

**SUMMER INTERNSHIP REPORT  
ON  
PLANT BIOTECHNOLOGY AND NANOTECHNOLOGY**

Submitted to

**KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS)**  
Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

Submitted by

**AJAY K (231BT032)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS)**

Re – Accredited by the NAAC with A+ Grade (4<sup>th</sup> Cycle)

52nd Rank among Colleges in NIRF 2024

College of Excellence (UGC)

Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN  
CENTER FOR BIOSCIENCE AND NANOSCIENCE RESEARCH, COIMBATORE – 21**



**DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH**

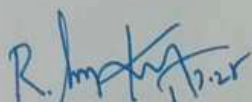
**Training Period**

**07.05.2025 to 23.05.2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. AJAY K (231BT032)** has done his Summer Internship Training Programme during the month of May 2025 at **Department of Scientific & Industrial Research , Centre for Bioscience and Nanoscience Research , Coimbatore** as a part of Curriculum and submitted to Kongunadu arts and science college(Autonomous) Affiliated to Bharathiar University , in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organization is expected to provide the Industrial exposure required by the student in his career.



Head of the Department

Dr. R. SATHISH KUMAR  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India



Signature of the Principal  
**PRINCIPAL**  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11/07/25 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore-641029



## Ministry of Science and Technology (DSIR - SIRO) - Recognised

Amman Nagar L&T Bypass Road, Eachanari, Coimbatore - 641021, Tamil Nadu, India

Ph : 0422 2930408, +91 9629388728

www.cbncindia.com, E-mail : cbncindia@gmail.com



## CERTIFICATE

We present this certificate for the successful completion of the ~~Intenship~~ Training/ Workshop/ Industrial Training/ Short Term Training/ Project, Conducted by Centre for Bioscience and Nanoscience Research (CBNR), Eachanari, Coimbatore -21, Tamil Nadu, India.

Sponsors : Visalakshi Educational Trust

Name of the Student : AJAY.K  
Department and College : II - BSc - Biotechnology, Kongunadu Arts and science college  
Name of the Course Underwent : Internship  
Duration : From 07-05-25 To 23-05-25

  
Director  
(Dr. R. Ragunathan)

  
Head of the Institute  
(Dr. Josteena Johnney)

Towards Excellence

## DECLARATION

I, **AJAY K (231BT032)**, hereby declare that this Internship Report titled "**Summer Internship & Hands on Training in Plant Biotechnology and Nanotechnology**" is an authentic record of my own work carried out as a part of the Internship program at **Centre for Bioscience and Nanoscience Research Organized by Department of Scientific & Industrial Research, Coimbatore**, during the period of **07-05-2025 to 23-05-2025** under the guidance of **Dr. Ragunathan, Dr. Jesteena Johnney, Abirami V**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree / Diploma / Fellowship or other similar title to any candidate in any University.

Signature of the Candidate

Place: Coimbatore

Date: 30/6/25

### ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete the report. I thank the Almighty for giving the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President, Late **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my science thank to **Dr. V. Kokilavani**, Controller of Examination( i/c), **Dr. R. Saravanamoorthy**, Academic Coordinator, Kongunadu arts and science college, Coimbatore for their support and motivation.

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**AJAY K (231BT032)**

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**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

Submitted by

**DHARSHINI C (231BT023)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS)**

Re – Accredited by the NAAC with A<sup>+</sup> Grade (4<sup>th</sup> Cycle)

52nd Rank among Colleges in NIRF 2024

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Coimbatore – 641029

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**DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH**

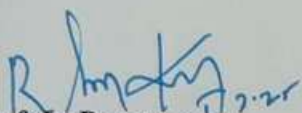
**Training Period**

**07.05.2025 to 23.05.2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Ms. DHARSHINI C (231BT023)** has done her Summer Internship Training Programme during the month of May 2025 at **Department of Scientific & Industrial Research , Centre for Bioscience and Nanoscience Research , Coimbatore** as a part of Curriculum and submitted to Kongunadu arts and science college(Autonomous) Affiliated to Bharathiar University , in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organization is expected to provide the Industrial exposure required by the student in her career.

  
Head of the Department

Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India



  
Signature of the Principal  
**PRINCIPAL**  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11.07.25 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore-641029



ISO 9001 : 2015 Certified | Affiliated to Bharathiar University

## Ministry of Science and Technology (DSIR - SIRO) - Recognised

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**Name of the Student**

: DHARSHINI . C

**Department and College**

: II - Bsc. Biotechnology, Kongunadu Arts and science college

**Name of the Course Underwent** : Internship

**Duration**

: **From** 07-05-25

**To** 23-05-25

  
Director  
(Dr. D. Dhanasekaran)

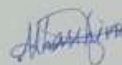
  
Head of the Institute  
(Dr. Jesteeena Johny)

Sponsors : Visalakshi Educational Trust

Towards Excellence

## DECLARATION

I, **DHARSHINI C (231BT023)**, hereby declare that this Internship Report titled "**Summer Internship & Hands on Training in Plant Biotechnology and Nanotechnology**" is an authentic record of my own work carried out as a part of the Internship program at **Centre for Bioscience and Nanoscience Research Organized by Department of Scientific & Industrial Research, Coimbatore**, during the period of **07-05-2025 to 23-05-2025** under the guidance of **Dr. Ragunathan, Dr. Jesteena Johney, Abirami V**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree / Diploma / Fellowship or other similar title to any candidate in any University.



Signature of the Candidate

Place: Coimbatore

Date: 30.06.2025

### ACKNOWLEDGEMENT

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**DHARSHINI C (231BT023)**

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**K MUTHU MEENAKSHI (231BT041)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Ms. K MUTHU MEENAKSHI** (Reg.No 231BT041) has done her summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career

Countersigned



Head of the Department

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal

**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on ~~11.07.25~~ at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore – 641029.



