

VIT - Vellore

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BCSE102P_Structured and Object Oriented Programming Lab_VL2024250501996

VIT V_Structured and OOP_Lab 6_MCQ_Inheritance

Attempt : 1

Total Mark : 20

Marks Obtained : 19

Section 1 : MCQ

1. What is the syntax of inheritance of class?

Answer

class name : access specifier class name

Status : Correct

Marks : 1/1

2. Which access type data gets derived as private member in derived class?

Answer

Private

Status : Correct

Marks : 1/1

3. What is the output of this program?

```
#include <iostream>
using namespace std;
class p
{
protected:
int width, height;
public:
void set_values (int a, int b)
{
```

```
width = a; height = b;
```

```
}
```

```
virtual int area (void) = 0;
```

```
};
```

```
class r: public p
```

```
{
```

```
public:
```

```
int area (void)
```

```
{
```

```
return (width * height);
```

```
}
```

```
};
```

```
class t: public p
```

```
{
```

public:

int area (void)

{

return (width * height / 2);

}

};

int main ()

{

r rect;

t trgl;

p * ppoly1 = ▭

p * ppoly2 = &trgl;

ppoly1->set_values (4, 5);

ppoly2->set_values (4, 5);

cout << ppoly1 -> area() ;

cout << ppoly2 -> area();

return 0;

}

Answer

2010

Status : Correct

Marks : 1/1

4. Which design patterns benefit from multiple inheritances?

Answer

Adapter and observer pattern

Status : Correct

Marks : 1/1

5. How many basic types of inheritance are provided as an OOP feature?

Answer

4

Status : Correct

Marks : 1/1

6. What will be the output of the following program?

```
#include <iostream>
using namespace std;
```

```
template <class T>
class A{
public:
    A(int a): x(a) {}
protected:
    int x;
};
```

```
template <class T>
class B: public A<char>{
public:
    B(): A<char>::A(100){
        cout << x * 2 << endl;
    }
};
```

```
int main(){
    B<char> test;
    return 0;
}
```

Answer

200

Status : Correct

Marks : 1/1

7. Which class is used to design the base class?

Answer

abstract class

Status : Correct

Marks : 1/1

8. What is the output of this program?

```
#include <iostream>
using namespace std;
class Base
{
public:
    virtual void print( ) const = 0;
};
```

```
class DerivedOne : virtual public Base
```

```
{
```

```
public:
```

```
void print( ) const
```

```
{
```

```
cout << "1";
```

```
}
```

```
};
```

```
class DerivedTwo : virtual public Base
```

```
{
```

```
public:
```

```
void print() const
```

```
{
```

```
cout << "2";
```

```
}
```

```
};
```

```
class Multiple : public DerivedOne, DerivedTwo
```

```
{
```

```
public:
```

```
void print() const
```

```
{
```

```
DerivedTwo::print();
```

```
}
```

```
};
```

```
int main()
```

```
{  
    Multiple both;  
  
    DerivedOne one;  
  
    DerivedTwo two;  
  
    Base *array[ 3 ];  
  
    array[ 0 ] = &both;  
    array[ 1 ] = &one;  
    array[ 2 ] = &two;  
  
    for ( int i = 0; i < 3; i++ )  
        array[ i ] -> print( );  
  
    return 0;  
  
}
```

Answer

212

Status : Correct

Marks : 1/1

9. What is the output of this program?

```
#include <iostream>  
using namespace std;
```

```
class MyInterface {  
public:  
    virtual void Display() = 0;  
};
```

```
class Class1 : public MyInterface {
public:
    void Display() {
        int a = 5;
        cout << a;
    }
};
```

```
class Class2 : public MyInterface {
public:
    void Display() {
        cout << " 5" << endl;
    }
};
```

```
int main() {
    Class1 obj1;
    obj1.Display();
    Class2 obj2;
    obj2.Display();
    return 0;
}
```

Answer

55

Status : Correct

Marks : 1/1

10. Members which are not intended to be inherited are declared as :

Answer

Private members

Status : Correct

Marks : 1/1

11. What is the output of this program?


```
#include <typeinfo>
#include <iostream>
using namespace std;
```

```
class shape
```

```
{
```

```
public:
```

```
virtual void myvirtualfunc() const {}
```

```
};
```

```
class mytriangle: public shape
```

```
{
```

```
public:
```

```
virtual void myvirtualfunc() const
```

```
{
```

```
};
```

```
};
```

```
int main()
```

```
{
```

```
shape shape_instance;
```

```
shape &ref_shape = shape_instance;
```

```
try
```

```
{
```

```
mytriangle &ref_mytriangle = dynamic_cast<mytriangle&>(ref_shape);  
}
```

```
catch (bad_cast)  
{  
    cout << "Caught: bad_cast exception\n";  
}  
return 0;  
}
```

