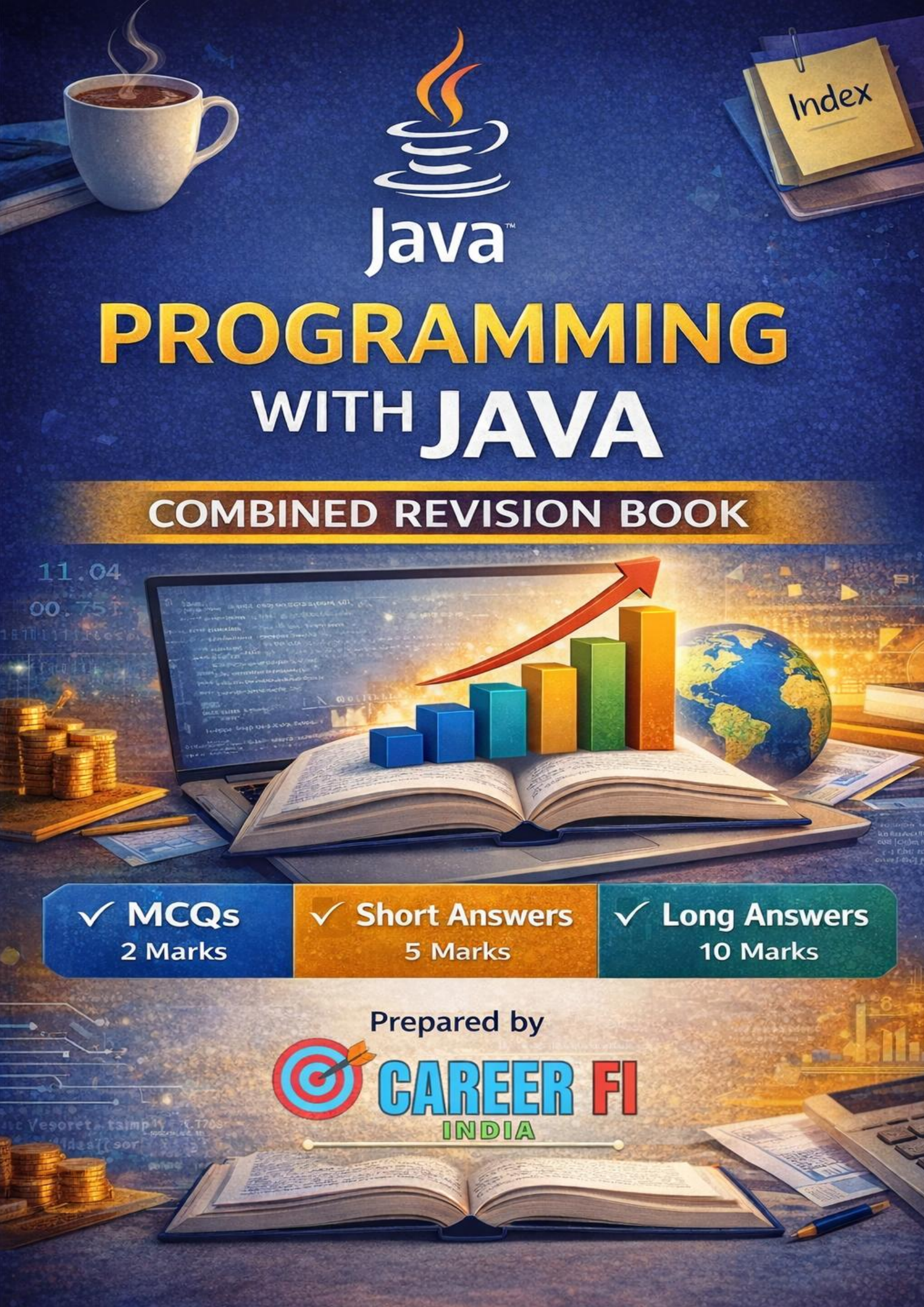
Index
Java™
PROGRAMMING
WITH JAVA
COMBINED REVISION BOOK
✓ MCQs
2 Marks
✓ Short Answers
5 Marks
✓ Long Answers
10 Marks
Prepared by
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Programming with Java Question Bank PDF – Diploma, B.Tech & University Exam Guide

📘 **PROGRAMMING WITH JAVA**
COMBINED REVISION BOOK (FULLY EXPLAINED)
MCQs + 2 Marks + 5 Marks + 10 Marks
Prepared by Career FI India

🟦 SECTION A: MULTIPLE CHOICE QUESTIONS

(1 MARK EACH)

Q.No	Question	Option (A)	Option (B)	Option (C)	Option (D)	Correct
1	Java is a _____ language	Procedural	Object-Oriented	Machine	Assembly	**B**
2	JVM stands for	Java Virtual Method	Java Visual Model	Java Virtual Machine	Java Variable Memory	**C**
3	Which keyword is used for inheritance?	implements	extends	inherit	super	**B**
4	Which data type stores decimal values?	int	char	float	boolean	**C**
5	Object is created using	class	new	this	static	**B**
6	Method overloading supports	Runtime polymorphism	Compile-time polymorphism	Encapsulation	Abstraction	**B**
7	Parent class of all Java classes	Class	String	Object	Main	**C**
8	Unchecked exception is	IOException	SQLException	ArithmeticException	ClassNotFoundException	**C**

Q.No	Question	Option (A)	Option (B)	Option (C)	Option (D)	Correct
9	Scanner class belongs to	java.io	java.util	java.lang	java.awt	**B**
10	Garbage collection is handled by	OS	Compiler	JVM	Programmer	**C**

🟦 SECTION B: VERY SHORT ANSWERS

(2 MARKS EACH – DEFINITIONS)

✨ **Tip:** Write 3–4 crisp lines. Do NOT write examples unless asked.

