgeted Time 6 Min)

What is Graceful Termination method of Error Handling, give its example using C++ code.

Answer ( [Please click here to Add Answer](#) )

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Normal Arial 12 B I U

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Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

Write a function template named maximum. The function takes two values of the same type as its arguments and returns the larger of the two arguments (or either value if they are equal). Give the function prototype and definition for the template.

Answer ( [Please click here to Add Answer](#) )

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Normal Arial 12 B I U

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Question No : 50 of 52

Marks: 5 (Budgeted Time 10 Min)

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.

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

Answer ( [Please click here to Add Answer](#) )

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Normal Arial 12 B I U

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Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

Write C++ code for declaring the following

Class:

Course

Attributes:

Name of type String

Answer ( [Please click here to Add Answer](#) )

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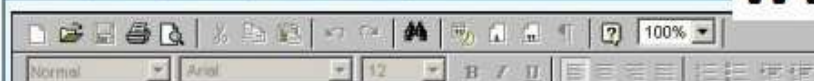
Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

Name of type String  
Code of type String  
Method:  
getCode()

Answer ( [Please click here to Add Answer](#) )

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Question No : 52 of 52

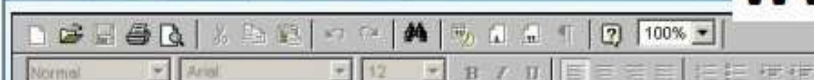
Marks: 5 (Budgeted Time 10 Min)

Write C++ code for the **constructor** of following template Vector class.

```
template< class T >
class Vector {
private:
    T* ptr;
```

Answer ( [Please click here to Add Answer](#) )

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Question No : 52 of 52

Marks: 5 (Budgeted Time 10 Min)

```
T* ptr;
int size;
int index;
public:
    Vector( int = 10 ); // constructor
};
```

Answer ( [Please click here to Add Answer](#) )

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