Visvesvaraya Technological University
Belagavi – 590018

INTERNSHIP REPORT

Submitted in partial fulfillment for the award of degree of

BACHELOR OF ENGINEERING
in
COMPUTER SCIENCE AND ENGINEERING

Submitted by

ABHISHEK H 4CB21CS004

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
CANARA ENGINEERING COLLEGE
(Affiliated to VTU Belagavi, Recognized by AICTE, NAAC Accredited with grade A)
Sudheendra Nagara, Benjanapadavu , Mangaluru - 574219, Karnataka.

2024-25

CANARA ENGINEERING COLLEGE

(Affiliated to VTU Belagavi, Recognized by AICTE, NAAC Accredited with grade A)

Sudheendra Nagara, Benjanapadavu, Mangaluru - 574219, Karnataka.

DEPT. OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

This is to certify that Mr. ABHISHEK H bearing USN: 4CB21CS004, a student of Canara Engineering College has undergone 15 weeks of INTERNSHIP at DLITHE CONSULTANCY PRIVATE LIMITED . This internship report is submitted in partial fulfillment for the award of BACHELOR OF ENGINEERING in **COMPUTER SCIENCE AND ENGINEERING** of the Visvesvaraya Technological University, Belagavi during the year 2024-2025.

Ms. Aruna Kumari G K	**Dr. Karthik Pai B H**	**Dr. Nagesh H R**
Internal Guide	HOD-CS&E	Principal

External Viva:

Examiner's Name	Signature with Date
1.	.....
2.	.....

INTERNSHIP CERTIFICATE

DLithe
Be Agile..Be in Demand

Dlithe Consultancy Services Pvt. Ltd.
CIN: U72900KA2019PTC121035

Certificate ID: DLAIML250006 Issued on: 16th May 2025

TO WHOMSOEVER IT MAY CONCERN

This is to certify that Mr. Abhishek H, bearing USN No: 4CB21CS004 from Canara College of Engineering, Benjanapadavu , has successfully completed a 15-week internship under the mentorship of DLithe's development team. He gained practical experience in Java Full Stack Development, working with Core Java, JDBC, Servlets, Spring Boot, HTML, CSS, JavaScript, React.js, RESTful APIs, and MySQL. He also explored version control using Git, containerization with Docker, and cloud deployment. As part of the internship, he developed a complete web application, demonstrating his understanding of the full software development lifecycle. We commend his performance and wish him continued success.

We wish all the best for future endeavours!

For Dlithe Consultancy Services Pvt. Ltd.

DLITHE CONSULTANCY SERVICES PVT LTD Bengaluru

Director

Registered office: #51, 1st Main, 6th Block, 3rd Phase, BSK 3rd Stage, Bangalore - 85
M: 9008815252 | www.dlithe.com | info@dlithe.com

Figure 1: Internship Certificate

Acknowledgement

It is my great pleasure to acknowledge the assistance and contributions of all the people who helped me to make my internship successful. Industry Internship would not have been so successful without the dedicated assistance given by these individuals.

I wish to express my deepest gratitude to internship guide **Ms. Aruna Kumari G K**, Department of Computer Science and Engineering, CEC, Mangalore, for the guidance and suggestions.

I extend my thanks to **Dr. Pavithra D S**, Internship coordinator, Department of Computer Science & Engineering, CEC, Mangalore, for her valuable suggestions throughout the Internship.

I am extremely grateful to **Dr. Karthik Pai B H**, Head of the Computer Science & Engineering Department, CEC, Mangalore, for his moral support and valuable suggestions throughout the Internship.

I thank **Dr. Demian Antony D'Mello**, Vice Principal, CEC, Mangalore, for his valuable suggestions throughout the Internship.

I sincerely thank our Principal **Dr. Nagesh H R**. for giving me the permission to pursue internship, which helped me to gain excellent practical knowledge carried out in an industry.

I thank all the faculty and technical staff of Department of Computer Science & Engineering for their kind help .

I also like to extend my sincere thanks to **t DLITHE CONSULTANCY PRIVATE LIMITED, Bangalore**, where I pursued my internship, for providing me with this valuable opportunity to enhance my skils.

