

LEARNER GUIDE

**Table of Contents**

**1. Purpose**

**2. Learning Path**

**2.1 Course Objective**

**2.2 Course Content & Recommended Learning Plan**

**2.3 Expectation from Learner**

**3. Appendix**

**Note:** These documents are strictly for specific Virtusa/client use only. They shall not be shared with an external party other than the client concerned. These documents should always be kept securely and users shall take care protecting these documents from unauthorized use or disclosure to a third party. These documents are meant for circulation.

**Document Approval**

Virtusa - Talent Development Team has put together this document. Any changes to this document must be communicated in writing and signed-off by the Technical Academy Head, Talent Development.

**1. Purpose:**

The Learner Guide is designed to enable individuals to complete the module through ALP (**Adult learning principles**), develop solutions for the given problem statements, graduate through assessments by achieving benchmarks.

**2. Learning Path:**

**2.1 COURSE OBJECTIVE**

ALP environment expects the individual to be independent and empowered.

Individuals select, manage, and assess their own learning activities, which can be pursued at any time, in any place, through any means.

The initiative is planned to pursue a learning experience, and the responsibility for completing their learning.

**2.2. COURSE CONTENTS & RECOMMENDED LEARNING PLAN**

**Course details**

|  |  |  |
| --- | --- | --- |
| **Sno** | **Kit Reference Item name** | **Description** |
| 1 | Learner Guide | Guides the learner with instruction for the course |
| 2 | Learning Material | Educates and Exposes the learner with contents of the module and learning sources |
| 3 | Learning Assignment | Contains tasks in the form of code-challenges/case studies which will enable the learner to have hands-on experience and hone his/her skills in the newly learnt module. |
| 4 | Module Self Evaluation Sheet | Basically helps the Learner to cross check the learning done |

|  |  |  |
| --- | --- | --- |
| **Module** | **Topics Covered** | **Recommended Duration (in Hrs.)** |
| **SE & UML** | Software Engineering Fundamentals | 2 |
| Waterfall, Iterative, Spiral, V-model, SCM | 1 |
| UML Use case model, Class model, Activity model | 5 |
| **Total** | **8** |
| **SQL Part 1** | RDBMS Fundamentals | 1 |
| ER Modelling, Normalization | 1 |
| Data Retrieval using DQL | 1 |
| Data Manipulation using DML | 1 |
| Usage of Commit, Rollback, Save point | 1 |
| Users creation, Grant and Revoke Privileges | 1 |
| **Total** | **6** |
| **SQL Part 2** | Creating Tables, Managing Tables | 2 |
| Join Queries, Subqueries, Group Functions | 4 |
| Views, Sequences, Indexes | 2 |
| Managing Constraints | 2 |
| **Total** | **10** |
| **PL/SQL Part 1** |  |  |
| Data Types and Variables | 1 |
| Operators and Loops | 2 |
| Blocks - Cursor and Reference Cursor | 2 |
| **Total** | **5** |
| **PL/SQL Part 2** | Procedures, Functions and Packages | 1.5 |
| Triggers | 2 |
| Exceptions | 1.5 |
| **Total** | **5** |
| **Java Basics - 1** | OOPs and Java Introduction | 2 |
| Inheritance and Polymorphism | 3 |
| Inner Class, Abstract class and Interfaces | 3 |
| Exception Handling | 2 |
| **Total** | **10** |
| **Java Basics - 2** | Collections Framework | 5 |
| Multithreading | 3 |
| Input/output | 4 |
| **Total** | **12** |
| **Java Advanced** | JDBC API | 6 |
| Junit | 4 |
| Log4j | 2 |
| **Total** | **12** |
| **Java 8** | Lambda Expressions | 3 |
| Stream API | 3 |
| Date and Time API | 2 |
| **Total** | **8** |
| **HTML & CSS** | HTML Elements, Attributes | 1 |
| HTML DOM | 1 |
| Referring Style Sheets in HTML | 2 |
| CSS Selectors, Properties | 2 |
| Internal and External CSS | 2 |
| **Total** | **10** |
| **Java Script** | Java Script basic constructs | 2 |
| Internal and External JavaScript | 1 |
| Event Handling, DOM Traversal & Manipulation | 3 |
| Ajax interactions in Java Script | 2 |
| **Total** | **8** |
| **jQuery** | Selectors, jQuery CSS | 2 |
| Events | 2 |
| Effects (animate, fade, slide) | 2 |
| **Total** | **6** |
| **Servlets** | Servlets overview and Architecture | 2 |
| Servlets Life Cycle, Generic Servlet and Http Servlet | 2 |
| Servlet Context, ServletConfig, request & response Objects and its methods | 3 |
| Session Tracking (Session, Cookies, Hidden form field and URL encoding) | 6 |
| **Total** | **13** |
| **JSP** | JSP Overview and Architecture | 2 |
| JSP Life Cycle and JSP Tags(Scriplet,Expression and Declaration ) | 3 |
| JSP implicit Objects and Directives (Page, Include and taglib) | 2 |
| JSP Action tags and Custom tags | 3 |
| JSTL tags | 3 |
|  | **Total** | **12** |
| **Project** | Requirement Analysis and Design | 5 |
| Coding | 15 |
| Testing and Deployment | 5 |
| **Total** | **20** |
|  | **Grand Total** | **150** |

**3. Expectation from Learner**



* Candidates are expected to complete the intended syllabus along with the given assignments and project within the timelines.
* Apply the knowledge while building solution and the ability to create alternative solutions, and build the analytical and logical solutions for the problem statements.

**4. APPENDIX**

• Learning Material

• Learning Assignment