**Hands on training in Molecular & Microbial techniques and Basic Bio-informatics tools in Biotechnology**

**AN INTERNSHIP REPORT**

##### Completed during 1st July to 31st July, 2025

**Submitted by**

**Kamonika Moran**

**Digboi College (Autonomous)**

**Supervised by**

**Dr. Lipika Khataniar**

HoD & Assistant Professor,

Department of Biotechnology

**Dr. Geetanjali Baruah**

Assistant Professor,

Department of Biotechnology

****

**Submitted to**

**DEPARTMENT OF BIOTECHNOLOGY**

**THE ASSAM KAZIRANGA UNIVERSITY JORHAT, 785 006, ASSAM, INDIA**

**JULY, 2025**

# DECLARATION BY THE STUDENT

I, **Kamonika Moran** of ***DIGBOI COLLEGE (AUTONOMOUS)*** hereby declare that this in-internship report titled **“BIOTECHNOLOGY”** is a genuine record of the work undertaken by me during the one-month period from 1st July 2025 to 31st July 2025 and referenced the original sources. I also declare that I have adhered to all principles of academic honesty and integrity. This work was carried out under the sincere and meticulous supervision of Dr. Lipika Khataniar and Dr. Geetanjali Boruah, Assistant Professor, Department of Biotechnology, and is submitted to the Department of Biotechnology, The Assam Kaziranga University.

Sincerely,

**KAMONIKA MORAN**

**(KUBIOINT725039)**



# 

# CERTIFICATE OF INTERNSHIP COMPLETION

# CERTIFICATE I

This is to certify that KAMONIKA MORAN of Semester,of BSC Programme from Botany Dept, *DIGBOI COLLEGE (AUTONOMOUS), Assam*, carried out her internship work at the Department of Biotechnology, The Assam Kaziranga University, Jorhat, Assam under our supervision from 1st July 2025 to 31st July 2025. The total numbers of hours during her internship engagement is 120 hours.

She has successful completed the internship program.

**Date:** 31/07/2025

**Place:** Jorhat

**Dr. Geetanjali Baruah**

Assistant Professor

Department of Biotechnology

The Assam Kaziranga University Jorhat, Assam.

#### Dr. Lipika Khataniar

Head of Department

Assistant Professor

Department of Biotechnology

The Assam Kaziranga University Jorhat, Assam.

# 

# CERTIFICATE OF INTERNSHIP COMPLETION

# CERTIFICATE II

This is to certify that KAMONIKA MORAN of Semester,of BSC Programme from Botany Dept, *DIGBOI COLLEGE (AUTONOMOUS), Assam*, has successfully completed the Internship Programmeconducted by Department of Biotechnology, The Assam Kaziranga University, Jorhat, Assam from **1st July 2025** to **31st July 2025**.

She gained experience in the following techniques:

1. Soil/ Water bacterial isolation
2. Biochemical test of Bacteria
3. Staining techniques of Bacteria
4. DNA Isolation of Bacteria
5. Use of Basic Bio-Informatics tools

During the internship period, the student demonstrated sincere effort, enthusiasm, and active participation in all academic and practical sessions related to the programme.

We appreciate their commitment and wish them success in all future endeavors.

**Date:** 31/07/2025

**Place:** Jorhat

**Dr.Geetanjali Baruah**

Assistant Professor

Department of Biotechnology

The Assam Kaziranga University Jorhat, Assam.

#### Dr. Lipika Khataniar

Head of Department

Assistant Professor

Department of Biotechnology

The Assam Kaziranga University Jorhat, Assam.

# ACKNOWLEDGEMENTS

I take this time to express my profound gratitude to **Dr. Lipika Khataniar, Head of Department, Department of Biotechnology, Kaziranga University** for giving me the opportunity and facilities to embark and finish the Internship Programme.

I would like to express my deepest appreciation to my guide and supervisor **Dr. Geetanjali Baruah, Assistant Professor** for her guidance and supervision throughout the Internship.

I would also like to thank Mr. Druba, Laboratory Assistant and our mentor Pubali Gogoi for their invaluable assistance and support towards the completion of this Internship programme successfully.

Lastly, I convey my heartfelt gratitude to the Administration and faculty members of Department of Botany, Digboi College (Autonomous), Tinsukia, Assam for co-ordinating this Internship programme.

**Date:** 31/07/2025

**KAMONIKA MORAN**

**(KUBIOINT725039)**

**Place:** Jorhat

# ABSTRACT

Write your Abstract here.

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# ABBREVIATIONS

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**Chapter 1 Introduction**

**Overview of the Internship:** This report summarizes the work done during my Internship at Kaziranga University of biotechnology department. The Internship was part of the academic curriculum and aimed at providing practical exposure to real-world working in microbial biotechnology.

**Objectives of the Internship:** To gain hands-on experience in DNA isolation, lab instruments, gram staining, Bacteria streaking, Biochemical analysis test and microbial culture techniques.

**Internship activities:** During my internship, I was involved in a variety of microbiology and biotechnology laboratory work that enhanced my practical understanding and technical skills. The major activities I performed are as follows:

This Report contains the following novel material:

In view of the developments given in the review of related work done, we propose

to:

Objective

1.

2.

3.

**Chapter 2**

**Internship Activities**

**o Description of tasks performed (Methods)**

**o Results & Discussion**

**o Challenges faced & how they were addressed**

**Chapter 3**

**Observations & Key Learnings**

**o Skills gained**

**o Industry insights**

**Chapter 4**

**Conclusion &**

**o Summary of experience**

**o Suggestions for future interns**

## Bibliography

1. T. Tang, “Moving mesh methods for computational fluid dynamics,” *Contemporary mathematics*, vol. 383, pp. 141–174, 2005.
2. G.-R. Liu, *Mesh free methods: moving beyond the finite element method*. CRC press, 2002.
3. W. Huang and R. D. Russell, *Adaptive moving mesh methods*. Springer Science & Business Media, 2010, vol. 174.
4. R. Li, T. Tang, and P. Zhang, “Moving mesh methods in multiple dimensions based on harmonic maps,” *Journal of Computational Physics*, vol. 170, no. 2, pp. 562– 588, 2001.

**Appendices**