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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 : 2 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 : 3 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 : 4 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 : 5 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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What is a class?

Answer (Please select your correct option)

- A class is a section of computer memory containing objects.
- A class is a section of the hard disk reserved for object oriented programs
- A class is the part of an object that contains the variables.
- A class is a description of a kind of object.



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Question No : 7 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 : 8 of 52

Marks: 1 (Budgeted Time 1 Min)

What a derived class can add?

Answer (Please select your correct option)

- New data members only
- New member functions only
- New data members, member functions and constructor/destructors
- New constructors and destructor only



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Question No : 9 of 52

Marks: 1 (Budgeted Time 1 Min)

Which of the following is directly related to polymorphism?

Answer (Please select your correct option)

- Const members
- Overriding
- Static members
- Const members functions



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Separation of implementation from interface provides the facility to restrict the _____ from direct access.

Answer (Please select your correct option)

- Data member
- Data function
- Class
- Object



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Question No : 11 of 52

Marks: 1 (Budgeted Time 1 Min)

A non-static member function can be called only after _____ the object of that class.

Answer (Please select your correct option)

Instantiating

Executing

Defining

Opening



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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)

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)

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)

Overwriting

Overriding

Overloaded

Copy riding



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Question No : 15 of 52

Marks: 1 (Budgeted Time 1 Min)

All the _____ members of base class can be accessed from the derived class.

Answer (Please select your correct option)

- Private
- Protected
- Non private
- Public



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Question No : 16 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)

- late binding
- static binding
- virtual binding
- hybrid binding



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Question No : 17 of 52

Marks: 1 (Budgeted Time 1 Min)

A non virtual member function in base class is overridden in derived class; if that non virtual function is called through base class pointer to derived class object, then the _____ version is used.

Answer (Please select your correct option)

Derived class



Abstract class

Base class



Concrete class



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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 : 19 of 52

Marks: 1 (Budgeted Time 1 Min)

The following function template returns the maximum of ____ values:

```
template <typename T>  
inline T const& max (T const& a, T const& b)  
{  
    // if a < b then use b else use a  
}
```

Answer (Please select your correct option)

1

2

3

4



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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)

Error in first statement

Error in second statement

Error in both statements

No error in both statements



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Question No : 21 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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Which one of the following is example of complete specialization,

Answer (Please select your correct option)

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



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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)

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



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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)

- More Memory
- Less Memory
- Same Memory
- Different Memory



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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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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 : 27 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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The copy() algorithm returns an iterator to

Answer (Please select your correct option)

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

Answer (Please select your correct option)

- italic
- iteration
- iterator
- container



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Question No : 30 of 52

Marks: 1 (Budgeted Time 1 Min)

We must release dynamic memory allocated in try block in _____

Answer (Please select your correct option)

- In constructor
- Catch block
- In main function block
- No need to release memory



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Question No : 31 of 52

Marks: 1 (Budgeted Time 1 Min)

Hiding details of an object from the other parts of a program is done by which principle of OOP?

Answer (Please select your correct option)

- Obfuscation
- Data Mining
- Compilation
- Encapsulation



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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

Suppose there is an object of type **Person**, which of the following can be considered as one of its attributes.

Answer (Please select your correct option)

- Name
- Age
- Work()
- Both Name and Age



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Question No : 32 of 52

Marks: 1 (Budgeted Time 1 Min)

Suppose there is an object of type **Person**, which of the following can be considered as one of its attributes.

Answer (Please select your correct option)

- Name
- Age
- Work()
- Both Name and Age



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The relationship between "Speaker" and "Mobile" is:

Answer (Please select your correct option)

- Aggregation
- Composition
- Inheritance
- One way association



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Question No : 34 of 52

Marks: 1 (Budgeted Time 1 Min)

The relationship between "SIM" and "Mobile" is:

Answer (Please select your correct option)

Aggregation ✓

Composition

Inheritance

Two way association



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Question No : 35 of 52

Marks: 1 (Budgeted Time 1 Min)

In a de-queue, (chose the best option)

Answer (Please select your correct option)

- Data can be quickly inserted or deleted at any arbitrary location.
- Data can be relatively slowly inserted or deleted at any arbitrary location.
- Data can not be quickly inserted or deleted at either end.
- Data can be relatively slowly inserted or deleted at either end.