# **SATHYABAMA**

INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

Category – I University by UGC  
Accredited with Grade "A++" by NAAC I Approved by AICTE

## **CERTIFICATE OF PARTICIPATION**

This is to certify that **Ms. K. MUTHU MEENAKSHI**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days "**SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**", organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

A handwritten signature in green ink, reading 'B. Sheela Rani', is positioned above the printed name.

**Dr. B. SHEELA RANI**  
(Director Research)

## DECLARATION

I, MUTHU MEENAKSHI K (231BT041), hereby declare that this internship report titled “**Summer Internship & Hands on Training in Aquatic Microbiology**” is an authentic record of my own work carried out as a part of the internship program at **Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai** , during the period of 12-05-2025 to 28-05-2025 under the guidance of **Dr. Inbakandan, professor (Research)& Head, COR at Ocean Research Park** , submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of Candidate

PLACE: Coimbatore

DATE: 30-06-25

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

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I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

MUTHU MEENAKSHI K (231BT041)

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**V SURYAPRAKASH (231BT022)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. V SURYAPRAKASH** (Reg.No231BT022) has done his summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career



Head of the Department

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal

**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11.07.25 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



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**CERTIFICATE OF PARTICIPATION**

This is to certify that **Mr. V. SURYAPRAKASH**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days "**SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**", organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

**Dr. B. SHEELA RANI**  
(Director Research)

## DECLARATION

I, **SURYAPRAKASH V (231BT022)**, hereby declare that this internship report titled “**Summer Internship & Hands on Training in Aquatic Microbiology**” is an authentic record of my own work carried out as a part of the internship program at **Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai** , during the period of **12-05-2025 to 28-05-2025** under the guidance of **Dr. Inbakandan, professor (Research)& Head, COR** at **Ocean Research Park** , submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



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PLACE: Coimbatore

DATE: 30.06.2025

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SURYAPRAKASH V (231BT022)

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Submitted by

**JAIKIRUSHOTH V (231BT025)**  
III BSc Biotechnology (2023-2026)



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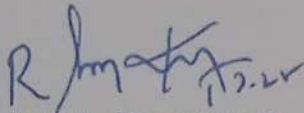
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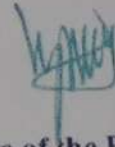
## CERTIFICATE

This is to certify that **Mr. JAIKIRUSHOTH V (231BT025)** has done his Summer Internship Training Programme during the month of May 2025 at **Department of Scientific & Industrial Research , Centre for Bioscience and Nanoscience Research , Coimbatore** as a part of Curriculum and submitted to Kongunadu arts and science college(Autonomous) Affiliated to Bharathiar University , in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organization is expected to provide the Industrial exposure required by the student in his career.



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Tamilnadu, India



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**PRINCIPAL**  
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COIMBATORE - 641 029

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Tamil Nadu, India.

Name of the Student : JAIKIRUSHOTH V  
Department and College : II - BSc. Biotechnology, Kongunadu Arts and Science college  
Name of the Course Underwent : Internship  
Duration : From 07-05-25 To 23-05-25

  
Director  
(Dr. R. Ragunathan)

  
Head of the Institute  
(Dr. Jyesthna Johnney)

## DECLARATION

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V. Jaikirushoth.

Signature of the Candidate

Place: Coimbatore

Date: 30.6.2025

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**JAIKIRUSHOTH V (231BT025)**

**SUMMER INTERNSHIP REPORT  
ON  
MEDICAL GENETICS AND EPIGENETICS STUDIES**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**A.SAMPATH KUMAR (231BT005)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
BHARATHIAR UNIVERSITY, COIMBATORE – 46**



**DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY**

**Training period**

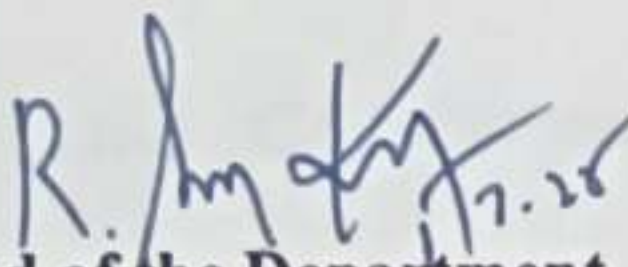
**06.05.2025 to 22.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Mr. A.SAMPATH KUMAR (Reg.No231BT005)** has done his summer Internship training programme during the month of May 2025 at **Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore - 46** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career.



  
**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

  
**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11/07/2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY  
**BHARATHIAR UNIVERSITY**  
COIMBATORE - 641 046, TAMILNADU, INDIA.

A. Vijaya Anand Ph.D.,  
Professor and Head

Email : avamiet@yahoo.com | avahgmb@buc.edu.in

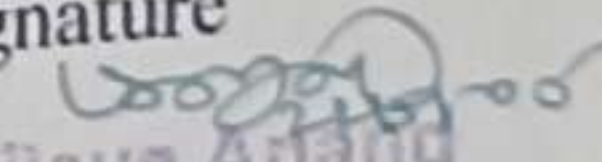
Mobile : +91 98425 25830 | Landline : +91 422 2428511

## CERTIFICATE

This is to certify that **Mr. Sampath Kumar. A (Reg. No. 231BT005)** pursuing his Bachelor of Science in Department of Biotechnology, Kongunadu Arts and Science College, G.N mills, Coimbatore, has done his Internship training work in the Medical Genetics and Epigenetics Laboratory, Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore- 46 under my guidance and supervision for 15 days (06.05.2025 – 22.05.2025).

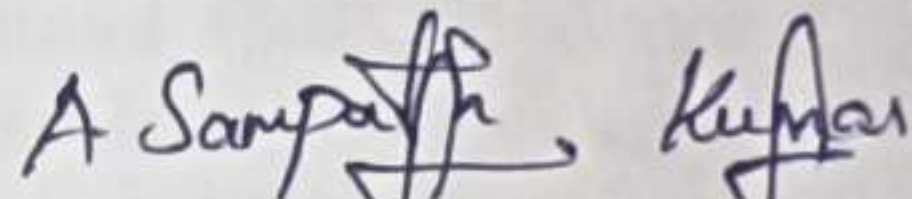
His attendance during the period of project is 100%.

