**Web Architecture and Application Development Laboratory**

**B.Tech. 7th Semester**



**Department: Computer Science and Engineering**

**Faculty of Engineering & Technology**

**M. S. Ramaiah University of Applied Sciences**

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| --- | --- |
| Faculty | Engineering & Technology |
| Programme | B. Tech. in Computer Science and Engineering |
| Course | Web Architecture and Application Development Laboratory |
| Year/Semester | 2017/7th Semester |
| Course Code | CSC404A |

**Ramaiah University of Applied Sciences**

Private University Established in Karnataka State by Act No. 15 of 2013



List of Experiments

1. Software design
2. Software design
3. Database design
4. HTML and JSP form for student registration
5. HTML and JSP form for login and search
6. Servlet, server side component
7. JDBC for Persistence Management
8. Client side validation using Java script
9. Functionality implementation
10. Mock

Consider a scenario where a student enrolls for a course in university. The student also registers in the library available at university by providing his basic details. Consider all the attributes of the student and library to develop the web application design.

# Laboratory 1

Title of the Laboratory Exercise: Software Design

1. Introduction and Purpose of Experiment

Web application design.

1. Aim and Objectives

Aim

* To develop Functional and Nonfunctional Requirements, ER diagram, class diagram, interaction sequence diagram and algorithm/flowchart

Objectives

At the end of this lab, the student will be able to

* Model the information required for the given scenario using E-R diagrams
* Develop ER diagram, class diagram, interaction sequence diagram and algorithm/flowchart

1. Experimental Procedure

Students are given a set of instructions to be executed on the computer. The instructions should be edited and executed and documented by the student in the lab manual. They are expected to answer questions posed in section 5 based on their experiment.

1. Presentation of Results
2. Analysis and Discussions
3. Conclusions
4. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 2

Title of the Laboratory Exercise: Software Design

Introduction and Purpose of Experiment

1. Aim and Objectives

Aim

Objectives

At the end of this lab, the student will be able to

1. Experimental Procedure
2. Algorithms
3. Presentation of Results
4. Analysis and Discussions
5. Conclusions
6. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 3

Title of the Laboratory Exercise: Database Design

1. Introduction and Purpose of Experiment

Students will design the database schema as per the ER diagram designed in the Laboratory 1 and 2.

1. Aim and Objectives

Aim

Objectives

At the end of this lab, the student will be able to

1. Experimental Procedure
2. Calculations/Computations/Algorithms
3. Presentation of Results
4. Analysis and Discussions
5. Conclusions
6. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 4

Title of the Laboratory Exercise: HTML and JSP form to implement the functional requirement (Example: Registration page)

1. Introduction and Purpose of Experiment

Students will learn to use will HTML and HTML Frames in html platform.

1. Aim and Objectives

Aim

Objectives

1. Experimental Procedure
2. Calculations/Computations/Algorithms
3. Presentation of Results
4. Analysis and Discussions
5. Conclusions
6. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 5

Title of the Laboratory Exercise: HTML and JSP form to implement the functional requirement (Example: Login page and search page)

1. Introduction and Purpose of Experiment

Students will learn to use JSP scriplet, expression declaration and other JSP actions to

Implement different use cases

1. Aim and Objectives

Aim

Objectives

At the end of this lab, the student will be able to

1. Experimental Procedure
2. Calculations/Computations/Algorithms
3. Presentation of Results
4. Analysis and Discussions
5. Conclusions
6. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 6

Title of the Laboratory Exercise: To implement Server side web component (Servlet) to handle client request

1. Introduction and Purpose of Experiment

Students will learn to implement servlet to handle client submitted request

2. Aim and Objectives

Aim

Objectives

1. Experimental Procedure
2. Calculations/Computations/Algorithms
3. Presentation of Results
4. Analysis and Discussions
5. Conclusions
6. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 7

Title of the Laboratory Exercise: To integrate database using JDBC to web application

1. Introduction and Purpose of Experiment

Students will learn to implement JDBC component for all the functional requirements identified.

1. Aim and Objectives

Aim

1. Experimental Procedure
2. Calculations/Computations/Algorithms
3. Presentation of Results
4. Analysis and Discussions
5. Conclusions
6. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 8

Title of the Laboratory Exercise: Client Side validation using JavaScript

1. Introduction and Purpose of Experiment

Students will learn to implement Client Side validation using JavaScript for all the functional requirements identified.

2. Aim and Objectives

Aim

Design and implement the Business Logic for the given scenario using JAX-RS services.

3. Objectives

4. Experimental Procedure

5. Calculations/Computations/Algorithms

6. Presentation of Results

7. Analysis and Discussions

8. Conclusions

9. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 9

Title of the Laboratory Exercise: Functionality implementation

1. Introduction and Purpose of Experiment
2. Aim and Objectives

Aim

1. Experimental Procedure
2. Calculations/Computations/Algorithms
3. Presentation of Results
4. Analysis and Discussions
5. Conclusions
6. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |

# Laboratory 10

Title of the Laboratory Exercise: Mock test

1. Introduction and Purpose of Experiment

1. Aim and Objectives

Aim

1. At the end of this lab, the student will be able to
2. Experimental Procedure
3. Calculations/Computations/Algorithms
4. Presentation of Results
5. Analysis and Discussions
6. Conclusions
7. Comments

a. Limitations of Experiments

b. Limitations of Results

c. Learning happened

d. Recommendations

|  |  |  |
| --- | --- | --- |
| ****Component**** | ****Max Marks**** | ****Marks Obtained**** |
| **Viva** | **6** |  |
| **Results** | **7** |  |
| **Documentation** | **7** |  |
| ****Total**** | ****20**** |  |