Question 1:

Define Object Oriented Programming Language?

Answer) Object-oriented programming (OOP) is a programming language model in which programs are organized around data, or [objects](https://searchmicroservices.techtarget.com/definition/object), rather than functions and logic. An object can be defined as a data field that has unique attributes and behavior. Examples of an object can range from physical entities, such as a human being that is described by properties like name and address, down to small computer programs, such as [widgets](https://whatis.techtarget.com/definition/widget). This opposes the historical approach to programming where emphasis was placed on how the logic was written rather than how to define the data within the logic.

Question 2:

List down the Benefits of OOP?

Answer) Some of the advantages of object-oriented programming include:

1. Improved software-development productivity: Object-oriented programming is modular, as it provides separation of duties in object-based program development. It is also extensible, as objects can be extended to include new attributes and behaviors. Objects can also be reused within an across applications
2. Faster development: Reuse enables faster development. Object-oriented programming languages come with rich libraries of objects, and code developed during projects is also reusable in future projects.
3. Lower cost of development: The reuse of software also lowers the cost of development. Typically, more effort is put into the object-oriented analysis and design, which lowers the overall cost of development.

Question 3:

Differentiate between function and method?

Answer) Python function is a sequence of statements that execute in a certain order, given a name. They let us implement code reusability. When we talked about Python Functions, we talked about built-in and user-defined functions.

Python method is like a function, except it is attached to an**object**. We call a method on an object, and it possibly makes changes to that object. A method, then, belongs to a **class**

Question 4:

Define the following terms:

1. Class

A class is a blueprint for objects- one class for any number of objects of that type. You can also call it an abstract data type. Interestingly, it contains no values itself, but it is like a prototype for objects. To define a class in python programming, we use the ‘class’ keyword. This is like we use ‘def’ to define a **function in python.**

1. Object

Object is simply a collection of data (variables) and methods (functions) that act on those data. And, class is a blueprint for the object.

1. Attribute

An attribute is defined as a quality or characteristic of a person, place, or thing. Real life individuals and fictional characters possess various attributes. An Attribute in Python is a name belonging to an object - a method or a variable.

4. Behavior

With Behavior, we are writing a specification for the piece of code we are about to write. It is much clearer with Behavior driven development that the specification is written before the code.