ABHISHEK H
4CB21CS004

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Chapter 1

Company Profile

Delithe Consultancy Private Limited was incorporated on 08 Oct 2018 with Registrar of Companies Roc Bangalore. Delithe Consultancy Private Limited, headquartered in Bangalore since its establishment in 2018, operates in the Software sector. The company specializes in delivering tailored technology solutions, including web design and development, mobile app development, e-commerce platforms, and corporate IT solutions. Techciti's mission is to become a leading end-to-end information technology infrastructure and service provider.

1.1 About the Company

Delithe Consultancy Private Limited is a Bengaluru-based IT services and consulting firm, established in October 2018.Techciti Software provides excellent responsive web design services that ensure websites look great across all devices, including desktops,tablets, and phones. From simple web applications to complex enterprise solutions, Techciti has delivered a wide range of projects for various customers. Techciti specializes in mobile app development for Android, iOS, and Windows platforms, working meticulously to create reliable and user-friendly applications. In the field of database solutions, Techciti has developed applications for sectors like retail, logistics, and supply chain management, with expertise in building CRM and ERP systems connected to the cloud. TechCiti's mission is to become a leading end-to-end information technology infrastructure and service provider, aiming for growth through superior customer service, innovation, quality, and commitment.

Chapter 2

Internship Details

The internship involved working as a Java Intern at Delithe Consultancy Private Limited Limited. The main focus was on learning core and advanced Java programming and applying that knowledge by developing a real-world project. My tasks included understanding important Java concepts such as object-oriented programming, writing clean and efficient code. I also gained experience in using development tools and following best coding practices. This internship provided me with strong practical experience in software development, enhanced my technical knowledge, and helped me improve my coding, debugging, and problem-solving skills.

2.1 Week 1

The internship began with an introduction to the overall program structure and a comprehensive overview of Java programming. The sessions covered the history and evolution of Java, highlighting its significance in the software development industry and discussing its wide applications in areas such as web development, mobile applications, and enterprise solutions. The future scope of Java was also explained, focusing on its ongoing relevance and continuous updates. In addition, various Java Integrated Development Environments (IDEs) like Eclipse, IntelliJ IDEA, and NetBeans were introduced. Their key features,advantages, and specific use cases in software development were demonstrated, emphasizing how these tools assist in writing efficient code, debugging, and project management. This phase of the internship provided a strong foundational understanding of Java and the essential tools used by developers

2.2 Week 2

To Understanding of the fundamental building blocks of Java. Topics included understanding the structure of a Java program and learning how to declare and initialize variables.Different data types, such as integers, floating-point numbers, characters, and

booleans,were explored, along with how to use operators for performing basic mathematical and logical operations. Simple programs were written to practice these concepts, strengthening the understanding of how variables and data types work together to store and manipulate data. Conditional statements, including if, if-else, and switch-case, were introduced to control program flow based on different conditions. In addition, various looping structures, such as for, while, and do-while loops, were practiced to perform repetitive tasks efficiently. This foundational knowledge was essential for writing functional and efficient code in later stages of the internship.

2.3 Week 3

This week focused the introduction to Object-Oriented Programming (OOP), which is a key paradigm in Java. The core principles of OOP, including classes, objects, constructors, and methods, were thoroughly discussed. A class was explained as a blueprint for creating objects, and objects were introduced as instances of these classes. Constructors were covered as special methods used to initialize objects when they are created. Understanding OOP concepts is crucial because they promote code reusability, easier maintenance, and scalability in larger projects. The hands-on practice allowed for better understanding of how to model real-world entities in a program.

2.4 Week 4

The focus moved to working with arrays and strings, which are fundamental to storing and manipulating data in Java. Arrays were introduced as a way to store multiple values of the same type in a single variable. The concepts of creating, accessing, and modifying arrays were explored, and common operations such as sorting, searching, and iterating through arrays were practiced. The importance of arrays in handling large amounts of data efficiently was emphasized. After arrays, the focus shifted to strings, explaining how text is represented and manipulated in Java. Key classes like String, StringBuilder, and StringBuffer were covered, explaining the differences between them and when each should be used. Various string methods, such as substring, replace, trim, and concatenate, were practiced to perform common string operations. String manipulation exercises helped build confidence in handling user input and text-based data.