Signature

  
Dr. A. Vijaya Anand  
Professor and Head  
Department of Human Genetics and  
Molecular Biology  
Bharathiar University  
Coimbatore - 641 046

## DECLARATION

I, **A.SAMPATH KUMAR (231BT005)**, hereby declare that this internship report titled "**Department of Human Genetics and Molecular Biology, Medical Genetics And Epi Genetics Laboratory**" is an authentic record of my own work carried out as a part of the internship program at **Bharathiar university, Coimbatore - 46** during the period of **06-05-2025 to 22-05-2025** under the guidance of **Dr. A .Vijaya Anand Ph.D.,( Professor & Head)** at **Department of Human Genetics And Molecular Biology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.

  
Signature of the Candidate

PLACE : Coimbatore

DATE : 30.06.2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr. A.Vijaya Anand Ph.D.**, Professor & Head, at Department of Human Genetics and Molecular Biology for his support, guidance, and for providing the facility to undergo this internship training.

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I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

A.SAMPATH KUMAR(231BT005)

**SUMMER INTERNSHIP REPORT  
ON  
MEDICAL GENETICS AND EPIGENETICS STUDIES**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**MADHUNISHA B (231BT003)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
BHARATHIAR UNIVERSITY, COIMBATORE – 46**



**DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY**

**Training period**

**06.05.2025 to 22.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms. MADHUNISHA B (Reg.No231BT003)** has done her summer Internship training programme during the month of May 2025 at **Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore - 46** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



Head of the Department

Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal  
PRINCIPAL

KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11/7/25 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.

## CERTIFICATE



DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY  
BHARATHIAR UNIVERSITY  
COIMBATORE - 641 046, TAMILNADU, INDIA.

Dr. A. Vijaya Anand Ph.D.,  
Professor and Head

Email : avamiet@yahoo.com | avahgmb@buc.edu.in

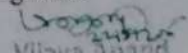
Mobile : +91 98425 25830 | Landline : +91 422 2428511

## CERTIFICATE

This is to certify that **Ms. Madhunisha (Reg. No. 231BT003)** pursuing her Bachelor of Science in Department of Biotechnology, Kongunadu Arts and Science College, G.N mills, Coimbatore, has done her Internship training work in the Medical Genetics and Epigenetics Laboratory, Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore- 46 under my guidance and supervision for 15 days (06.05.2025 – 22.05.2025).

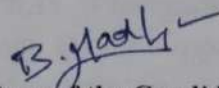
Her attendance during the period of project is 100%.

Signature

  
Dr. A. Vijaya Anand  
Professor and Head  
Department of Human Genetics and  
Molecular Biology  
Bharathiar University  
Coimbatore - 641 046

## DECLARATION

I, **MADHUNISHA B (231BT003)**, hereby declare that this internship report titled "**Department of Human Genetics and Molecular Biology, Medical Genetics And Epi Genetics Laboratory**" is an authentic record of my own work carried out as a part of the internship program at **Bharathiar university, Coimbatore - 46** during the period of **06-05-2025 to 22-05-2025** under the guidance of **Dr. A .Vijaya Anand Ph.D.,( Professor & Head)** at **Department of Human Genetics And Molecular Biology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of the Candidate

PLACE : Coimbatore

DATE : 30/06/25

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr. A.Vijaya Anand Ph.D.**, Professor & Head, at Department of Human Genetics and Molecular Biology for his support, guidance, and for providing the facility to undergo this internship training.

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I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

MADHUNISHA B (231BT003)

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**L SIVANESAN (231BT027)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. L SIVANESAN (Reg.No231BT027)** has done his summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career



  
**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

  
**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11.07.2025 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore – 641029.



# **SATHYABAMA**

**INSTITUTE OF SCIENCE AND TECHNOLOGY**

**(DEEMED TO BE UNIVERSITY)**

**Category - I University by UGC**

**Accredited with Grade "A++" by NAAC I Approved by AICTE**

## **CERTIFICATE OF PARTICIPATION**

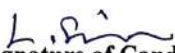
This is to certify that **Mr. L. SIVANESAN**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days "**SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**", organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

*B. Shale. Rao*

**DR. B. SHEELA RANI**  
(Director Research)

## DECLARATION

I, SIVANESAN L (231BT027), hereby declare that this internship report titled “ Summer Internship & Hands on Training in Aquatic Microbiology” is an authentic record of my own work carried out as a part of the internship program at Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai , during the period of 12-05-2025 to 28-05-2025 under the guidance of Dr. Inbakandan, professor (Research)& Head, COR at Ocean Research Park , submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of Bachelor of Science in Biotechnology. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.

  
Signature of Candidate

PLACE: Coimbatore

DATE: 30.06. 2025

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**HARIVARMAN R.S(231BT013)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. HARIVARMAN R.S(Reg.No231BT013)** has done his summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career



Head of the Department

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal  
**PRINCIPAL**

**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on. 11/05/2025 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore – 641029.



# **SATHYABAMA**

INSTITUTE OF SCIENCE AND TECHNOLOGY

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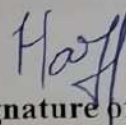
This is to certify that **Mr. R.S. HARIVARMAN**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days "**SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**", organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

**Dr. B. SHEELA RANI**

(Director Research)

## DECLARATION

I, **HARIVARMAN R.S(231BT013)**, hereby declare that this internship report titled “ **Summer Internship & Hands on Training in Aquatic Microbiology**” is an authentic record of my own work carried out as a part of the internship program at **Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai** , during the period of **12-05-2025 to 28-05-2025** under the guidance of **Dr. Inbakandan, professor (Research)& Head, COR** at **Ocean Research Park** , submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of Candidate

PLACE: Coimbatore

DATE: 30/6/2025

## ACKNOWLEDGEMENT

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HARIVARMAN R.S(231BT013)

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**DHARUN R (231BT008)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. DHARUN R (Reg.No231BT008)** has done his summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career

Countersigned



**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

**Signature of the Principal**

**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11/7/25 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore – 641029.



