Here's a breakdown of the key concepts and answers for your assignment content based on object-oriented programming (OOP):

Question 1

- **Statement**: Abstract classes are classes that cannot be instantiated and serve as a base for derived classes.
- **Answer**: **True**.
  Abstract classes are designed to provide a blueprint for subclasses. You cannot create an object directly from an abstract class.

Question 2

- **Question**: Which of the following is a block of code that performs a specific task and can be called by an object or class?
  - **A)** Statement
  - **B)** Function
  - **C)** Method
  - **D)** Variable
- **Answer**: **C) Method**.
  A **method** is a block of code that performs a specific task and is associated with an object or class in object-oriented programming.

Question 3

- **Statement**: A constructor is a special method used for initializing objects, typically used to set initial values for object attributes.
- **Answer**: **True**.
  Constructors are special methods automatically invoked when an object is created, used for setting up initial values.

Question 4

- **Statement**: The superclass is the parent class from which sub-classes inherit properties and methods.
- **Answer**: **True**.
  The superclass is also referred to as the **parent class**. It passes down properties and behaviors (methods) to subclasses.

Question 5

- **Question**: What is the purpose of encapsulation in object-oriented programming?
  - **A)** To define the structure and behavior of an object
  - **B)** To establish relationships between objects
  - **C)** To define the inheritance hierarchy of classes
  - **D)** To hide the internal implementation details of an object and provide a public interface to interact with it
- **Answer**: **D) To hide the internal implementation details of an object and provide a public interface to interact with it**.
  Encapsulation is about restricting direct access to some of an object's components and only allowing controlled access via public methods.

Question 6

- **Statement**: In polymorphism, different objects can be treated as instances of the same class, allowing for code reusability and flexibility.
- **Answer**: **True**.
  Polymorphism enables objects of different classes to be treated as instances of the same superclass, promoting flexibility and reusability.

Question 7

- Statement: The interface defines a contract that classes can implement, ensuring common behavior across different classes.
- Answer: True.
  An interface specifies a set of methods that a class must implement, providing a standardized way for different classes to interact.

Question 8

- Statement: A method is a block of code that performs a specific task and can be called by an object or class.
- Answer: True.
  Methods are used to define the behaviors of objects and can be invoked by instances of classes (objects) or directly via the class itself.

Feel free to go over these points before your quiz, and you'll be all set! Let me know if you need more details on any of these topics.