

**MODULE – TECHNICAL TRAINING**

**Java Programming (30 hours)**

Topic	Subtopic
Why Programming?	Introduction to programming
	Representation of algorithms
	Introduction to Java
	Keywords, variables, identifiers and data types
	Operators
	Implicit/Explicit Type conversions
	Control Structures Selection Control Structures
	Flow Control
	Iteration Control Structures
OOP Basics	Need for OOP
	Class and Objects
	Methods and parameters
	Constructors
	Instance and Local variables
	this keyword
	Memory management Memory management
	OOP concepts
Exception Handling	
File handling	
Encapsulation	Abstraction
	Access modifiers
	Arrays and String Working with Arrays
	String and its methods
Debugging & Code Analysis	
Debugging	Code Analysis using Programming Mistake Detector (PMD)
Static variables, methods, blocks & Relationships	
Association	Aggregation
	Inheritance and its types
	super keyword
	Polymorphism Static polymorphism
	Dynamic polymorphism
	Object and Wrapper classes Object and Wrapper classes
Abstract classes and methods	final class, method, variable
	Interfaces
	Exception handling and packages
	Exception handling
	Packages
	Abstract , final and Interfaces
Unit testing Unit testing using JUnit and Code coverage	Recursion
	Regular expression Regular expression

SQL	Basics of SQL queries
	SQL Joins
JDBC	Introduction
	JDBC Architecture
	Types of Drivers
	Statement
	Result Set
	Read Only Result Set
	Updatable Result Set
	Forward Only Result Set
	Scrollable Result Set
	Prepared Statement

