

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)
Which of the following is the best approach to implement generic algorithms with minimum number of coding lines?	
Answer (Please select your correct option)	WWW.VirtualAcademyLive.com
<input checked="" type="radio"/> Templates <input type="radio"/> Overloading <input type="radio"/> Overriding <input type="radio"/> Friend function/class	Made by: Waqar Siddhu
Question No : 2 of 52	Marks: 1 (Budgeted Time 1 Min)
A class template _____	
Answer (Please select your correct option)	WWW.VirtualAcademyLive.com
<input checked="" type="radio"/> Facilitates reuse of class <input type="radio"/> Does not facilitate reuse of class <input type="radio"/> Does not support generic methods <input type="radio"/> Does not support static members	Made by: Waqar Siddhu

Question No : 3 of 52

Marks: 1 (Budgeted Time 1 Min)

Templates automatically create different versions of a function,

Answer (Please select your correct option)

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- ☐ depending on user input.
- ☐ At compile time.
- ☐ Depending on static time.
- ☐ Depending on function arguments.

Made by: Waqar Siddhu

Question No : 4 of 52

Marks: 1 (Budgeted Time 1 Min)

When the base class and the derived class have a member function with the same name, you must be more specific which function you want to call (using _____).

Answer (Please select your correct option)

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- ☐ scope resolution operator
- ☐ dot operator
- ☐ null operator
- ☒ Operator overloading

Made by: Waqar Siddhu

Question No : 5 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 : 6 of 52

Marks: 1 (Budgeted Time 1 Min)

When is a constructor called?

Answer (Please select your correct option)

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☐ Each time the constructor identifier is used in a program statement

☒ During the instantiation of a new object

☐ During the construction of a new class

☐ At the beginning of any program execution

Made by: Waqar Siddhu

Question No : 7 of 52

Marks: 1 (Budgeted Time 1 Min)

Consider the code below,
class Fred {
public:
Fred();
...
};

Answer (Please select your correct option)

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☐ Fred a[10], calls the default constructor 09 times

☐ Fred* p = new Fred[10], calls the default constructor 10 times

☐ Produce an error

☐ Fred a[10], calls the default constructor 11 times

☐ Fred* p = new Fred[10], calls the default constructor 11 times

☒ Fred a[10], calls the default constructor 10 times

☒ Fred* p = new Fred[10], calls the default constructor 10 times

Made by: Waqar Siddhu

Question No : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

If Rollno is a **const** data member of a class **student** then which definition is correct for the member function **show ()**

Answer (Please select your correct option)

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☐ int show() const { return Rollno; }

☐ void show() const { return Rollno; }

☐ int show() const { return Rollno + 50; }

☐ int show(num) const { Rollno = num; }

Made by: Waqar Siddhu

Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following can be the instance of class Vehicle?

Answer (Please select your correct option)

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- ☐ Car, Computer, Desk
- ☐ Ahmad, Bicycle, Truck
- ☐ Computer, Truck, Ahmad
- ☒ Car, Bicycle, Truck

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Question No : 10 of 52

Marks: 1 (Budgeted Time 1 Min)

Which is true about sub-typing in case of inheritance?

Answer (Please select your correct option)

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- ☒ In sub-typing derived class shows some extended behavior of its parent.
- ☐ In sub-typing derived class shows some restricted behavior of its parent class.
- ☐ In sub-typing derived class should be abstract.
- ☐ Sub-typing has no relation with inheritance.

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Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

A C++ class is similar to a _____.

Answer (Please select your correct option)

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- ☒ Structure
- ☐ Header File
- ☐ Library File
- ☐ Function

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Question No : 12 of 52

Marks: 1 (Budgeted Time 1 Min)

What will be the value of the variable data and data2 respectively, If the function below is called 4 times?

```
void func()
{
    static int data = 4;
    int data2 = 4;
}
```

Answer (Please select your correct option)

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☐ 8, 5

☐ 5, 8

☐ 5, 5

☐ 7, 5

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Question No : 13 of 52

Marks: 1 (Budgeted Time 1 Min)

Which members are lies somewhere between public and private members?

Answer (Please select your correct option)

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☒ Protected members

☐ Global members

☐ Static members

☐ Friends members

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Question No : 14 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 : 15 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 : 16 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 : 17 of 52

Marks: 1 (Budgeted Time 1 Min)

The mechanism of selecting function at run time according to the nature of calling object is called,

Answer (Please select your correct option)

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☐ late binding

☐ static binding

☒ virtual binding

☒ hybrid binding

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Question No : 18 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following causes run time binding?

Answer (Please select your correct option)

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☐ Declaring object of abstract class

☐ Declaring pointer of abstract class

☒ Declaring overridden methods as non-virtual

☐ Declaring object of derived class

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Question No : 19 of 52

Marks: 1 (Budgeted Time 1 Min)

Multiple inheritance can be of type

Answer (Please select your correct option)

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☐ Public, Private

☐ Private, Protected

☐ Protected, Public

☒ Public, Protected, Private

Made by: Waqar Siddhu

Question No : 20 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

Made by: Waqar Siddhu

Question No : 21 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

Made by: Waqar Siddhu

Question No : 22 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 : 23 of 52

Marks: 1 (Budgeted Time 1 Min)

Non Template Friend functions of a class are friends of _____ instance/s of that class.

