20

Identify the error in code (if any) and explain that error too?
(2/2 Points)

```
#include <iostream>
using namespace std;
class Count
{
private:
    int x;
public:
    Count() : x( 5 )
    { }

};
void ABCD(Count &c)
{ cout<<c.x; }
int main()
{
    Count counter;
    ABCD(counter);
}
```

2 Error in this code
overloaded function count operator for class
Can't access private mamber in main()

20

Identify the error in code (if any) and explain that error too?
(2/2 Points)

```
#include <iostream>
using namespace std;
class Count
{
private:
    int x;
public:
    Count() : x( 5 )
    { }

};
void ABCD(Count &c)
{ cout<<c.x; }
int main()
{
    Count counter;
    ABCD(counter);
}
```

19

Which constructor will call against each statement of main() function given below:

i. CC one;
ii. CC two(5, 6);
iii. CC three(3.5, 8);

(0/2 Points)

```
class CC
{
private:

    int u;
    double v;
public :

    CC(); //Line 1
    CC(int); //Line 2
    CC(int, int); //Line 3
    CC(double, int); //Line 4
};
```

constructor of line 2

20

15

Why we need to overload operators in user defined classes?
(0/2 Points)

Also, when overloading these operators, we must make sure that the functions must be a Non-Member function because left operand is not an object of the class. And it must be a friend function to access private data members. ... Similarly we can overload << operator in our class to print user-defined datatypes to screen.

16

What will be the output of the given code?
(2/2 Points)

```
#include <iostream>
using namespace std;
int one(int x)
    { return x * x; }
int one(double y)
    { return y * y; }
int main()
{
    cout << one(7)<<","; cout << one(7.8)<<endl;
}
```

16

What will be the output of the given code?
(2/2 Points)

```
#include <iostream>
using namespace std;
int one(int x)
    { return x * x; }
int one(double y)
    { return y * y; }
int main()
{
    cout << one(7)<<","; cout << one(7.8)<<endl;
}
```

49,60

17

Why we pass argument by reference to operators?
(0/2 Points)

pass by argument by referance in the calling function of formal perameter is called the function.

18

What is the difference between a class and an object?
(2/2 Points)

Class
A class is a blueprint from which you can create the instance, i.e., objects.
A class doesn't take any memory spaces when a programmer creates one.
The class has to be declared only once.
Object
An object is the instance of the class, which helps programmers to use variables and methods from inside the class.
An object takes memory when a programmer creates one.
Objects can be declared several times depending on the requirement.

19

Which constructor will call against each statement of main() function given below:

i. CC one;

14

Find the syntax errors in the definition of the following class.

(2/2 Points)

```
class AA
{
    public:
    void print()const;
    int sum();
    AA();
    int AA(int, int);
    private:
    int x;
    int y;
};
```

Constructor dos't return a value

15

Why we need to overload operators in user defined classes?
(0/2 Points)

12

Differentiate between assignment operator and copy constructor with examples?
(2/2 Points)

While the copy constructor is used to set up a new version of an object that's a duplicate of another object, the assignment operator is used to overwrite the value of an already-created object with the contents of another class instance

13

Why don't we initialize the static data member in the constructor of the class?
(2/2 Points)

it created befor the cration of object and constructor called when object is created

14

11

Why we need static data member of a class?
(2/2 Points)

When we declare a normal variable (data member) in a class, different copies of those data members create with the associated objects. In some cases when we need a common data member that should be same for all objects, we cannot do this using normal data members. To fulfill such cases, we need static data members

12

Differentiate between assignment operator and copy constructor with examples?
(2/2 Points)

While the copy constructor is used to set up a new version of an object that's a duplicate of another object, the assignment operator is used to overwrite the value of an already-created object with

10

Write the declaration of a class "MyClass" that contains one character pointer as data member, parameterized and copy constructors.
Only declaration is required, not implementation.
(2/2 Points)

```
class MyClass
{
char*ptr;
public:
MyClass();
MyClass(char*ptr);
MyClass(const MyClass&obj);
```

11

Why we need static data member of a class?
(2/2 Points)

When we declare a normal variable (data member) in a class, different copies of

9

A class code is given below:

```
class ABC{
int * abc_ptr;
public:
};
```

Will we use deep copy or shallow copy for above given class? Give reason for your choice?

(-/2 Points)

Enter your answer

10

Write the declaration of a class "MyClass" that contains one character pointer as data member, parameterized and copy constructors.

Only declaration is required, not implementation.

(2/2 Points)

class MyClass

copy constructor and assignment operator for each class. If the operators are not sufficient, then we have to create our own assignment operator.