2.5 Week 5

Exception handling was introduced as a critical component of writing robust Java applications. This week focused on understanding how Java handles errors through exceptions, which are events that disrupt the normal flow of execution. The use of try-catch blocks was explained to catch and handle exceptions, preventing the program from

crashing.Multiple catch blocks were introduced to handle different types of exceptions, and the use of the finally block was discussed to ensure that certain code is always executed,regardless of whether an exception occurred. The creation of custom exceptions was also covered, allowing for the design of more specific error messages based on unique program needs. Practical examples were used to practice writing safe and error-free Java code that could handle unexpected situations without crashing.

2.6 Week 6

The Java Collections Framework was introduced in this week, which is a set of classes and interfaces that provide data structures for storing and manipulating data in Java. Collections like ArrayList, LinkedList, HashSet, and HashMap were explored. These classes are crucial for managing groups of objects efficiently. For instance, ArrayList allows dynamic resizing of arrays, while HashMap helps store data in key-value pairs for quick lookup. Hands-on exercises focused on how to use each of these collections effectively to store, retrieve, and manipulate data. Additionally, iterating through collections using iterators and understanding when to use each collection type in different scenarios was an important part of this learning. The practical tasks helped in reinforcing the concept of choosing the right collection for different needs, making data handling more efficient and organized in real-world applications.

2.7 Week 7

This week covered two important topics: file handling and multithreading in Java. File handling involved learning how to read from and write to files using Java's built-in classes like File, FileReader, BufferedReader, FileWriter, and BufferedWriter. Through hands on practice, tasks such as reading data from text files, writing user inputs into files, and manipulating large files efficiently were carried out. Buffered streams were particularly useful for reading and writing data efficiently, especially with large files. In addition, multithreading was introduced as a method to improve program performance by running multiple tasks simultaneously. Concepts such as creating threads using the Thread class and Runnable interface were practiced. This allowed for the development of applications that could perform multiple operations at the same time, leading to faster and more responsive programs.

2.8 Week 8

During Week 8, JSP (JavaServer Pages) and Servlet technologies were introduced to build dynamic, server-side web applications. JSP allows Java code to be embedded directly

within HTML, which is useful for generating dynamic web pages. Servlets, on the other hand, are Java programs that run on a web server and handle requests from clients.Key topics included handling HTTP requests and responses, managing sessions for user interactions, and processing form data submitted by users. Practical sessions involved developing web applications where users could input data and receive responses based on their interactions. Additionally, integrating the Tomcat Server into NetBeans was covered. This allowed for testing and running web applications directly from the development environment, providing valuable experience in deploying and debugging Java-based web applications.

2.9 Week 9

The focus of Week 9 was on JDBC (Java Database Connectivity), a standard API in Java for connecting to databases. The ability to establish database connections is essential for building Java applications that interact with external databases for storing and retrieving data. Key concepts covered included downloading and configuring JDBC drivers for different database systems, such as MySQL or Oracle. Practical exercises involved writing Java programs that could connect to a database, execute SQL queries,and handle the results returned by the database. Topics like Statement, PreparedStatement, and ResultSet were covered to interact with databases efficiently. This week was particularly important as it allowed for understanding the critical connection between Java applications and databases, a skill that is widely used in developing database-driven applications.

2.10 Week 10

In Week 10, the focus was on developing web-based applications using JSP and Servlets that interact with a database. During this week, practical tasks included creating login and registration forms to handle user authentication and store user data in a database.The major task was to design and implement a CRUD (Create, Read, Update, Delete) application, which is a fundamental pattern in software development. This application allowed users to perform the basic database operations through a web interface. Users could add new records, view existing records, update them, and delete them as needed. The CRUD application was implemented by connecting the front-end (JSP pages) with the back-end (Servlets and the database), providing a full-stack development experience.This project helped solidify the knowledge gained in previous weeks about web develop ment, databases, and JDBC, as well as giving hands-on experience in creating dynamic, database-driven web applications.

2.11 Week 11

In Week 11, the focus shifted to the development of the Project that is assigned to me, Reaserched regarding the project.watched some Videos to understand the feature of the project, what are the exact objectives of the project.The objective of this java project is to create and implement an effective system that will help to monitor the status of bugs in a respective application. All the bugs reported will be stored in the database with a unique ID and assigned a respective status. We have also created columns to store the environment, type, and a brief description of the bug being reported.