Answer

Caught: bad_cast exceptio

Status : Correct

Marks : 1/1

12. Which symbol is used to create multiple inheritances?

Answer

Comma

Status : Correct

Marks : 1/1

13. What will be the output of the following program?

```
#include <iostream>  
using namespace std;  
  
class BaseClass {  
public:  
    virtual void myFunction() {  
        cout << "1";  
    }  
}
```

```

    }
};

class DerivedClass1 : public BaseClass {
public:
    void myFunction() {
        cout << "2";
    }
};

class DerivedClass2 : public DerivedClass1 {
public:
    void myFunction() {
        cout << "3";
    }
};

```

```

int main() {
    BaseClass* p;
    BaseClass ob;
    DerivedClass1 derivedObject1;
    DerivedClass2 derivedObject2;

    p = &ob;
    p->myFunction();

    p = &derivedObject1;
    p->myFunction();

    p = &derivedObject2;
    p->myFunction();

    return 0;
}

```

Answer

123

Status : Correct

Marks : 1/1

14. If a derived class object is created, which constructor is called first?

Answer

Depends on how we call the object

Status : Wrong

Marks : 0/1

15. Which among the following is correct for multiple inheritances?

Answer

```
class student{public: int marks;};  
class stream{int total;};  
class topper:public student, public stream{ };
```

Status : Correct

Marks : 1/1

16. What is the output of this program?

```
#include <iostream>  
using namespace std;  
class student  
{  
public:  
int rno , m1 , m2 ;  
void get()  
{  
rno = 15, m1 = 10, m2 = 10;  
}  
};  
class sports  
{  
public:
```

```
int sm;
void getsm( )
{
    sm = 10;
}
};
class statement:public student,public sports
{
    int tot,avg;
public:
    void display( )
    {
        tot = (m1 + m2 + sm);
        avg = tot / 3;
        cout << tot;
        cout << avg;
    }
};
int main( )
{
    statement obj;
    obj.get( );
    obj.getsm( );
    obj.display( );
}
```

Answer

3010

Status : Correct

Marks : 1/1

17. What is the output of this program?

```
#include<iostream>
using namespace std;
class student{
public:
int rno,m1,m2;
protected:
void get(){
rno=15,m1=10,m2=10;
}
};
class sports{
public:
int sm;
void getsn(){
sm=10;
}
};
class statement:public student,public sports{
int tot,avg;
public:
void display(){
tot=(m1+m2+sm);
avg=tot/3;
cout<<tot;
cout<<avg;
}
};
int main(){
statement obj;
obj.get();
obj.getsn();
obj.display();
}
```

Answer

Error

Status : Correct

Marks : 1/1

18. What is the output of this program?

```
#include <iostream>
using namespace std;
struct a
{
    int count;
};
struct b
{
    int* value;
};
struct c : public a, public b
{
};
int main()
{
    c* p = new c;
    p->value = 0;
    cout << "Inherited";
    return 0;
}
```

Answer

Inherited

Status : Correct

Marks : 1/1

19. What is the output of this program?

```
#include <iostream>
using namespace std;
class polygon{
```

```
protected:  
int width, height;  
public:  
void set_values (int a, int b){  
    width = a; height = b;  
}  
};
```

```
class output1{  
public:  
void output (int i);  
};
```

```
void output1::output (int i){  
    cout << i << endl;  
}
```

```
class rectangle: public polygon, public output1{  
public:  
int area (){  
    return (width * height);  
}  
};
```

```
class triangle: public polygon, public output1{  
public:  
int area (){  
    return (width * height / 2);  
}  
};
```

```
int main (){  
    rectangle rect;  
    triangle trgl;  
    rect.set_values (4, 5);  
    trgl.set_values (4, 5);  
    rect.output (rect.area ());  
    trgl.output (trgl.area ());  
    return 0;
```


}

Answer

2010

Status : Correct

Marks : 1/1

20. Which of the following can the derived class inherit?

Answer

both 1 & 2

Status : Correct

Marks : 1/1