SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)
Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai
Accredited by NAAC-UGC with 'A++' Grade (Cycle III) &
Accredited by NBA (B.E - CSE, EEE, ECE, Mech&B.Tech.IT)
COIMBATORE-641 035, TAMIL NADU

UNIT 1: INTRODUCTION TO OOP

Sixteen Marks

1. Explain in detail the concepts of OOP with examples.

2. Discuss the features of Java that make it an OOP language.

3. Explain inheritance in Java with suitable examples.

4. Explain polymorphism in Java with real-world examples.

5. Describe encapsulation and abstraction with examples in Java.

6. Explain the JVM architecture and its components.

7. Discuss method overloading and method overriding with examples.

8. Explain the different types of constructors in Java with examples.

9. Discuss the role and significance of interfaces in Java.

10. Explain the concept of packages in Java with examples.

UNIT 2: INTRODUCTION TO JAVA

Sixteen Marks

1. Explain in detail the data types in Java with examples.

2. Discuss the control structures in Java with examples.

3. Explain in detail the looping structures in Java with examples.

4. Describe Java methods, their types, and usage with examples.

5. Explain method overloading in detail with examples.

6. Discuss arrays in Java, including declaration, initialization, and usage.

7. Explain the significance of the `Math` class and its methods.

8. Discuss operator precedence in Java with examples.

9. Explain in detail the different types of constructors in Java.

10. Discuss the `String` class in Java and its significance with examples.

UNIT 3: OBJECTS AND CLASS

Sixteen Marks

1. Explain the basics of objects and classes in Java with examples.

2. Discuss constructors in Java, their types, and usage with examples.

3. Explain inheritance in Java with examples.

4. Describe method overriding and its significance in Java.

5. Discuss the role of visibility modifiers in Java.

6. Explain abstract classes and interfaces in Java with examples.

7. Discuss the concept of inner classes in Java with examples.

8. Explain the `final` keyword and its usage in Java.

9. Discuss the significance of the `super` and `this` keywords in Java.

10. Explain object cloning and its implementation in Java.

UNIT 4: INHERITANCE AND POLYMORPHISM

Sixteen Marks

1. Explain inheritance in Java with examples.

2. Discuss polymorphism and its types with examples.

3. Explain method overriding in Java with examples.

4. Describe the significance of constructors in inheritance.

5. Discuss abstract classes and interfaces in Java with examples.

6. Explain dynamic method dispatch in Java with examples.

7. Discuss the concept of method hiding and its significance.

8. Explain the role of `super` and `this` keywords in inheritance.

9. Discuss the differences between static and dynamic binding.

10. Explain the concept of multiple inheritance and how Java handles it.

UNIT 5: MULTITHREADING IN JAVA

Sixteen Marks

1. Explain the life cycle of a thread in Java with examples.

2. Discuss thread synchronization and its importance in Java with examples.

3. Explain thread creation and management in Java with examples.

4. Describe inter-thread communication in Java with examples.

5. Explain the significance of the `synchronized` keyword in Java.

6. Discuss exception handling in Java with examples.

7. Explain the use of thread pools in Java.

8. Discuss deadlock and its prevention in multithreading with examples.

9. Explain the role of thread priority and its impact on execution.

10. Discuss the concept of thread interruption and its handling in Java