**SATHYABAMA**

INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

Category - I University by UGC

Accredited with Grade "A++" by NAAC | Approved by AICTE

**CERTIFICATE OF PARTICIPATION**

This is to certify that **Mr. R. DHARUN**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days **"SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY"**, organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

*B. Sheela Rani*

**Dr. B. SHEELA RANI**  
(Director Research)

## DECLARATION

I, **DHARUN R (231BT008)**, hereby declare that this internship report titled “ **Summer Internship & Hands on Training in Aquatic Microbiology**” is an authentic record of my own work carried out as a part of the internship program at **Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai** , during the period of **12-05-2025 to 28-05-2025** under the guidance of **Dr. Inbakandan, professor (Research)& Head, COR at Ocean Research Park** , submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



**Signature of Candidate**

**PLACE:** Coimbatore

**DATE:** 30/6/2025

**SUMMER INTERNSHIP REPORT**  
**ON**  
**SUSTAINABLE NANOMATERIALS FOR ANTIMICROBIAL**  
**RESISTANCE APPLICATIONS**

**Submitted to**  
**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**  
Affiliated to Bharathiar University in partial fulfilment for the award of the degree of  
**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**  
**SABARIESHA BAABU B S (231BT038)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade- 4<sup>th</sup> cycle

College of Excellence – UGC, 52<sup>nd</sup> Rank among college in NIRF 2024

Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN**  
**Viyen Biotech LLP, COIMBATORE**



**Training Period**  
**07-05-2025 to 21-05-2025**

**May - 2025**

## CERTIFICATE

This is to certify that **Ms. SABARIESHA BAABU B S (Reg.No.231BT038)** has done her summer internship training programme during the month of May 2025 at **Viyen Biotech LLP Coimbatore**, as a part of curriculum and submitted to Kongunadu Arts and Science College (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the industrial exposure required by the student in her career



**Head of the Department**

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.M. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

**Signature of the Principal**

**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on <sup>7</sup>11-06-2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



# VIYEN BIOTECH LLP

## Internship

# Certificate

Cer code: VSRP/D405/25

This certificate awarded to

SABARIESHA BAABU B.S (Reg.No 23IBT038)

II BSc. Biotechnology candidate From the Department of Biotechnology,  
KONGUNADU ART AND SCIENCE COLLEGE (Autonomous), Coimbatore.

In recognition of her efforts and achievements in completing the 15 days  
**VIYEN SUMMER INTERNSHIP PROGRAMME-2025 (VSRP-2025)** Offered  
by Viyen Biotech LLP, Coimbatore successfully in the title of  
**Sustainable Nanomaterials for Antimicrobial Resistance (AMR) Applications**

Conducted from 07<sup>th</sup> May - 21<sup>st</sup> May, 2025

KARTIK KUMAR D M.Sc., PGOBD  
Founder & Chief Executive Officer

5th August, 2024

Signed date

VIYEN BIOTECH LLP  
Supported & recognized by



StartupTN #startupindia

## DECLARATION

I, **Sabariesha Baabu B S (231BT038)**, hereby declare that this internship report titled **“Sustainable Nanomaterials for Antimicrobial Resistance Applications”** is an authentic record of my own work carried out as a part of the internship program **Viyen Summer Research Programme– 2025** at **Viyen Biotech LLP, Coimbatore**, during the period of **07-05-2025 to 21-05-2025** under the guidance of **Mr.Karthik Kumar, Founder of Viyen Biotech**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree/Diploma/Fellowship or other similar title to any candidate in any university.

  
**Signature of Candidate**

**SUMMER INTERNSHIP REPORT  
ON  
FOOD TECHNOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**K.MANGAI ARASI (231BT011)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence - UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
MILK PRODUCERS UNION LTD, COIMBATORE - 641010**



**DEPARTMENT IN FOOD TECHNOLOGY**

**Training period**

**08.05.2025 to 23.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms K.MANGAI ARASI (Reg.No 231BT011)** has done her summer Internship training programme during the month of May 2025 at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India



**Signature of the Principal**

**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11/07/2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.

## CERTIFICATE



ED1116 THE COIMBATORE DIST.CO-OP. MILK PRODUCER'S UNION LTD

Pachapalayam, Kalampalayam Post, Coimbatore - 641 010

Phone: 0422 - 2208004 & 2208014 :: Email: [aavincbe@gmail.com](mailto:aavincbe@gmail.com)

Dr.R.Shanmugam, B.V.Sc.,  
General Manager-i/c

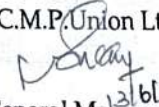
Ref.No.3778 / Estt.5 /2025

Dt : 13.06.2025

## CERTIFICATE

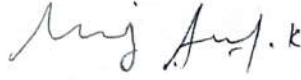
This is to certify that Ms. K.Mangai Arasi, II-B.Sc., (Bio Technology)  
student of The Kongunadu Arts & Science College, Coimbatore has done  
the Internship Training from 08.05.2025 to 23.05.2025 (15 days) in this  
Union.

For C.D.C.M.P. Union Ltd.,

  
For General Manager

To

Ms. K.Mangai Arasi,  
II-B.Sc., (Bio Technology)  
Kongunadu Arts & Science College,  
Coimbatore-641 029.



## DECLARATION

I, **K.MANGAI ARASI (231BT011)**, hereby declare that this internship report titled "**Department of Food Technology**" is an authentic record of my own work carried out as a part of the internship program at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** during the period of **08-05-2025** to **23-05-2025** under the guidance of **Dr.R.Shanmugam,B.V.Sc** at **Department of Food Technology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of the Candidate

PLACE : Coimbatore

DATE : 30.06.2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr.R.Shanmugam,B.V.Sc.**, at Department of Food Technology for his support, guidance, and for providing the facility to undergo this internship training.

