Object Oriented programming in C++:

Object Oriented programming is a programming style which is associated with the concepts like class, object, Inheritance, Encapsulation, Abstraction, Polymorphism.

Class: A class is a collection of method and variables.

We can define a class using the class keyword and the class body enclosed by a pair of curly braces, as shown in the following example:

```
public class A
{
}
```

Inheritance: Inheritance feature allows code reusability when a class includes property of another class. In C++ ":" is used to represent inheritance, as shown in the following example:

```
public class Papa {

}

class Child : public Papa {

}
```

Objects: Object is a component of a program that knows how to perform certain actions and how to interact with other elements of the program, as shown in the following example:

```
Rectangle Rect;
```

Here, Rectangle is a class, Rect is an object of class Rectangle.

Abstraction: Abstraction can be achieved using abstract classes in C++. Abstract classes contain abstract methods, which are implemented by the derived class.

Encapsulation: Encapsulation means bundling of data and methods within one unit, e.g., a class in C++. Encapsulation enables a programmer to implement the desired level of abstraction.

Polymorphism: Polymorphism means overloading and overriding, as shown in the following example:

Polymorphism overloading example:

```
 public class OverLoading
 {
   void sum(int a, int b)
   {
     cout <<a + b;
   }
   void sum(int a, int b, int c)
```

```
  {
    cout <<a + b + c ;
  }
}
```

Polymorphism overriding example:

```
public class Parent
{
  void Show()
  {
    cout <<“Welcome”;
  }
}

public class Child : Parent
{
  void Show()
  {
    cout <<“Swagatam”;
  }
}
```

MCQs on OOPs in C++

Q1. Which of the following type of class allows only one object of it to be created?

A. Virtual class

B. Abstract class

C. Singleton class

Q2. Which of the following is not a type of constructor?

A. Copy constructor

B. Friend constructor

C. Default constructor

Q3. Which of the following is not the member of class?

A. Static function

B. Friend function

C. Const function

Q4. Which of the following concepts means determining at runtime what method to invoke?

A. Data hiding

B. Dynamic Typing

C. Dynamic binding

MCQs Answers

Q1. (c)

Q2. (b)

Q3. (b)

Q4. (c)

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