Q.No	Question	Answer (2 Marks – Bookish & Clear)
1	What is Java?	Java is a high-level, object-oriented, platform-independent programming language developed by Sun Microsystems. It follows the principle of “Write Once, Run Anywhere”.
2	What is JVM?	JVM (Java Virtual Machine) is an abstract machine that executes Java bytecode and enables platform independence by converting bytecode into machine-specific instructions.
3	Define Object-Oriented Programming	Object-Oriented Programming is a programming approach that organizes programs using objects and classes, focusing on reusability, security, and modularity.
4	What is inheritance?	Inheritance is an OOP concept in which a child class acquires properties and methods of a parent class using the extends keyword.
5	What is polymorphism?	Polymorphism means “many forms”. It allows the same method name to perform different functions based on parameters or objects.
6	Define constructor	A constructor is a special method used to initialize objects. It has the same name as the class and is called automatically.
7	What is abstraction?	Abstraction hides internal implementation details and displays only essential information to the user.
8	What is encapsulation?	Encapsulation is the process of binding data and methods together into a single unit called a class.
9	What is an interface?	An interface is a collection of abstract methods that supports multiple inheritance and achieves full abstraction in Java.
10	What is an exception?	An exception is an abnormal event that interrupts the normal execution flow of a program.

🟦 SECTION C: SHORT ANSWER QUESTIONS
(5 MARKS EACH – PARAGRAPH FORMAT)

✨ **Tip:** One strong paragraph with definition + explanation + importance.

1. Features of Java

Java has several important features that make it a popular programming language. It is platform independent, meaning Java programs can run on any operating system using the JVM. Java follows object-oriented principles, which improve code reusability and maintainability. It is secure, robust, and supports multithreading, allowing efficient execution of multiple tasks. These features make Java suitable for enterprise and web applications.

2. Constructor Overloading

Constructor overloading allows a class to have more than one constructor with different parameter lists. It provides flexibility in object creation by allowing different ways of initializing objects. Constructor overloading improves readability and usability of programs and supports compile-time polymorphism.

3. Types of Variables in Java

Java supports three types of variables: local, instance, and static variables. Local variables are declared inside methods and have limited scope. Instance variables belong to an object and are created when an object is instantiated. Static variables are shared among all objects of a class. Each type has a different scope and lifetime.

4. Inheritance in Java

Inheritance allows a new class to acquire properties of an existing class. It promotes code reusability and hierarchical classification. In Java, inheritance is achieved using the extends keyword. It helps reduce redundancy and improves program structure.

5. Method Overloading

Method overloading allows multiple methods with the same name but different parameter lists. It supports compile-time polymorphism and improves code clarity by using the same method name for related actions.

6. Exception Handling

Exception handling is a mechanism to handle runtime errors and maintain normal program flow. Java uses try, catch, and finally blocks to detect and handle exceptions. Proper exception handling improves program reliability.

7. Packages in Java

Packages are used to group related classes and interfaces. They help organize large programs, avoid naming conflicts, and provide access protection. Java provides built-in and user-defined packages.

8. Multithreading

Multithreading allows multiple threads to execute simultaneously within a program. It improves CPU utilization and program performance. Java provides built-in support for thread creation and synchronization.

🟦 SECTION D: LONG ANSWER QUESTIONS
(10 MARKS EACH – DETAILED & STRUCTURED)

✨ **Tip:** Write with headings + explanation + conclusion.

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1. Object-Oriented Programming Concepts in Java

Java is based on object-oriented programming principles. The main OOP concepts are abstraction, encapsulation, inheritance, and polymorphism. Abstraction hides complexity, encapsulation protects data, inheritance promotes reusability, and polymorphism provides flexibility. These concepts help develop secure, modular, and scalable software applications.

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2. Structure of a Java Program

A Java program consists of package declaration, import statements, class definition, variables, methods, and the main method. Program execution begins from the main() method. This structured approach improves readability and maintainability.

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3. Types of Inheritance in Java

Java supports single, multilevel, and hierarchical inheritance. Multiple inheritance is not supported directly but is achieved using interfaces. Inheritance helps in organizing code efficiently and improving reuse.

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4. Exception Handling Mechanism

Java handles exceptions using try, catch, finally, throw, and throws keywords. The try block contains risky code, the catch block handles exceptions, and the finally block executes compulsory code. This mechanism prevents abrupt program termination.

---

5. Multithreading Life Cycle

The thread life cycle consists of new, runnable, running, blocked, and terminated states. Threads improve application performance by executing tasks concurrently.

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6. AWT vs Swing

AWT provides heavyweight GUI components dependent on the operating system, whereas Swing provides lightweight components with better look and feel. Swing is built on MVC architecture.

---

7. Applet Life Cycle

The applet life cycle includes init(), start(), paint(), stop(), and destroy() methods. These methods control the execution of applets in a browser environment.

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8. Garbage Collection

Garbage collection is an automatic memory management process that removes unused objects from memory. It improves memory efficiency and prevents memory leaks.