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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 : 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)

- 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)

Which one is a logical abstract base class for a class called "footballPlayer"?



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Answer (Please select your correct option)

Ground

Sport

Athlete

Team

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

Answer (Please select your correct option)

- data type
- meta type
- virtual type
- pointer 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)

2

3

As many as necessary.

1



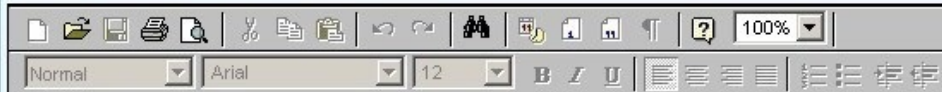
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What are the non - type parameters for templates?

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



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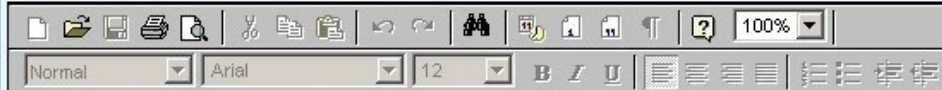
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Question No : 42 of 52

Marks: 2 (Budgeted Time 4 Min)

What is the difference between Simple Model and Object Oriented Model?

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



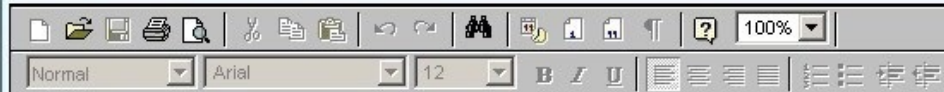
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In which situations we should use **Operator Overloading** and in which situations we should use **Templates**.

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



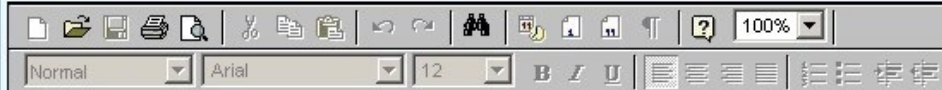
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What do you mean by Stack unwinding?

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



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Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

What will be output after executing following lines of code, (suppose there is no error and code will be executed correctly), justify your answer as well,

```
class Student{  
    static int noOfStudents;  
    int rollNo;  
public:
```

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



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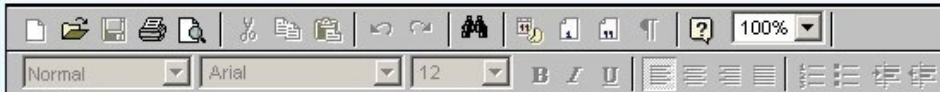
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Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

```
Student::Student(){
    noOfStudents++;
}
Student::~Student(){
    noOfStudents--;
}
```

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



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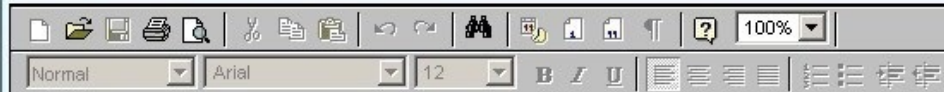
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Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

```
static int getTotalStudent(){
    return noOfStudents;
}
};
int Student::noOfStudents = 0;
int main(){
```

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



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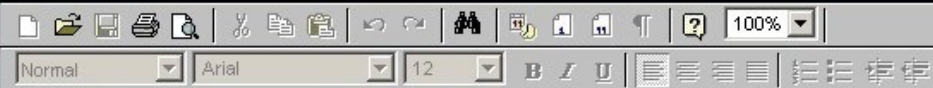
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Question No : 45 of 52

Marks: 3 (Budgeted Time 6 Min)

```
Student obj1,obj2,  
{  
    Student obj3;  
}  
cout<<Student::getTotalStudent();
```

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



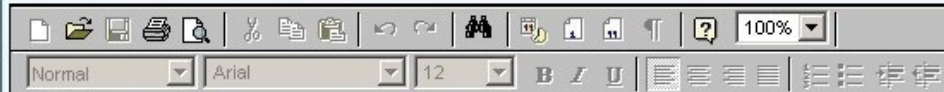
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In which situation do we need to implement virtual inheritance? Explain with the help of an example.

