LIST OF CORE JAVA TOPICS

Basics

Chapter 1 – Java History

Chapter 2 – Java Syntax

Chapter 3 - Class

Chapter 4 – Data Types

Chapter 5 - Conditional Statements

Chapter 6 – Packages

Chapter 7 - Methods

Chapter 8 - Loops

Chapter 9 – Strings

Chapter 10 – Single Dimensional Arrays

OOPs

Chapter 11 – Object

Chapter 12 – Constructors

Chapter 13- Encapsulation

Chapter 14 – Inheritance

Chapter 15 – Polymorphism

Chapter 16 – Abstraction

Chapter 17 – Upcasting and Down casting

Chapter 18 – Abstract Classes

Chapter 19 - Interfaces

Chapter 20 – Two Dimensional Arrays

Chapter 21 – Collections

Chapter 22 – File Handling

Chapter 23 – Exceptional Handling

1) Java History
   a. Acronyms
   b. Installation of Java
   c. My First Demo Program
   d. Different ways of compilation and Execution.

2) Java Syntax
   a. Java Programing Fundamentals
   b. Terminology
   c. Start writing programs in java.

3) Class
   a. Classes Types

4) Data Type and Variables
   a. Local
   b. Global

5) Conditional Statements or Decision making in Java
   a. If
   b. else if
   c. Ternary Operators

6) Packages
   How to Create Package.
   Uses of Creating Packages.

7) Methods
   a. Parameters
   b. Arguments
   c. Pass by Value
   d. Pass by Reference
   e. Method return types
   f. Method Overloading

8) Loops
   a. for
   b. Nested For
   c. While

9) String Class
   a. String Class - Immutable
   b. String Buffer - Mutable
   c. Reversing the String.

10) Single Dimensional Array

a. Different ways of declaring and initializing an Array.
b. Arrays are anonymous objects
c. Reading values from an Array
d. Storing values to an Array
e. Passing an array to a method
f. Returning an array from methods
g. Variable arguments.
h. Differences between Var arguments and Array.

OOPs

11) Object.

a. About Class and Object and Reference Variable.
b. Object Usage.
c. Has-A relation.
d. this – keyword

12) Constructors

a. Types of constructors
b. this ()
c. Super ()

13) Encapsulation

a. Details of Encapsulation

14) Inheritance

a. Multiple Inheritance
b. Multilevel Inheritance
c. Single level Inheritance
d. Hybrid Inheritance
e. Super Inheritance
f. Diamond Problem

15) Polymorphism

a. Overloading
   overriding

16) Abstraction

a. Access modifiers
b. Final keyword

17) Upcasting and Down casting

a. Runtime polymorphism
b. Compile time polymorphism

18) Abstract Classes
a. Abstract methods
b. Anonymous Inner class
c. Difference between abstract class and class

19) Interfaces
a. 100% abstraction
b. Difference between abstract class and Interface.
c. Lambda Expressions (Functional Expression – Java 8 Feature).
d. Method implementations in Interfaces (Java 8 Feature).

20) Two Dimensional Arrays
a. Different ways of declaring and initializing
b. Reading data from two-dimension arrays
c. Storing data to two-dimension arrays.

21) Collections
a. List – ArrayList, LinkedList, Vector, Stack.
b. Set – HashSet, LinkedHashSet, SortedSet, TreeSet.
c. Map – HashMap, Hashtable, LinkedHashMap, SortedMap, TreeMap, Properties
d. Comparable and Comparator
e. Default sorting and Customized sorting.

22) File Handling
a. Properties files Reading
b. Excel File Reading and Writing.

23) Exceptional Handling
a. throws vs throw
b. try-catch
c. try-catch-finally
d. try – finally.
e. Overriding methods during throws exception.