Answer (Please select your correct option)

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☐ One

☐ Two

☐ All instances of one date type

☒ All

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Question No : 24 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 : 25 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.

Made by: Waqar Siddhu

Question No : 26 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 : 27 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 : 28 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 : 29 of 52

Marks: 1 (Budgeted Time 1 Min)

We must release dynamic memory allocated in try block in _____

Answer (Please select your correct option)

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☒ Catch block

☐ In main function block

☐ No need to release memory

☐ In constructor

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Question No : 30 of 52

Marks: 1 (Budgeted Time 1 Min)

In inheritance hierarchy which one is on the top?

Answer (Please select your correct option)

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☐ Subtyping

☐ Specialization

☐ Extension

☒ Generalization

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Question No : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

In order to reuse the characteristics of more than one parent class, we must use:

Answer (Please select your correct option)

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☐ Inheritance

☐ Protected inheritance

☒ Multiple inheritance

☐ Private inheritance

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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

_____ operator will take only one operand.

Answer (Please select your correct option)

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☐ Int

☐ This

☐ Const

☒ New

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Question No : 33 of 52

Marks: 1 (Budgeted Time 1 Min)

A class that declares or inherits a virtual function is called a _____ class.

Answer (Please select your correct option)

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☐ Inherited

☐ Protected

☒ Polymorphic

☐ Friend

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Question No : 34 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 : 35 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 : 36 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 : 37 of 52

Marks: 1 (Budgeted Time 1 Min)

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

Answer (Please select your correct option)

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☐ Generic element

☐ Heading element

☐ Paragraph element

☒ Nothing will be printed.

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Question No : 38 of 52

Marks: 1 (Budgeted Time 1 Min)

A pointer to a base class can point to object of a _____ class.

Answer (Please select your correct option)

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☐ Base

☒ Derived

☐ Abstract

☐ Virtual

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Question No : 39 of 52

Marks: 1 (Budgeted Time 1 Min)

The specialization pattern <T*> after the name says that this specialization is to be used for every,

Answer (Please select your correct option)

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☒ pointer type

☐ meta type

☐ virtual type

☐ data type

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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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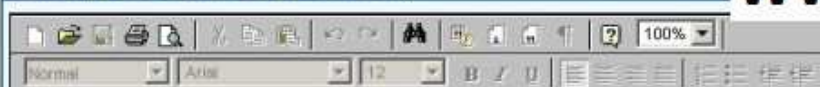
Question No : 41 of 52

Marks: 2 (Budgeted Time 4 Min)

What are the non - type parameters for templates?

Answer (Please click here to Add Answer)

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Question No : 42 of 52

Marks: 2 (Budgeted Time 4 Min)

Define Catch Handler in brief

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

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Question No : 43 of 52

Marks: 2 (Budgeted Time 4 Min)

How static and dynamic binding is used in the case of virtual functions? Justify your answer as well.

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

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Question No : 44 of 52

Marks: 2 (Budgeted Time 4 Min)

Can we use initialization list to set the value of any base class public data member? Justify your answer in either case as well.

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

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Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

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).

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

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Question No : 46 of 52

Marks: 3 (Budgeted Time 6 Min)

Give c++ code to overload assignment operator for string class.

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

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Question No : 47 of 52

Marks: 3 (Budgeted Time 6 Min)

Consider the code below,

```
template< typename T >
class T1 {
public:
    T i;
```

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

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Question No : 48 of 52

Marks: 3 (Budgeted Time 6 Min)

Tell the logical error/s in the code given below with reference to resource management, also describe how we can correct that error/s.

```
class Test{  
  
public:  
int function1(){
```

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

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Made by: Waqar Siddhu

Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

Write c++ code to overload subscript[] operator for String class.

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

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Made by: Waqar Siddhu

Question No : 50 of 52

Marks: 5 (Budgeted Time 10 Min)

Consider the code below,

```
#include <iostream>  
#include <stdlib.h>  
using namespace std;  
class Shape{
```

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

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Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

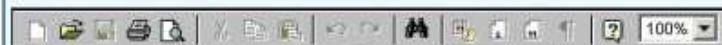
There are some errors in the code given below, you have to

1. Indicate the line no. with error/s
2. Give the reason for error/s
3. Correct the error/s.

1. `#include <iostream>`

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

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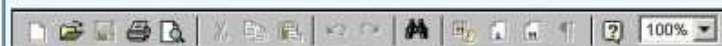
Question No : 52 of 52

Marks: 5 (Budgeted Time 10 Min)

Create a Vector array of length 8, and also initialize the elements of this array with values 0 1 2 3 4 5 6 7.

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

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