

VIRTUAL UNIVERSITY OF PAKISTAN

A Good Education is a Foundation For a Better Future
CORRECT ANSWER SOLVED BY HADI
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(Final Term Past Paper)

(Made by Waqar & Solved By Hadi)

WARNING: Team HADI is not responsible for any mistake or wrong answer. All students reading and using this document may check and confirm the answers at their own.



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Best of luck!



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)

Templates

Overloading

Overriding

Friend function/class



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Question No : 2 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)

A < char > obj;

<char>A obj;

A obj<char>;

Obj <char> A;



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Question No : 3 of 52

Marks: 1 (Budgeted Time 1 Min)

Assume a class Derv that is privately derived from class Base. An object of class Derv located in main() can access

Answer (Please select your correct option)

- public members of Derv.
- protected members of Derv.
- private members of Derv.
- protected members of Base.



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Question No : 4 of 52

Marks: 1 (Budgeted Time 1 Min)

In order to define a class template, the first line of definition must be:

Answer (Please select your correct option)

- `template <typename T>`
- `typename <template T>`
- `Template Class <ClassName>`
- `Class <Template T>`



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Question No : 5 of 52

Marks: 1 (Budgeted Time 1 Min)

A class template _____

Answer (Please select your correct option)

- 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)

A copy constructor is invoked when

Answer (Please select your correct option)

- a function do not returns by value.
- an argument is passed by value.
- a function returns by reference.
- an argument is passed by reference.



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Question No : 7 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)

- 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 : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is incorrect line regarding function template?

Answer (Please select your correct option)

- `template<class T>`
- `template <typename U>`
- `Class<template T>`
- `template < class T, class U>`



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Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following acts as an interface of the class?

Answer (Please select your correct option)

Private member functions

Public data members

Public member functions

Private data members



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Question No : 10 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)

- Base
- Derived
- Virtual
- Implemented



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Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

Encapsulation is a feature of Object Oriented Programming which means,

Answer (Please select your correct option)

- Keep data separated from code
- Keep data and code in a single place
- Keep data separated from code and also keep data and code in a single place
- Reusing code by creating new classes from previously created classes



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Question No : 12 of 52

Marks: 1 (Budgeted Time 1 Min)

Abstract class has _____.

Answer (Please select your correct option)

Zero Instances

One Instance

Two Instances

Many Instances



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Question No : 13 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is an example of accessor function?

Answer (Please select your correct option)

- Constructors for intilizing objects
- Getters for getting data member values
- Destructors to free the memory space
- Copy constructor to create a new object from existing object



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Question No : 14 of 52

Marks: 1 (Budgeted Time 1 Min)

A **friend** function can access a class's private data without being a _____.

Answer (Please select your correct option)

- Static member of the class
- None member of the class
- Member of the class
- Constant member of the class



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Question No : 15 of 52

Marks: 1 (Budgeted Time 1 Min)

A class can be identified from a statement by -----.

Answer (Please select your correct option)

Noun

Pronoun

Verb

Adverb



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Question No : 16 of 52

Marks: 1 (Budgeted Time 1 Min)

The type that is used to declare a reference or pointer is called its _____.

Answer (Please select your correct option)

- default type
- static type
- abstract type
- reference type



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Question No : 17 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)

- can be
- cannot be
- does restrict to be
- never



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Question No : 18 of 52

Marks: 1 (Budgeted Time 1 Min)

When a virtual function is called by referencing a specific object by name and using the dot member selection operator (e.g., squareObject.draw()), the reference is resolved at _____.

Answer (Please select your correct option)

Run time

Compile time

Processing time

Execution time



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Question No : 19 of 52

Marks: 1 (Budgeted Time 1 Min)

A template argument is preceded by the keyword _____.

Answer (Please select your correct option)

vector, class

typename, class

template, class

type, class



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Question No : 20 of 52

Marks: 1 (Budgeted Time 1 Min)

When we write a class template the first line must be:

Answer (Please select your correct option)

- `template < class class_name >`
- `template < class_name data_type >`
- `template < class T >`
- `class template < class_name >`



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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)

- 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 : 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)

- This specialization can be used as the common implementation for all Vectors of pointers.
- This specialization can then be used as the implimentation 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)

Which of the following is NOT an advantage of generic programming?

Answer (Please select your correct option)

Reusability

Writability

Maintainability

Efficient memory usage



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Question No : 24 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)

- One
- Two
- All instances of one date type
- All



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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)

variable

array

function

datatype



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Question No : 26 of 52

Marks: 1 (Budgeted Time 1 Min)

By default the vector data items are initialized to _____.

Answer (Please select your correct option)

0

1

2

4



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Question No : 27 of 52

Marks: 1 (Budgeted Time 1 Min)

An STL algorithm is

Answer (Please select your correct option)

- 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 : 28 of 52

Marks: 1 (Budgeted Time 1 Min)

A vector is an appropriate container if you

Answer (Please select your correct option)

- want to insert lots of new elements at arbitrary locations in the vector.
- want to insert new elements, but always at the front of the container.
- are given an index number in order to quickly access the corresponding element.
- are given an element key value in order to quickly access the corresponding element.



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Question No : 29 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)

- 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 : 30 of 52

Marks: 1 (Budgeted Time 1 Min)

An STL container can not be used to:

Answer (Please select your correct option)

- 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



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Question No : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

The find() algorithm

Answer (Please select your correct option)

- 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.



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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

Objects having identical characteristics belong to,

Answer (Please select your correct option)

Same class

Two different classes

Any number of different classes

Objects can not have identical characteristics



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Question No : 33 of 52

Marks: 1 (Budgeted Time 1 Min)

A static member function can be called, even when an object is not _____.

