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| **Subject Code**  **20CSP321** | **Project Based Learning in Java Lab** | **L** | **T** | **P** | **C** |
| Total Contact Hours : 60 Hours | **0** | **0** | **4** | **2** |
| Common to all Specializations of CSE  3rd Year |
| Prerequisite: Studied Programming Language | | | | |

**Course Objectives**

1. To generate analytical and conceptual ability related to fundamentals of Java.
2. To understand the concepts of Web application development.
3. To understand the concepts of Fundamentals of I/O , Database Connectivity
4. To Implement of the OOPS concepts using Eclipse Environment
5. To implement the concepts of Collections and able to access database through

**Course Outcomes**

1.Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs.

2.Read and make elementary modifications to Java programs that solve real-world problems.

3.Designs will demonstrate the use of good object-oriented design principles including encapsulation and information hiding.

4.The implementation will demonstrate the use of a variety of basic control structures including selection and repetition; classes and objects in a tiered architecture (user interface, controller, and application logic layers); primitive and reference data types including composition; basic AWT components; file-based I/O; and one-dimensional arrays.

5.Test plans will include test cases demonstrating testing strategies.

**List of Experiments**

**UNIT-I**

* 1. Create an application to save the employee information using arrays.
  2. Design and implement a simple inventory control system for a small video rental store.
  3. Create an application to calculate interest for FDs, RDs based on certain conditions using inheritance.

### UNIT-II

* 1. Create a program to set view of Keys from Java Hash table.
  2. Create a program to show the usage of Sets of Collection interface.
  3. Write a Program to perform the basic operations like insert, delete, display and search in list. List contains String object items where these operations are to be performed.
  4. Create a menu based Java application with the following options.1.Add an Employee2.Display All3.Exit If option 1 is selected, the application should gather details of the employee like employee name, employee id, designation and salary and store it in a file. If option 2 is selected, the application should display all the employee details. If option 3 is selected the application should exit.

UNIT-III

* 1. Create a palindrome creator application for making a longest possible palindrome out of given input string.
  2. Create a Servlet/ application with a facility to print any message on web browser.
  3. Create JSP application for addition, multiplication and division.

1. **Relationship between the Course Outcomes (COs) and Program Outcomes (POs)**

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| --- | --- | --- |
| **Mapping Between COs and POs** | | |
| **SN** | **Course Outcome (CO)** | **Mapped Programme Outcome (PO)** |
| 1 | To generate analytical and conceptual ability related to fundamentals of Java. | Use an integrated development environment to write, compile, run, and test simple object-oriented Java programs. |
| 2 | To understand the concepts of Web application development. | Read and make elementary modifications to Java programs that solve real-world problems. |
| 3 | To understand the concepts of Fundamentals of I/O , Database Connectivity | Designs will demonstrate the use of good object-oriented design principles including encapsulation and information hiding. |
| 4 | To Implement of the OOPS concepts using Eclipse Environment | The implementation will demonstrate the use of a variety of basic control structures including selection and repetition; classes and objects in a tiered architecture (user interface, controller, and application logic layers); primitive and reference data types including composition; basic AWT components; file-based I/O; and one-dimensional arrays. |
| 5 | To implement the concepts of Collections and able to access database through | * Test plans will include test cases demonstrating Testing strategies. |

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| **COs** | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** | **PSO1** | **PSO2** |
| **CO1** | 3 | – | – | – | 2 | – | – | – | – | – | – | – | – | – |
| **CO2** | 3 | – | – | – | 2 | – | – | – | – | – | – | – | – | – |
| **CO3** | 3 | – | – | – | 2 | – | – | – | – | – | – | – | – | – |
| **CO4** | 3 | 2 | 2 | – | 2 | – | – | – | – | – | – | – | 2 | 2 |
| **CO5** | 3 | 2 | – | – | 2 | – | – | – | – | – | – | – | – | – |