Duration: 2 hours   Marks: 30

Q1) Answer **any five** questions from the following   (5*2=10)

1. Differentiate between Procedure Oriented Programming and Object Oriented Programming

2. What are access modifiers? State and explain the three types of access modifiers.

3. State and explain in brief different Types of Java Tokens.

4. Define Constructors. Explain the types of Constructors.

5. How is multiple inheritance different from hierarchical inheritance?

6. Differentiate between a class and an interface.

7. State and explain any two types of errors in Java.

8. Explain the two types of exceptions in Java.

Q 2) Answer **any four** questions from the following   (4*5=20)

1. State and explain the basic Principles of Object Oriented Programming.   (5)

2. State different types of UML diagrams and explain each one in brief.   (5)

3. Write a Java program to calculate area of square, rectangle and circle. Implement polymorphism. (5)

4. Write a Java program that has a super class "Animal" with "dispAnimal" method. Create a sub-class "dog" with "dispDog" method. Class dog further has two sub-classes class "Labrador" and class "GermanShepard" with "dispLab" and "dispGerm" methods respectively. All the display methods should print the names of their respective classes. In the main method create an object of class Labrador. Using this object, invoke the display methods and print all the relevant class names.   (5)

5. Write a Java program to show exception handling of any three commonly used exceptions.   (5)

6. Draw a class diagram for an ATM system to show the following details.   (5)

Class	Attributes	Methods	Relationships
Bank	Bank Code, Bank Name, Branch Name, Branch Address	manages, maintains	
Customer	Customer Name, Customer Address, DOB, Ph.No.	verify password	A customer has an account
Account	Account Number, Balance	deposite, withdraw	Bank has one or more accounts
ATM	Location, ManagedBy	identifies, transactions	A Bank has one or more ATMs
Current Account	Account Number, Balance	deposit, withdraw	Subclass of class account
Savings Account	Account Number, Balance	-	Subclass of class account