

Java Important Questions

Basic and Conceptual Questions

- What are the features of Java?
- Explain the structure of a Java program and its execution process
- What is JVM, JDK, and JRE? Distinguish between them
- Define data types in Java. List all primitive data types
- How do you declare variables in Java? Types and scope
- What is an operator? List and explain Java operators
- Define class and object. How are members declared and accessed?
- What are constructors? Explain types and uses

Interview and Frequently Asked Questions

- Why is Java platform-independent?
- Why is Java not a pure object-oriented language?
- What is meant by encapsulation, inheritance, polymorphism, and abstraction in Java?
- What is the difference between method overloading and overriding?
- Explain static keyword—variables, methods, and classes
- Can static methods be overridden?
- What is the use of the final keyword—class, method, variable
- What are Wrapper classes and Scanner class in Java?

Long and University Exam Questions

- Explain Java architecture with necessary diagram (16 Marks)
- Write a Java program to create an Employee class with private fields and public getters/setters (16 Marks)
- Discuss vehicle class hierarchy (Vehicle, Truck, Car, Motorcycle), properties, efficiency calculations (16 Marks)

- Explain life cycle and states of a Java thread with diagram (16 Marks)
- Write and explain Java programs using inheritance, interfaces, abstract classes, packages, and exception handling
- What is an applet? List applet life cycle methods
- Discuss event handling in Java; role and components of AWT
- Describe JDBC and database handling in Java

Coding and Scenario-Based Questions

- Program to toggle the characters of a string
- Count the occurrence of digits in a number
- Print reverse of an array; anagram check; first/last occurrence in array
- Write code to implement file streams and handle exceptions

Advanced Topics and MCQs (Multiple Choice Questions)

- Difference between String, StringBuilder, StringBuffer
- Differences between checked, unchecked, and user-defined exceptions
- Explain types of inheritance; advantages
- What are lambda expressions and functional interfaces?
- Describe autoboxing, unboxing, shallow, and deep copy
- What is synchronization? Role of synchronized keyword and thread pools
- Significance and role of ClassLoader in Java

Real-World and Application-Oriented Questions

- Explain database connectivity via JDBC, SQL queries, and persistence
- Overview and demonstration of web programming with applets

- Describe file handling, error catching, and event-driven GUI programming