I owe a Special thanks to the **Research scholars**, Milk Producer's Union Ltd for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the **Lab Technicians**, and Staff members at **Milk Producer's Union Ltd**.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

**SUMMER INTERNSHIP REPORT  
ON  
FOOD TECHNOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**S.BALAMURUGAN (231BT040)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence - UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
MILK PRODUCERS UNION LTD, COIMBATORE - 641010**



**DEPARTMENT IN FOOD TECHNOLOGY**

**Training period**

**08.05.2025 to 23.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Mr S.BALAMURUGAN (Reg.No 231BT040)** has done his summer Internship training programme during the month of May 2025 at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career.



  
**Head of the Department**

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

  
**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11/07/2025 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



ED1116 THE COIMBATORE DIST.CO-OP. MILK PRODUCER'S UNION LTD

Pachapalayam, Kalampalayam Post, Coimbatore – 641 010

Phone: 0422 – 2208004 & 2208014 :: Email: [aavincbe@gmail.com](mailto:aavincbe@gmail.com)

Dr.R.Shanmugam, B.V.Sc.,  
General Manager-i/c

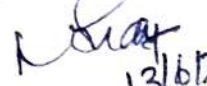
Ref.No.3778 / Estt.5 /2025

Dt : 13.06.2025

### CERTIFICATE

This is to certify that ~~Mr~~ S.Balamurugan, II-B.Sc., (Bio Technology)  
student of The Kongunadu Arts & Science College, Coimbatore has done  
the Internship Training from 08.05.2025 to 23.05.2025 (15 days) in this  
Union.

For C.D.C.M.P. Union Ltd.,

  
13/6/25  
For General Manager

S. Balamurugan

To

Ms. S.Balamurugan,  
II-B.Sc., (Bio Technology)  
Kongunadu Arts & Science College,  
Coimbatore-641 029.

## DECLARATION

I, **S.BALAMURUGAN (231BT040)**, hereby declare that this internship report titled "**Department of Food Technology**" is an authentic record of my own work carried out as a part of the internship program at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** during the period of **08-05-2025 to 23-05-2025** under the guidance of **Dr.R.Shanmugam,B.V.Sc** at **Department of Food Technology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.

  
Signature of the Candidate

PLACE : Coimbatore

DATE : 30/06/2025

## ACKNOWLEDGEMENT

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I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

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I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**SANJAYKUMAR R (231BT021)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. SANJAYKUMAR R (Reg.No231BT021)** has done his summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career

Countersigned



**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Muthu Post, Coimbatore - 641 029  
Tamilnadu, India

**Signature of the Principal**

**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on...11/7/25... at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



**SATHYABAMA**

INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

Category - I University by UGC

Accredited with Grade "A++" by NAAC | Approved by AICTE

**CERTIFICATE OF PARTICIPATION**

This is to certify that **Mr. R. SANJAY KUMAR**, Student, Kongunadu Arts and Science College Coimbatore, has participated in the 15-days "**SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**", organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

**Dr. B. SHEELA RANI**  
(Director Research)

## DECLARATION

I, **SANJAYKUMAR R (231BT021)**, hereby declare that this internship report titled “ **Summer Internship & Hands on Training in Aquatic Microbiology**” is an authentic record of my own work carried out as a part of the internship program at **Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai** , during the period of **12-05-2025 to 28-05-2025** under the guidance of **Dr. Inbakandan, professor (Research)& Head, COR at Ocean Research Park** , submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



**Signature of Candidate**

**PLACE:** Coimbatore

**DATE:** 30/6/2025

**SUMMER INTERNSHIP REPORT**  
**ON**  
**SUSTAINABLE NANOMATERIALS FOR ANTIMICROBIAL**  
**RESISTANCE APPLICATIONS**

**Submitted to**  
**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**  
affiliated to Bharathiar University in partial fulfilment for the award of the degree of  
**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**  
**Indhuja.J (231BT002)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A+ Grade- 4<sup>th</sup> cycle  
College of Excellence – UGC, 52<sup>nd</sup> Rank among college in NIRF 2024  
Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN**  
**Viyen Biotech LLP, COIMBATORE**



**Training Period**  
**07-05-2025 to 21-05-2025**  
**May - 2025**

## CERTIFICATE

This is to certify that **Ms. Indhuja .J (Reg.No.231BT002)** has done her summer internship training programme during the month of May 2025 at **Viyen Biotech LLP Coimbatore**, as a part of curriculum and submitted to Kongunadu Arts and Science College (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the industrial exposure required by the student in her career



Head of the Department

Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

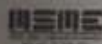
Signature of the Principal

PRINCIPAL  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11.07.2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



VIYEN BIOTECH LLP  
Supported & Recognized by



# VIYEN BIOTECH LLP Internship Certificate

Cer code: VSRP/0405/25

This certificate awarded to

INDHUJA J (Reg.No 23IBT002)

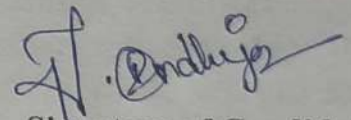
II BSc. Biotechnology candidate From the Department of Biotechnology,  
KONGUNADU ART AND SCIENCE COLLEGE (Autonomous), Coimbatore.  
In recognition of her efforts and achievements in completing the 15 days  
VIYEN SUMMER INTERNSHIP PROGRAMME-2025 (VSRP-2025) Offered  
by Viyen Biotech LLP, Coimbatore successfully in the title of  
Sustainable Nanomaterials for Antimicrobial Resistance (AMR) Applications  
Conducted from 07<sup>th</sup> May- 21<sup>st</sup> May, 2025

5th August, 2024  
Signed date

KARTHIK KUMAR D.M.Sc., PGDBD  
Founder & Chief Executive Officer

## DECLARATION

I, **Indhuja.J(231BT002)**, hereby declare that this internship report titled **Sustainable Nanomaterials for Antimicrobial Resistance Applications** is an authentic record of my own work carried out as a part of the internship program **Viyen Summer Research Programme – 2025** at **Viyen Biotech LLP, Coimbatore**, during the period of **07-05-2025 to 21-05-2025** under the guidance of **Mr. Karthik Kumar, Founder of Viyen Biotech**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree/Diploma/Fellowship or other similar title to any candidate in any university.