2.12 Week 12

The Swing framework in Java is a part of Java Foundation Classes. Swing is primarily used in Java to create graphical user interfaces for desktop applications. It provides a rich set of components like buttons, text fields, labels, checkboxes, tables, and menus, allowing developers to design interactive applications that are user-friendly and visually appealing. Whether it's a simple form or a complex window-based application, Swing offers everything needed to build it.One of Swing's biggest advantages is that it's platform-independent. which relies on native OS components, Swing is written entirely in Java. This means a Swing-based application will look and behave the same way on any operating system that supports Java, without needing to change any code. .

2.13 Week 13

Today, I began working on my Java project titled Bug Tracking System. The primary objective of this project is to create a desktop-based application that allows users to report and manage bugs during software development. To make the application interactive and user-friendly, I decided to use Java Swing for the graphical user interface and MySQL for storing the bug details such as environment, description, type, and status. I finalized the core features of the project, which include bug reporting, status tracking, and a dashboard for managing entries. As part of the initial setup, I installed the necessary development tools including the Java environment, an IDE (Eclipse/NetBeans), and MySQL. I also spent time learning the basics of the Swing framework, particularly focusing on how to design simple forms and tables. Overall, the foundation for the project has been laid today with a clear plan moving forward. .

2.14 Week 14

I focused on setting up the MySQL database to store all the necessary bug-related information. I created a new database named `intern` and selected it for use. This database will act as the central repository for all the bug data, enabling efficient tracking and reporting. By using SQL queries, I ensured that the database would be created only if it did not already exist, avoiding any conflicts or errors during the process. Within the `intern` database, I created a `bug` table to store individual bug reports. The table includes columns like `Bug_ID` (primary key), `Product`, `Environment`, `Type`, `Description`, and `Status`. `Bug_ID` uniquely identifies each bug, while the other columns capture the product, environment, bug type, detailed description, and current status. I used `VARCHAR` for textual data and `TEXT` for longer descriptions to efficiently handle the data. The table design allows for easy updates and querying.

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2.15 Week 15

I checked the project thoroughly to ensure it was running without any issues. After successful testing, I informed the trainer about the completion of the project.I prepared the final version of the project for submission. The project was submitted to the trainer for review and feedback.I requested the trainer to verify the project and confirm its completion. The project was submitted for the issuance of the internship certificate. I also took a backup of the project files for future reference. The trainer acknowledged the submission and initiated the verification process.I awaited final confirmation and the release of the internship certificate.

Chapter 3

Tasks Performed

During the course of my internship, I successfully completed a variety of tasks that progressively enhanced my Java Development skills. Initially, I built a CRUD application using JSP and Servlet.

3.1 INSERTING NEW DATA

The Create operation is all about adding new records to a database, like storing user information or product details. this is usually done using the INSERT SQL query with JDBC. Here I inserted data to student management system, it would allow you to add new student records to the database.

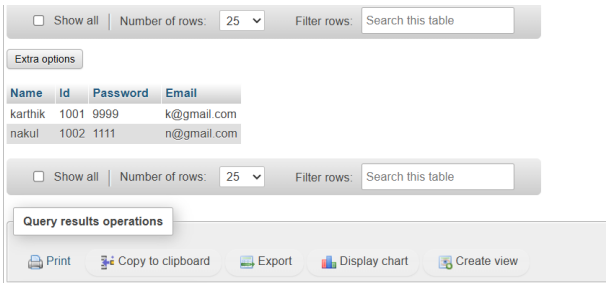

Figure 3.1: Inserting Data

3.2 READING THE DATA

The Read operation is used to fetch or view data that's already stored in the database, like checking data in database. Here I displaying data that I have inserted in the database