Answer (Please select your correct option)

Excecute

Define

Instantiated

Mention



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Question No : 34 of 52

Marks: 1 (Budgeted Time 1 Min)

The following overloaded operator takes no argument.

Answer (Please select your correct option)

/

-

+

++



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Question No : 35 of 52

Marks: 1 (Budgeted Time 1 Min)

How many objects for a class can be constructed in an application?

Answer (Please select your correct option)

Only one per constructor.

As many as the application asks for.

Only one per class.

One object per variable.



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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)

- 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)

- 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)

Parameters, temporary

Parameters, null

Parameters, default

Parameters, zero



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Question No : 39 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)

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



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Question No : 40 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,



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Answer (Please select your correct option)

data type

meta type

virtual type

pointer type

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Question No : 41 of 52

Marks: 2 (Budgeted Time 4 Min)

Sort the following data in the order in which compiler searches a function?
Complete Specialization, Generic Template, Partial Specialization, Ordinary Function.

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

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Question No : 42 of 52

Marks: 2 (Budgeted Time 4 Min)

Friend functions minimize "Encapsulation", What is your opinion?

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



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Question No : 43 of 52

Marks: 2 (Budgeted Time 4 Min)

State any two reasons why virtual methods can not be static?

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



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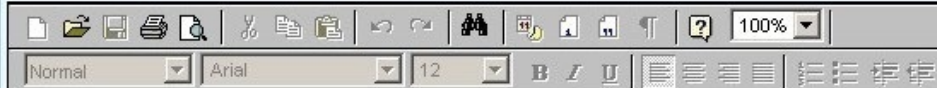
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Question No : 44 of 52

Marks: 2 (Budgeted Time 4 Min)

Give two advantages that Iterators provide over Cursors.

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)

Describe three properties necessary for a container to implement Generic Algorithms.

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

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Question No : 47 of 52

Marks: 3 (Budgeted Time 6 Min)

Consider the following code:

```
class Teacher {  
    int id  
    char * name;  
    float salary
```

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

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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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Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

See the 5 code snippets below and tell whether these are correct or incorrect also justify your answers in the table given at the end.

Snippet No.1

```
template< class T>  
class A {
```

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



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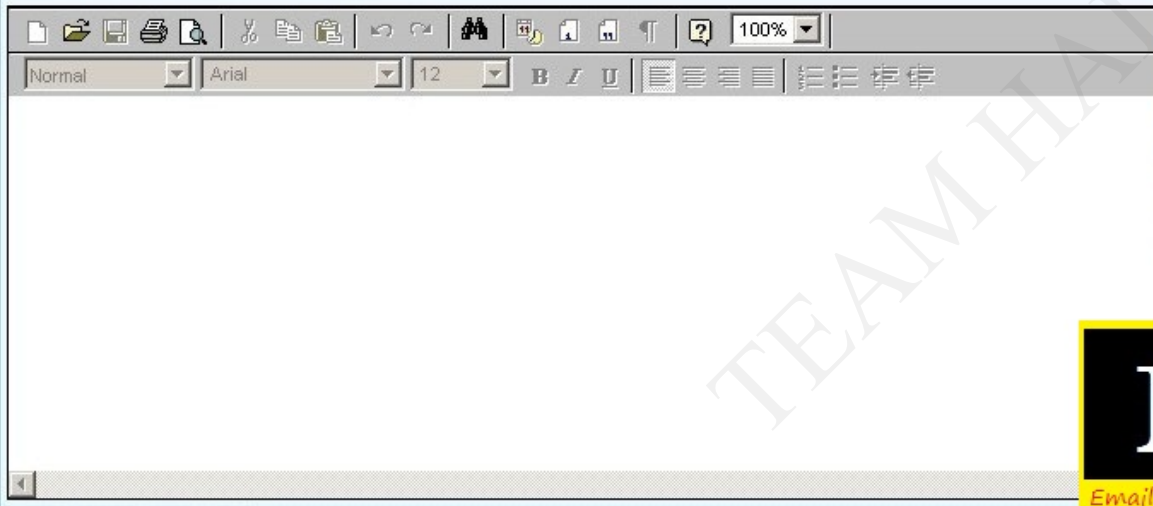
Question No : 50 of 52

Marks: 5 (Budgeted Time 10 Min)

Write a program which consists of a class named **Department**, this class should consists of two data members **DeptName** and **No_of_emps**, The class should further consists of three overloaded constructors, i.e. Default constructor, one argument constructor and two argument constructor and a member function named **Display** which display the Department information.

In main program define three reference variables for respective constructors and display its information.

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



The image shows a rich text editor interface. At the top, there is a toolbar with various icons for file operations (save, print, copy, paste, undo, redo), text formatting (bold, italic, underline, text color, background color), and alignment. Below the toolbar, there are dropdown menus for font style (Normal), font face (Arial), and font size (12). The main area of the editor is a large, empty white space.



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Question No : 51 of 52

Marks: 5 (Budgeted Time 10 Min)

Consider the following code:

```
// publication class and derived classes
#include <iostream>
#include <string>
using namespace std;
```

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



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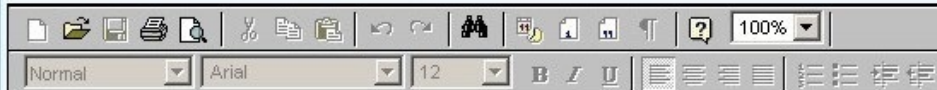
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Question No : 52 of 52

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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