Signature of Candidate

PLACE: Coimbatore

DATE: 31 - 06 - 2025



REDMI NOTE 6 PRO  
MI DUAL CAMERA

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President, late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr. R. Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

I express my sincere thanks to **Dr. R. Sathish Kumar M.Sc., Ph.D.**, Assistant professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Mr. D. Karthik Kumar**, Founder and Chief Executive Officer of **Viyen Biotech LLP**, Coimbatore for his support, guidance and for providing facility to undergo the internship training.

I would also like to express my deep appreciation to **Mr. D. Kalaiyarasan**, Facility Manager, for his consistent support, direction, and encouragement throughout the internship. His expertise and advice have played a significant role in making this experience valuable and insightful.

I owe a very special heartfelt thanks to Research Assistant **Mr. R. R. Harish Kumar** and Research Intern **Ms. M. Thamilvani** for guiding me and for the valuable inputs throughout the internship training. Furthermore, I am grateful to all the Staff members, at **Viyen Biotech LLP**.

I gratefully acknowledge my thanks to Staff members, Lab technician, Research Scholars and other members of Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.



**SUMMER INTERNSHIP REPORT  
ON  
PLANT BIOTECHNOLOGY AND NANOTECHNOLOGY**

Submitted to

**KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS)**  
Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

Submitted by

**YUVARAJ C (231BT036)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS)**

Re – Accredited by the NAAC with A+ Grade (4<sup>th</sup> Cycle)

52nd Rank among Colleges in NIRF 2024

College of Excellence (UGC)

Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN  
CENTER FOR BIOSCIENCE AND NANOSCIENCE RESEARCH, COIMBATORE – 21**



**DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH**

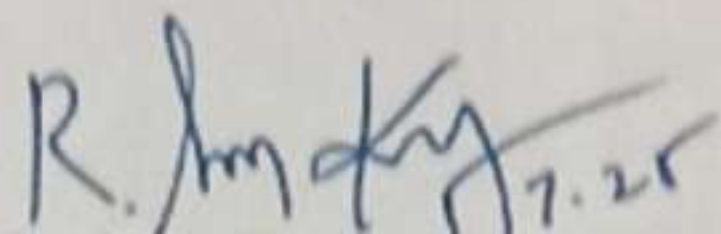
**Training Period**

**07.05.2025 to 23.05.2025**

**MAY-2025**

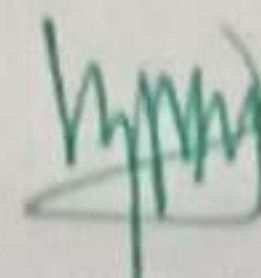
## CERTIFICATE

This is to certify that **Mr. YUVARAJ C (231BT036)** has done his Summer Internship Training Programme during the month of May 2025 at **Department of Scientific & Industrial Research , Centre for Bioscience and Nanoscience Research , Coimbatore** as a part of Curriculum and submitted to Kongunadu arts and science college(Autonomous) Affiliated to Bharathiar University , in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organization is expected to provide the Industrial exposure required by the student in his career.



Head of the Department

Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India



Signature of the Principal  
**PRINCIPAL**  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

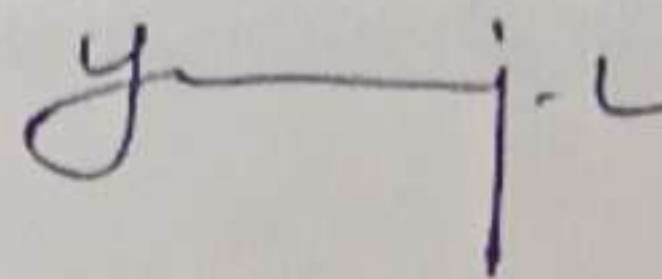
Submitted for the Evaluation of Summer Internship Programme held on 11/07/25 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore-641029



## DECLARATION

I, YUVARAJ C (231BT036), hereby declare that this Internship Report titled "Summer Internship & Hands on Training in Plant Biotechnology and Nanotechnology" is an authentic record of my own work carried out as a part of the Internship program at Centre for Bioscience and Nanoscience Research Organized by Department of Scientific & Industrial Research, Coimbatore, during the period of 07-05-2025 to 23-05-2025 under the guidance of Dr. Ragunathan, Dr. JESTEENA JOHNEY, ABIRAMI V, submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of Bachelor of Science in Biotechnology. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree / Diploma / Fellowship or other similar title to any candidate in any University.

Signature of the Candidate



Place: Coimbatore

Date: 30/6/25

### ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete the report. I thank the Almighty for giving the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President, Late **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my science thank to **Dr. V. Kokilavani**, Controller of Examination( i/c), **Dr. R. Saravanamoorthy**, Academic Coordinator, Kongunadu arts and science college, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R Sathish Kumar**, M.Sc., Ph.D., Assistant professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting me in all endeavors.

My sincere thanks and gratitude to **Dr. R. Ragunathan**, **Dr. Jesteeena Johney**, **Abirami .V** for their support, guidance and for providing facility to undergo this internship training.