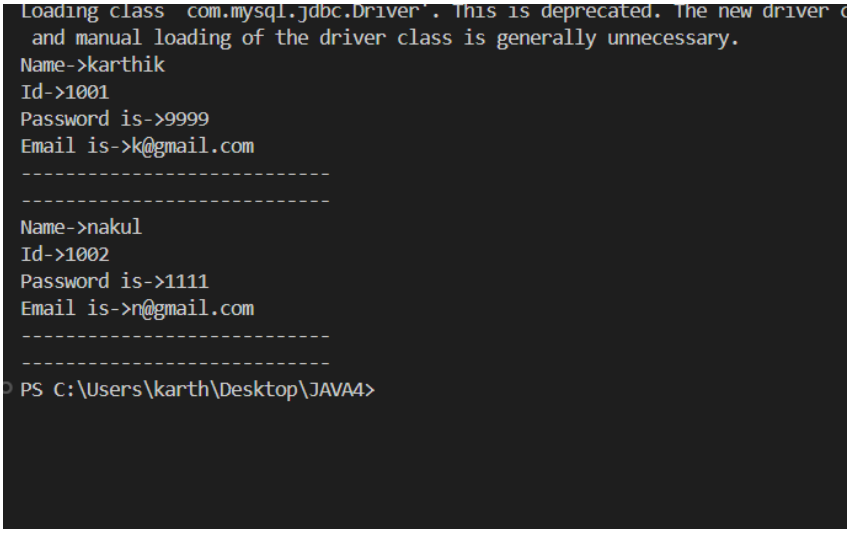

Figure 3.2: Reading the Data

3.3 UPDATING THE EXISTED DATA

The Update operation is used to modify existing data in the database, here i have changed the password from 9999 to 7777.

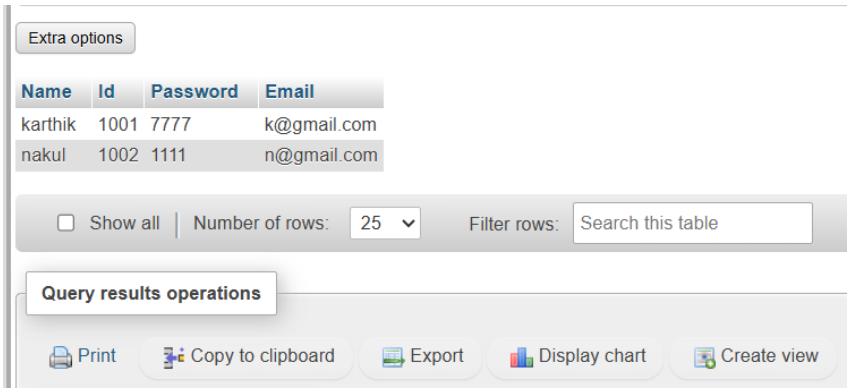

Figure 3.3: Updating the Data

3.4 DELETING THE EXISTED DATA

The Delete operation is used to remove unwanted or outdated data from the database, here i have deleted the data with id is 1002.

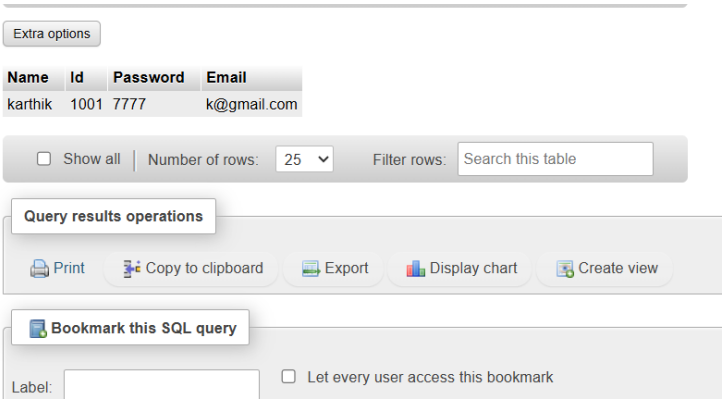

Figure 3.4: Deleting the Data

3.5 GRAPHICAL USER INTERFACE

I developed a GUI using the Swing framework. It includes fields like Bug ID, Product, Environment, Type, Description, and Status. The Add and Update buttons.