7

Why is it important to return an object from assignment (=) operator? Can it be non-value-returning (void) type?
(-/2 Points)

Enter your answer

8

Identify errors in the given code, if any. If no error is present then write the output.
(2/2 Points)

```
#include <iostream>
using namespace std;
class dummy
{
    int x;  int y;
```

8

Identify errors in the given code, if any. If no error is present then write the output.
(2/2 Points)

```
#include <iostream>
using namespace std;
class dummy
{
    int x;  int y;
public:
    dummy(int x_u = 0, int y_u = 0) :x(x_u), y(y_u)
    {   }
    void dummyTest() const
    {
        int i = 0;
        i = x;
        cout << x;
    }
};
int main()
{
    dummy obj;
    obj.dummyTest();
}
```

0

9

A class code is given below:
class ABC{
int * abc_ptr;

6

When and why we need our own assignment (=) operator in class? Please explain.
(1/2 Points)

Here we will see when we need to create own assignment operator in C++. If a class do not have any pointers, then we do not need to create assignment operator and copy constructor. C++ compiler creates copy constructor and assignment operator for each class. If the operators are not sufficient, then we have to create our own assignment operator.

7

Why is it important to return an object from assignment (=) operator? Can it be non-value-returning (void) type?
(-/2 Points)

Enter your answer

5

Write copy constructor for class A?

```
class A
{
  int x ;
  char y;
}
```

(2/2 Points)

```
A(const A&obj)
{
this->x=obj.x;
deepCopy(this->y,obj.y);
}
```

6

When and why we need our own assignment (=) operator in class? Please explain.

(1/2 Points)

Here we will see when we need to create own assignment operator in C++. If a class do not have any pointers, then we do not need to create assignment operator and

4

Create a class "TEST" having two non-constant integer variables and a constant float variable. Write default and parameterized constructor for the class.

Full implementation is required.
(0.5/2 Points)

```
#include <iostream>
using namespace std;
class TEST
{
	int variables;
	const float variable;
public:
	TEST(int variables,float variable);
};
```

5

Write copy constructor for class A?

```
class A
{
  int x ;
  char y;
```

24

A constant member function can be called by _____ objects.
(0/1 Point)

- static
- inline
- non-constant ✗
- constant ✓

25

What is the use of " :: " in classes:
(1/1 Point)

- to access class's member
- to identify member function ✓
- all of the given options

3

There is an error in the code. Explain the error.
(2/2 Points)

```
#include <iostream>
using namespace std;
class dummy
{
    int x;  int y; static int count;
public:
    dummy(int x_u = 0, int y_u = 0) :x(x_u), y(y_u)
    {   }
    void dummyTest() const
    {
        int i = 0;
        i = x;
        cout << x;
    }
    static int getCount()
    {
        count = x;
        return count
    }
};
int main()
{
    dummy obj;
    obj.dummyTest();
}
```

Non static member can't assign value to static member

4

Create a class "TEST" having two non-constant integer variables and a

23

Which is the correct statement about operator overloading?
(1/1 Point)

- [x] None of the given options ✓
- [ ] Only arithmetic operators can be overloaded
- [ ] Only non-arithmetic operators can be overloaded
- [ ] Only binary operators can be overloaded

24

A constant member function can be called by _____ objects.
(0/1 Point)

- [ ] static
- [ ] inline

1

What is the "this" pointer?
(0/2 Points)

The this pointer is a pointer accessible only within the nonstatic member functions of a class , struct , or union type. It points to the object for which the member function is called. Static member functions don't have a this pointer.

2

Why we need classes? Please explain.
(2/2 Points)

The class is a blueprint that defines a nature of a future object. An instance is a specific object created from a particular class. Classes are used to create and manage new objects and support inheritance—a key ingredient in object-oriented programming and a mechanism of reusing code

22

Is there anything wrong with the constructor in following code snippet?

```
 #include <iostream>
using namespace std;
class Employee {
int age;
char * name;
public:
int Employee() {
   return age;
}
};
```

(1/1 Point)

- [x] Constructor does not return a value.
- [ ] There is nothing wrong.
- [ ] The constructor must be defined outside class template.
- [ ] There is no constructor.