I owe a Special thanks to the **Research scholars**, Department of Scientific & Industrial Research for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the **Lab Technicians**, and Staff members at **Centre for Bioscience and Nanoscience**

I gratefully acknowledge my thanks to Staff Members, Lab Technicians, Research Scholars and other members of Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

**YUVARAJ C (231BT036)**

**SUMMER INTERNSHIP REPORT  
ON  
PLANT BIOTECHNOLOGY AND NANOTECHNOLOGY**

Submitted to

**KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS)**  
Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

Submitted by

**MURUGA V (231BT034)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE(AUTONOMOUS)**

Re – Accredited by the NAAC with A+ Grade (4<sup>th</sup> Cycle)

52nd Rank among Colleges in NIRF 2024

College of Excellence (UGC)

Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN  
CENTER FOR BIOSCIENCE AND NANOSCIENCE RESEARCH, COIMBATORE – 21**



**DEPARTMENT OF SCIENTIFIC & INDUSTRIAL RESEARCH**

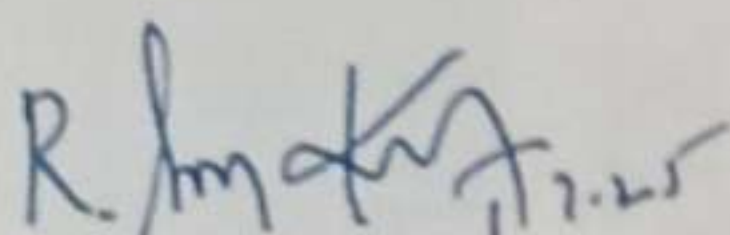
**Training Period**

**07.05.2025 to 23.05.2025**

**MAY-2025**

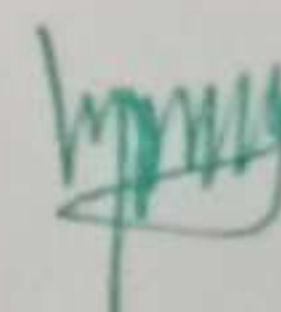
## CERTIFICATE

This is to certify that **Mr. MURUGA V (231BT034)** has done his Summer Internship Training Programme during the month of May 2025 at **Department of Scientific & Industrial Research , Centre for Bioscience and Nanoscience Research , Coimbatore** as a part of Curriculum and submitted to Kongunadu arts and science college(Autonomous) Affiliated to Bharathiar University , in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organization is expected to provide the Industrial exposure required by the student in his career.



Head of the Department

Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India



Signature of the Principal  
**PRINCIPAL**  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on. 11.07.25 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore-641029



Ministry of Science and Technology (DSIR - SIRO) - Recognised  
Amman Nagar L&T Bypass Road, Eachanari, Coimbatore - 641021, Tamil Nadu, India  
Ph : 0422 2930408, +91 9629388728  
www.cbnrindia.com, E-mail : cbnrindia@gmail.com

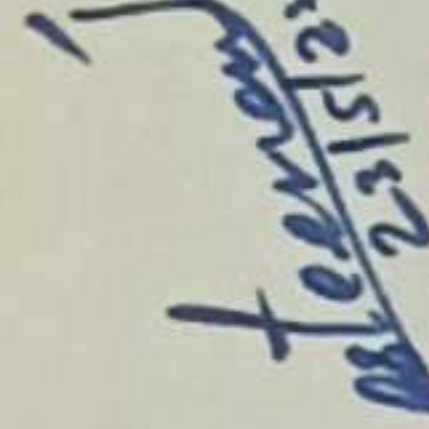


## CERTIFICATE

We present this certificate for the successful completion of the ~~Internship~~/  
Training/ Workshop/ Industrial Training/ Short Term Training/ Project, Conducted by  
Centre for Bioscience and Nanoscience Research (CBNR), Eachanari, Coimbatore -21,  
Tamil Nadu, India.

Name of the Student : MURUGIA . V  
Department and College : II- Bsc. Biotechnology, Kongunadu Arts and science college  
Name of the Course Underwent : Internship  
Duration : From 01-05-25 To 23-05-25

  
Director  
(Dr. R.Raguathan)

  
23/5/25  
Head of the Institute  
(Dr. J. J. Johny)

## DECLARATION

I, MURUGA V (231BT034), hereby declare that this Internship Report titled "Summer Internship & Hands on Training in Plant Biotechnology and Nanotechnology" is an authentic record of my own work carried out as a part of the Internship program at **Centre for Bioscience and Nanoscience Research Organized by Department of Scientific & Industrial Research, Coimbatore**, during the period of **07-05-2025 to 23-05-2025** under the guidance of **Dr. Ragunathan, Dr. Jesteena Johnney, Abirami V**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree / Diploma / Fellowship or other similar title to any candidate in any University.

Muruga.v.

Signature of the Candidate

Place: Coimbatore

Date: 30.06.2025

### ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete the report. I thank the Almighty for giving the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President, Late **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

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I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

MURUGA V (231BT034)

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**S PRAVEEN (231BT017)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLOGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. S PRAVEEN (Reg.No231BT017)** has done his summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career



Head of the Department

Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal  
**PRINCIPAL**

KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 10.04.25 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore – 641029.



# **SATHYABAMA**

INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

Category - I University by UGC

Accredited with Grade "A++" by NAAC | Approved by AICTE

## **CERTIFICATE OF PARTICIPATION**

This is to certify that **Mr. S. PRAVEEN**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days "**SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**", organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

**Dr. B. SHEELA RANI**  
(Director Research)

## DECLARATION

I, **S PRAVEEN (231BT017)**, hereby declare that this internship report titled "**Summer Internship & Hands on Training in Aquatic Microbiology**" is an authentic record of my own work carried out as a part of the internship program at **Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai**, during the period of **12-05-2025 to 28-05-2025** under the guidance of **Dr. Inbakandan, professor (Research)& Head, COR at Ocean Research Park**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of Candidate

PLACE: Coimbatore

DATE: 30.06.2025

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**SHALOM T (231BT014)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONLOGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Mr. SHALOM T(Reg.No231BT014)** has done his summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in his career



  
**Head of the Department**

Dr. R. SATHISH KUMAR (Ph.D.),  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamil Nadu, India

  
**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11/07/25 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



# **SATHYABAMA**

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Category - I University by UGC

Accredited with Grade "A++" by NAAC | Approved by AICTE

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**Dr. B. SHEELA RANI**

(Director Research)

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**Signature of Candidate**

**PLACE:** Coimbatore

**DATE:** 30/06/2025

**SUMMER INTERNSHIP REPORT  
ON  
MEDICAL GENETICS AND EPIGENETICS STUDIES**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**AMIRTHAMBA K (231BT016)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
BHARATHIAR UNIVERSITY, COIMBATORE – 46**



**DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY**

**Training period**

**06.05.2025 to 22.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms. AMIRTHAMBA K (Reg.No231BT016)** has done her summer Internship training programme during the month of May 2025 at **Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore - 46** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



  
**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.H. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

  
**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11 / 7 / 2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY  
**BHARATHIAR UNIVERSITY**

COIMBATORE - 641 046, TAMILNADU, INDIA.