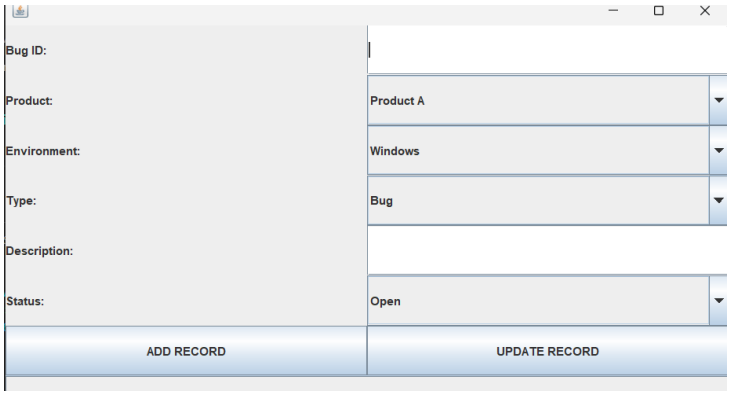

Figure 3.5: Graphical user Interface

3.6 LOCAL DATABASE AND TABLE OVERVIEW

The application connects to a local database running on localhost. The database includes a table with columns such as Bug ID, Product, Environment, Type, Description, and Status, enabling easy management of bug records.

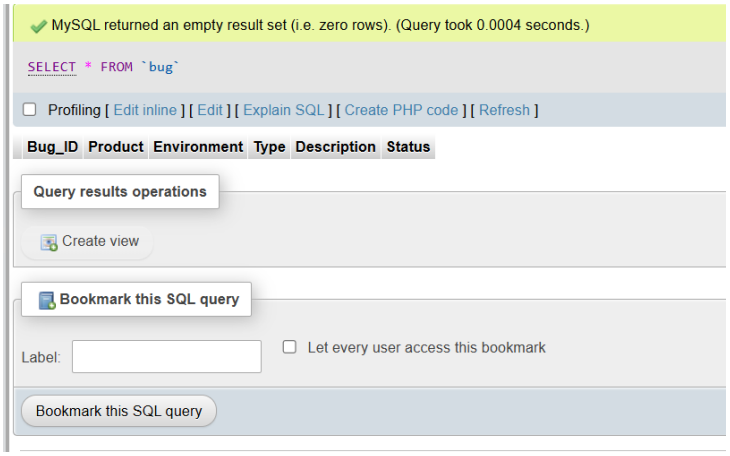

Figure 3.6: Table overview

Chapter 4

Reflection

During the course of the internship, several key learning objectives were effectively achieved, resulting in substantial personal and professional growth in java full-stack development. The following outcomes summarize the accomplishments of the internship. The internship at Delithe Consultancy Private Limited provided a valuable hands-on learning experience in Java programming and web development. It helped build a strong foundation in core Java concepts, including syntax, data types, operators,and object-oriented programming (OOP) principles. The internship also offered practical exposure to key Java frameworks such as the Collections Framework and File Handling, enhancing the ability to efficiently manage data. A major part of the internship involved developing dynamic web applications using JSP and Servlets, integrating database connectivity through JDBC to enable user registration, login functionality, and the storage of health records. The experience also involved configuring Tomcat Server, setting up the development environment, and deploying web applications. Working on a Personal Health Record application, the internship provided a deeper understanding of server-side programming, database management, and the full-stack development process. Collaborating in a team setting further strengthened problem-solving skills and the ability to work under deadlines. Overall, the internship greatly enhanced both technical abilities and project management skills, making it a valuable learning experience in software development and web development

Chapter 5

Conclusion

In conclusion, the internship at Delithe Consultancy Private Limited provided an excellent opportunity to gain practical experience in Java programming, web develop ment, and database management. The hands-on experience involved applying core Java concepts in real-world projects, especially the development of a Personal Health Record application. This experience helped strengthen the understanding of key technologies such as JSP, Servlets, JDBC, and working with servers like Tomcat. The internship also provided the chance to develop important skills such as problem-solving, debugging, and teamwork. The process of creating dynamic web applications and integrating them with databases offered valuable insights into full-stack development. Overall, the internship equipped participants with the skills and confidence to pursue a career in software devel opment, offering a solid foundation in both backend and frontend technologies. It proved to be a valuable learning experience, enhancing technical abilities and providing a deeper understanding of the software development lifecycle.