21

Which of the following describes a constructor?
(1/1 Point)

- A special function that is called to assign values to member of object
- All of the given
- A special function that is called explicitly
- A special function that is called tc initialize values to member of object ✓

22

Is there anything wrong with the constructor in following code snippet?

```
 #include <iostream>
using namespace std;
class Employee {
int age;
```

20

Which among the following is incorrect?
(0/1 Point)

- int a;
- bool a;
- Static int a; ✗
- abstract a; ✓

21

Which of the following describes a constructor?
(1/1 Point)

- A special function that is called to assign values to member of object
- All of the given
- A special function that is called

19

While using an object as a function argument, a copy of the entire object is passed to the function in _____ method.
(1/1 Point)

- [x] pass-by-value
- [ ] pass-by-reference
- [ ] pass-by-function
- [ ] pass-by-variable

20

Which among the following is incorrect?
(0/1 Point)

- [ ] int a;

15

What will be the output of the following?
(1/1 Point)

```
#include <iostream>
using namespace std;
class Fraction {
private:
    int num;
    int den;
    Fraction(int num = 0, int den = 1)
    { cout << "Constructor called"; }
};

int main()
{
    Fraction t1;
    return 0;
}
```

- (●) Error ✓
- ( ) Constructor

16

Which one of the following is the correct declaration of a copy constructor for class Fraction?

16

Which one of the following is the correct declaration of a copy constructor for class Fraction?

Remember, It should not have any logical errors.
(1/1 Point)

- Fraction(Fraction obj);
- Copy(Fraction & obj);
- Fraction(Fraction &obj);
- none of the given options ✓

17

Why we need a static member of a class?
(0/1 Point)

- to count number of objects ✗

17

Why we need a static member of a class?
(0/1 Point)

- (●) to count number of objects ✗
- ( ) to provide global access
- ( ) to share resources between objects
- ( ) All of the given options ✓

18

C++ allows constructor overloading in OOP just like function overloading.
(1/1 Point)

- ( ) allowed only in C++17 and above versions.
- (●) TRUE ✓
- ( ) FALSE

13

Binary operators required _____ operands to perform operation.
(1/1 Point)

- 1
- 3
- 2 ✓
- any number of operands is acceptable

14

When it is compulsory to write default constructor in class ?
(0/1 Point)

- If any of them (parameterized or copy) is written ✓
- when we have written a copy constructor

9

What will be the output of the following?
(1/1 Point)

```
#include <iostream>
using namespace std;
class Fraction {
private:
    int num;
    int den;
public:
    Fraction(int num = 0, int den = 1)
    { cout << "Constructor called"; }
    void display()
    {
        cout << num << "/" << den << endl;
    }
};

int main()
{
    const Fraction t1;
    t1.display();
    return 0;
}
```

- Constructor called 1/1
- 1/1
- Error ✓

2

When should we write our own copy constructor for the class?
(1/1 Point)

- None of the above
- When none of the data member is a pointer
- When at least one of the data member is a pointer ✓

3

If the value of static data member is changed by an object, does that change happens for all the objects?
(1/1 Point)

- Yes ✓
- No
- static data member's value cannot be changed once set

4

Static data member of the class should be initialized using member initializer list with constructors.
(1/1 Point)

- [x] False
- [ ] True

5

Which constructor is called while initializing some object with another?
(1/1 Point)

- [ ] Parameterized
- [ ] Direct Assignment is used
- [x] Copy
- [ ] Default

S21_OOP_Mid_Part 1_MCQs

...

Points: 20/25

1

By default, all members of a class are _____ in C++.
(1/1 Point)

- None of the given options
- Public
- Protected
- Private ✓

2

6

How constructors are different from other member functions of the class?
(1/1 Point)

- Constructors are automatically callec when an object is created
- All of the mentioned ✓
- Constructor has the same name as the class itself
- Constructors do not return anything

7

Difference between shallow and deep copy is:
(1/1 Point)

- Shallow copy does not work well with pointer member variables ✓
- There is no difference between shallow and deep copy

10

A _____ member function can only be called by another function that is member of its class.
(1/1 Point)

- static
- private ✓
- public
- constant

11

Can we make more than one constructor in a class ?
(1/1 Point)

- IFF we made them with different names
- Yes

11

Can we make more than one constructor in a class ?
(1/1 Point)

- IFF we made them with different names
- Yes
- IFF they have different parameter ✓
- No

12

Which of the following operator is present in the class by default?
(0/1 Point)

- Assignment Operator ✓
- Operator +
- Operator >>

8

In classes, providing public set and get functions, allows objects of a class to access the _____ data members.
(1/1 Point)

- (●) all of the given options ✓
- ( ) private
- ( ) protected
- ( ) public

9

What will be the output of the following?
(1/1 Point)

```
#include <iostream>
using namespace std;
class Fraction {
private:
    int num;
```