**Object oriented programming with JAVA**

**Questions bank**

**UNIT-6 Inheritance**

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| **SR No.** | **Question** |
| 1 | Explain the concept of inheritance in object-oriented programming. What are the benefits of using inheritance? |
| 2 | Differentiate between a superclass and a subclass in inheritance. Provide an example to illustrate this difference. |
| 3 | Differentiate between public, private, protected, and default access modifiers in Java. How does Encapsulation relate to member access rules? |
| 4 | List and briefly explain the different forms of inheritance in object-oriented programming. |
| 5 | What are abstract classes? How are they different from concrete classes, and when might you use them in your code? |
| 6 | Discuss the purpose and usage of the super keyword in inheritance. Give examples of how it can be used to access parent class members and constructors. |
| 7 | Explain the concept of method overriding in inheritance. How does it contribute to polymorphism? |
| 8 | Discuss the use of the final keyword with inheritance. How can it be applied to methods and classes to restrict their behavior? |
| 9 | Explain the concept of dynamic method dispatch in inheritance. How does it differ from static binding? |
| 10 | Describe a situation where you might choose to use a combination of inheritance and composition (has-a relationship) to model real-world entities. Provide an example with class structures. |
| 11 | Discuss the limitations of single inheritance and how multiple inheritance can be achieved in Java. |
| 12 | Explain how dynamic method dispatch enables polymorphism in Java programs. |
| 13 | Provide an example of when to use an abstract class instead of an interface. |
| 14 | Define an abstract class in Java and explain its purpose. |
| 15 | Consider a scenario where you have classes representing animals (base class) and specific animal types like Dog and Cat (derived classes). Design these classes using inheritance principles and illustrate how method overriding can be used to define animal sounds. |