Appendix A

Student Feedback on Internship

Student Name: Abhishek H **USN: 4CB21CS004**

Rating Scale:
5 - Strongly Agree **4 -** Agree **3 -** No Opinion **2 -** Disagree **1 -** Strongly Disagree

INTERNSHIP FEEDBACK					
Parameters	**5**	**4**	**3**	**2**	**1**
Allowed me to apply classroom theory to practice					
Helped me to explore, analyze a real-world problem, decision-making and problem-solving skills					
Provided a chance to use leadership skills (influence others, develop ideas with others, stimulate decision-making and action)					
Given me a chance to improve my interpersonal skills and to develop my oral communication skills					
Given me the opportunity to explore a career field and helped me to clarify my career goals					
Expanded my sensitivity to the ethical implications of the work involved					
Helped me develop my written communication skills					
Helped me to write a good academic, technical paragraph and organize them in specified format					

Considering your overall experience, how would you rate this internship? (Satisfactory/ Good/ Excellent)
Was your internship experience related to your major area of study? (Yes, to a large degree / Yes, to a slight degree / No, not related at all)

Signature of Intern with date:

Appendix B

Internship Evaluation Rubrics

INTERNSHIP EVALUATION RUBRICKS					
Assessment Criteria	**Excellent**	**Good**	**Satisfactory**	**Needs Improvement**	**Adaquate**
Internship Diary Report (Max-25 Marks)	• Produced internship dairy /relevant documents on regular basis. • Documents prepared as per the structure provided. • Produced evidences of all the work carried out. **(25 Marks)**	• Produced internship dairy /relevant documents on regular basis. • Documents prepared as per the structure provided. • Produced evidences of all the work carried out. **(15-24 Marks)**	• Produced internship dairy /relevant documents on regular basis. • Documents prepared as per the structure provided. • Produced evidences of all the work carried out. **(11-15 Marks)**	• Produced internship dairy /relevant documents on regular basis. • Documents prepared as per the structure provided. • Produced evidences of all the work carried out. **(6-10 Marks)**	• Produced internship dairy /relevant documents on regular basis. • Documents prepared as per the structure provided. • Produced evidences of all the work carried out. **(0-5 Marks)**
Internship Report (Max-25 Marks)	• Reports prepared as per the structure provided. • Report prepared in a professional way and meets the quality requirement. • The report is well written from start to finish without spelling or grammatical errors. The report is well organized, clear and present ideas in a coherent way. **(25 Marks)**	• Reports prepared as per the structure provided. • Report prepared in a professional way and meets the quality requirement. • The report is well written from start to finish without spelling or grammatical errors. The report is well organized, clear and present ideas in a coherent way. **(15-24 Marks)**	• Reports prepared as per the structure provided. • Report prepared in a professional way and meets the quality requirement. • The report is well written from start to finish without spelling or grammatical errors. The report is well organized, clear and present ideas in a coherent way. **(11-15 Marks)**	• Reports prepared as per the structure provided. • Report prepared in a professional way and meets the quality requirement. • The report is well written from start to finish without spelling or grammatical errors. The report is well organized, clear and present ideas in a coherent way. **(6-10 Marks)**	• Reports prepared as per the structure provided. • Report prepared in a professional way and meets the quality requirement. • The report is well written from start to finish without spelling or grammatical errors. The report is well organized, clear and present ideas in a coherent way. **(0-5 Marks)**
Presentation Skill (Max-25 Marks)	• Show a full understanding of the project. • Accurate information shared using multiple pieces of evidence (logical arguments, data or graph) • Provides comprehensive and insightful answers that demonstrate a deep understanding of internship experiences, concepts, and related theories.. **(25 Marks)**	• Show a full understanding of the project. • Accurate information shared using multiple pieces of evidence (logical arguments, data or graph) • Provides comprehensive and insightful answers that demonstrate a deep understanding of internship experiences, concepts, and related theories.. **(15-24 Marks)**	• Show a full understanding of the project. • Accurate information shared using multiple pieces of evidence (logical arguments, data or graph) • Provides comprehensive and insightful answers that demonstrate a deep understanding of internship experiences, concepts, and related theories.. **(11-15 Marks)**	• Show a full understanding of the project. • Accurate information shared using multiple pieces of evidence (logical arguments, data or graph) • Provides comprehensive and insightful answers that demonstrate a deep understanding of internship experiences, concepts, and related theories.. **(6-10 Marks)**	• Show a full understanding of the project. • Accurate information shared using multiple pieces of evidence (logical arguments, data or graph) • Provides comprehensive and insightful answers that demonstrate a deep understanding of internship experiences, concepts, and related theories.. **(0-5 Marks)**
Question and Answer (Max -25 Marks)	**(OVERALL EXAMINATION (Q&A)—(0-25 Marks))**				