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



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Question No : 47 of 52

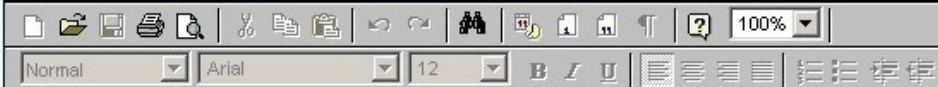
Marks: 3 (Budgeted Time 6 Min)

Identify and correct the syntax error(s) in the given code snippet?

```
template<classname T>
class Template_class {

    private:
    T data;
```

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



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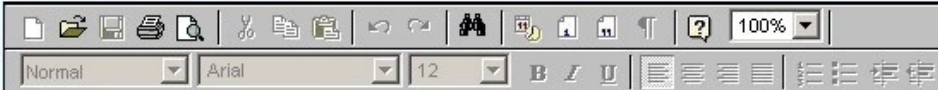
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Question No : 47 of 52

Marks: 3 (Budgeted Time 6 Min)

```
//...  
Public:  
//...  
void input();  
};
```

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



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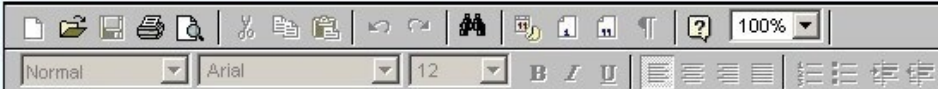
Question No : 47 of 52

Marks: 3 (Budgeted Time 6 Min)

```
template< class T >
void Template_class::input( ) {
cin>>data;
}

void main()
```

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



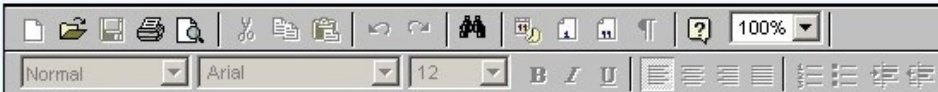
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```
void main()
{
  Template_class <int>obj;
  obj.input();
}
```

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



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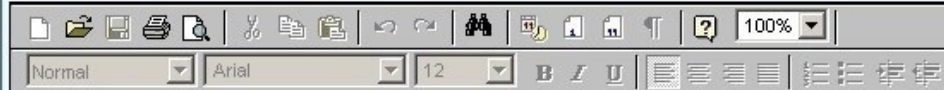
Question No : 48 of 52

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)



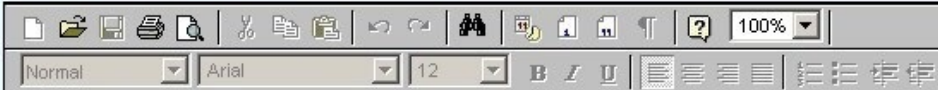
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```
try{  
    FILE *fileptr = fopen("filename.txt","w");  
    throw exception();  
    fclose(fileptr);  
    return 0;  
}
```

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



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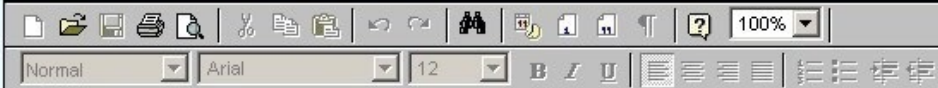
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Question No : 48 of 52

Marks: 3 (Budgeted Time 6 Min)

```
    }  
    catch(Exception e){  
    }  
}  
};
```

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



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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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Question No : 49 of 52

Marks: 5 (Budgeted Time 10 Min)

```
template< class T >

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

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



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