Unit-I

Java Fundamentals: Introduction to Java. Difference between C++ and Java. Keywords, Tokens, Data types. Use of public, private and protected.
OOPS using Java: Use of class and method in Java. Inheritance, Abstraction, Polymorphism, Encapsulation and data privacy. Difference between method overloading and method overriding.
Exception Handing: Introduction to Exceptions. Difference between error and exception. Use of try, catch and throw. Difference between throw and throws. Types of Exceptions, Exception handling in Java.

Unit-II

Collection Framework: Use of Collections in Java. ArrayList, LinkedList, HashMap, TreeMap, HashSet in Java.. Multithreading in Java. Thread Synchronization. Thread Priority, Thread LifeCycle. Wrapper Classes, I/O Streams and Annotations: Use of wrapper classes in Java- Integer, Character, Long, Boolean. Autoboxing and Unboxing. Byte stream, Character stream, Object serialization, cloning. System defined annotations, Custom annotations, application of annotations, Testing using JUnit.
JDBC: Database connectivity, Types of Drivers for connection, Connection Example. CRUD operations using Database, Configuring various types of drivers for Java Database Connectivity, MVC Model for project development, Sequence, Dual table , Date type management in Java.

Unit-III

Servlets and JSP: Servlet Lifecycle, Generic Servlet, Http Servlet, Linking Servlet to HTML, HttpServlet Request and Response, Servlet with JDBC, Configuring project using servlet, Servlet Config and Servlet Mapping JSP declaration, JSP directives, JSP Scriptlets, JSP include tag, JSP page tag, JSTL.
XML and Web Services: Structure of XML, Elements of XML 1.0, 2.0, DTDs, XML parser, DOM parser, Web services using REST and HTTP, Creating web services for database access via remote servers.

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