**Training Plan - Basics of Core Java and Advanced Java**

| SI | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| 1 | **Basics of Core Java and Advanced Java** | **Object-oriented programming concepts:**<br>- Classes, objects, sub-classes, inheritance, encapsulation, polymorphism.<br><br>**The Java programming language and standard library packages:**<br>- Packages, classes, interfaces, instances, fields, methods.<br>- Variables, identifiers, types, values.<br>- Expressions, statements, conditionals, loops, iterators.<br>- Collections.<br><br>**J2EE Architecture** | 1. Write a Java Program that reads a line of integers, and then displays each integer, and the sum of all the integers (Use String Tokenizer class of java. util)<br><br>2. Write a Java program to illustrate the concept of class with method overloading.<br><br>3. Write a Java program to illustrate the concept of Dynamic Polymorphism.<br><br>4. Write a Java program to implement searching and sorting.<br><br>5. Write a Java program to implement the concept of exception handling. | **Participants will be able to:**<br><br>- Design OO Programs<br><br>- Implement Advanced Programs |
| **Pre-requisite** | | **Knowledge of Object Oriented Programming** | | |
| **Evaluation** | | **End of unit quiz** | | |
| **Contact Hours** | | **18** | | |
| **Reporting** | | **Training Report** | | |

**Training Plan – MVC Architecture, Struts 2.0, MySQL Database Connectivity, Report etc.**

| SI | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| **2** | **MVC Architecture, Struts2.0, MySQL Database Connectivity, Report etc.** | **Software development - principles and practice:**<br>- Producing correct, understandable and maintainable classes.<br><br>**MySQL Database**<br>- Database Administration<br>- Database Development<br>- Database Backup | 1. Understand MVC Architecture Concept.<br><br>2. Introduction to Struts Framework for developing MVC based Web Applications in Java.<br><br>3. Write a Java program to implement basic MVC Architecture.<br><br>4. Write a Java program to implement Database Connectivity module.<br><br>5. Write a Java program for generating Reports as per given format. | **Participants will be able to:**<br><br>- Design Database<br>- Develop programs in Struts 2.0 Framework with Database Connectivity.<br>- Develop programs to generate reports in prescribed formats. |
| **Pre-requisite** | **Knowledge of Java** | | | |
| **Evaluation** | **End of unit quiz** | | | |
| **Contact Hours** | **12** | | | |
| **Reporting** | **Training Report** | | | |

**Training Plan – Software Architecture of iWS**

| Sl | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| 3 | **Software Architecture of iWS** | **Using appropriate development tools:**<br>- Integrated development environments. | 1. iWS Architecture Concept<br>2. Develop small modules using similar architecture | **Participants will be able to:**<br><br>- Understand the basic Software Architecture of iWS.<br>- Make minor modifications in the iWS software modules. |
| **Pre-requisite** | | **Knowledge of Java, Struts 2.0** | | |
| **Evaluation** | | **End of unit quiz** | | |
| **Contact Hours** | | **6** | | |
| **Reporting** | | **Training Report** | | |

**Training Plan – Database Design of iWS**

| Sl | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| 4 | **Database Design of iWS** | **Understanding of:**<br>- Database Architecture of iWS. | 1. iWS Database Concept<br>2. Design and creation of Database<br>3. Add, Modify, Delete, Query Database operations | **Participants will be able to:**<br><br>- Understand the basic Database Design of iWS.<br>- Add/modify the Database of iWS. |
| **Pre-requisite** | | **Knowledge of RDBMS** | | |
| **Evaluation** | | **End of unit quiz** | | |
| **Contact Hours** | | **12** | | |
| **Reporting** | | **Training Report** | | |

**Training Plan – Class Design (w.r.t. iWS)**

| SI | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| 5 | **Class Design (w.r.t. iWS)** | **Understanding of:**<br>- Class Design. | 1. Understanding the iWS Class Design<br>2. Creation of Class diagram using Universal Modeling Language | **Participants will be able to:**<br><br>- Understand the basic Class Design of iWS.<br>- Make minor modifications in the iWS software modules. |
| **Pre-requisite** | | **Knowledge of Java** | | |
| **Evaluation** | | **End of unit quiz** | | |
| **Contact Hours** | | **6** | | |
| **Reporting** | | **Training Report** | | |

**Training Plan – Tiles, CSS, UI Design**

| SI | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| 6 | **Tiles, CSS, UI Design** | **Basic User Interfaces:**<br>- Graphical interface components.<br>- Event handling. | 1. Write a program in JSP for given GUI using Tiles, CSS.<br>2. Write a program in Java to handle a given event. | **Participants will be able to:**<br><br>- Develop programs in JSP using Tiles and CSS<br>- Make minor modifications in the iWS software modules. |
| **Pre-requisite** | | **Knowledge of Java** | | |
| **Evaluation** | | **End of unit quiz** | | |
| **Contact Hours** | | **12** | | |
| **Reporting** | | **Training Report** | | |

**Training Plan – Javascript / Libraries**

| Sl | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| 7 | **Javascript / Libraries** | **Introduction to:**<br>- JavaScript.<br>- JavaScript Libraries | 1. Understand JavaScript and JavaScript Libraries.<br><br>2. Develop program in JSP and JavaScript. | **Participants will be able to:**<br><br>- Develop programs using JSP and implement JavaScript based on requirement.<br>- Make minor modifications in the iWS software modules. |
| **Pre-requisite** | | **Knowledge of Java** | | |
| **Evaluation** | | **End of unit quiz** | | |
| **Contact Hours** | | **12** | | |
| **Reporting** | | **Training Report** | | |

**Training Plan – Overall Environment**

| Sl | Training Activity | Detailed Objectives | Labs | Learning Outcomes |
|---|---|---|---|---|
| 8 | **Overall Environment** | **Installation:**<br>- Installation of iWS.<br>- Installation of Server.<br>- Deployment of iWS.<br>- Backup Strategy. | 1. Installation of OS.<br>2. Installation of the Server.<br>3. Deployment and Installation of IWS Software.<br>4. Taking Regular Backups and Recovery. | **Participants will be able to:**<br><br>- Install and Configure a Server for iWS implementation. |
| **Pre-requisite** | | **Knowledge of Java, Struts 2.0, MySQL** | | |
| **Evaluation** | | **End of unit quiz** | | |
| **Contact Hours** | | **18** | | |
| **Reporting** | | **Training Report** | | |