Ques 5 explain the concept of OOPS?

Ans. The basic concept of OOPS are

(1) object (2) class

(III) Inheritence (4) Polymorphism

(5) encapsulation (6) Data abstraction

(7) Dynamic binding.

object:- These are the basic run time entities in an object oriented system. They are represent a person, a place, a bank account or any item that the program has to handle. They may also represent user defined data such as vectors, time and lists. When a program is executed, the object interact by sending message to one another.

```
class sample
{
    int a, b;
public:
void get (int x, int y);
void display();
};
```

sample is object

class:→ The entire set of data and code on an object can be made a user defined data type with the help of a class. Each object is associated with the data of type class with which they are created. A class is thus a collection of object of similar type.

A class is user defined data type which holds both the data and function. The internal data of class is called member data and function are called member function.

3) Data abstraction:→ Abstraction refers to the act of representing essential features without including the background details or explanation. classes use the concept of abstraction and are defined as a list of abstraction attribute such as size, rost and weight and the function to operate on these attribute.

The hiding of an internal details of data is called data abstraction. Since the class with the concept of abstraction is called abstract data types.

(4) encapsulation:→ It is the most fundamental features of object oriented programming. The inner part of program are realor encapsulated to protect from accidental tempering. This feature is not available in procedure oriented programming whose data can be tempted since it is easily accessible.

(5) Dynamic Binding:→ It refers to the linking of a procedure called to the code to be executed in response to the the call. Dynamic binding means that the code associated with a given procedure call is not known until the time of call is at run time. His associated with polymorphism and inheritence as run time the code matching the object under current reference will be called.

6) Polymorphism :→

Polymorphism is another object oriented programming concept. In Greek means the ability to take more than one form. The behaviour depends on type of data use in operation.

exemple :→ consider the operation of addition for two number, the operation will generate a sum. Polymorphism plays an important role in allowing object having different role in allowing object having different internel structures to share the same external interface.

Polymorphism is extensively used in implementing inheritence.

<< insertion / Put to operator
>> abstraction / get from operator

cout << " " ; printf
cin >> " " ; scanf

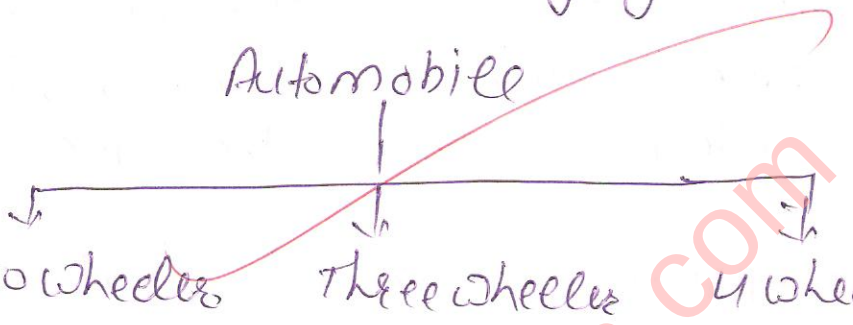
7) Inheritence :→

Inheritence is the process by which object of one class acquire the properties of object of another class. It supports the concept of hierarchical classification.

exemple :- The bird 'robin' is a part of class 'flying bird' which is again a part of class 'bird'.

- the principle behind this sort of division is that each derived class shares common features or characteristics with class from which it derived.

- In object oriented programming, the concept of inheritence provide the idea of reusability. This means that we can add additional features to the existing class without modifying it.



Explain with diagram

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