Dr. A. Vijaya Anand Ph.D.,  
Professor and Head

Email : avamiet@yahoo.com | avahgmb@buc.edu.in

Mobile : +91 98425 25830 | Landline : +91 422 2428511

## CERTIFICATE

This is to certify that **Ms. Amirthamba K (Reg. No. 231BT016)** pursuing her Bachelor of Science in Department of Biotechnology, Kongunadu Arts and Science College, G.N mills, Coimbatore, has done her Internship training work in the Medical Genetics and Epigenetics Laboratory, Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore- 46 under my guidance and supervision for 15 days (06.05.2025 – 22.05.2025).

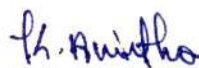
Her attendance during the period of project is 100%.

Signature

*[Handwritten signature of Dr. A. Vijaya Anand]*  
Dr. A. Vijaya Anand  
Professor and Head  
Department of Human Genetics and Molecular Biology  
Bharathiar University, Coimbatore

## DECLARATION

I, AMIRTHAMBA K (231BT016), hereby declare that this internship report titled "Department of Human Genetics and Molecular Biology, Medical Genetics And Epi Genetics Laboratory" is an authentic record of my own work carried out as a part of the internship program at Bharathiar university, Coimbatore - 46 during the period of 06-05-2025 to 22-05-2025 under the guidance of Dr. A .Vijaya Anand Ph.D.,( Professor & Head) at Department of Human Genetics And Molecular Biology, submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of Bachelor of Science in Biotechnology. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of the Candidate

PLACE : Coimbatore

DATE : 30/6/25

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr. A.Vijaya Anand Ph.D.**, Professor & Head, at Department of Human Genetics and Molecular Biology for his support, guidance, and for providing the facility to undergo this internship training.

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I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

**SUMMER INTERNSHIP REPORT  
ON  
MEDICAL GENETICS AND EPIGENETICS STUDIES**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**NANDHINI R (231BT012)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
BHARATHIAR UNIVERSITY, COIMBATORE – 46**



**DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY**

**Training period**

**06.05.2025 to 22.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms. NANDHINI R (Reg.No231BT012)** has done her summer Internship training programme during the month of May 2025 at **Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore - 46** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.

Completed



**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11/7/2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous).  
Coimbatore – 641029.



DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY  
**BHARATHIAR UNIVERSITY**  
COIMBATORE - 641 046, TAMILNADU, INDIA.

Dr. A. Vijaya Anand Ph.D.,  
Professor and Head

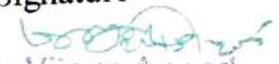
Email : avamiet@yahoo.com | avahgmb@buc.edu.in      Mobile : +91 98425 25830 | Landline : +91 422 2428511

## CERTIFICATE

This is to certify that **Ms. Nandhini R (Reg. No. 231BT012)** pursuing her Bachelor of Science in Department of Biotechnology, Kongunadu Arts and Science College, G.N mills, Coimbatore, has done her Internship training work in the Medical Genetics and Epigenetics Laboratory, Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore- 46 under my guidance and supervision for 15 days (06.05.2025 – 22.05.2025).

Her attendance during the period of project is 100%.

Signature

  
**Dr. A. Vijaya Anand**  
Professor and Head  
Department of Human Genetics and  
Molecular Biology  
Bharathiar University  
Coimbatore - 641 046

## DECLARATION

I, **NANDHINI R (231BT012)**, hereby declare that this internship report titled "**Department of Human Genetics and Molecular Biology, Medical Genetics And Epi Genetics Laboratory**" is an authentic record of my own work carried out as a part of the internship program at **Bharathiar university, Coimbatore - 46** during the period of **06-05-2025 to 22-05-2025** under the guidance of **Dr. A .Vijaya Anand Ph.D.,( Professor & Head)** at **Department of Human Genetics And Molecular Biology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of the Candidate

PLACE : Coimbatore

DATE : 30/6/25

## ACKNOWLEDGEMENT

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I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

NANDHINI R (231BT012)

**SUMMER INTERNSHIP REPORT  
ON  
MEDICAL GENETICS AND EPIGENETICS STUDIES**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

**Affiliated to Bharathiar University in partial fulfilment for the award of the degree of**

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**SUNDAR SRIKAMALI (231BT031)**

**III BSc Biotechnology (2023-2026)**



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

**Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029**

**INTERNSHIP CARRIED OUT IN  
BHARATHIAR UNIVERSITY, COIMBATORE – 46**



**DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY**

**Training period**

**06.05.2025 to 22.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms. SUNDAR SRIKAMALI** (Reg.No231BT031) has done her summer Internship training programme during the month of May 2025 at **Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore - 46** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



A handwritten signature in black ink, appearing to read "R. Sathish Kumar" with a date "17.2.25" written below it.

Head of the Department

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

A handwritten signature in green ink, appearing to be a stylized name.

Signature of the Principal  
**PRINCIPAL**  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11-07-2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY  
**BIHARATHIAR UNIVERSITY**  
COIMBATORE - 641 046, TAMILNADU, INDIA.

**Dr. A. Vijaya Anand Ph.D.,**  
Professor and Head

E mail : avamict@yahoo.com | avahgmb@buc.edu.in

Mobile : +91 98425 25830 | Landline : +91 422 2428511

## CERTIFICATE

This is to certify that **Ms. Sundar Srikamali (Reg. No. 231BT031)** pursuing her Bachelor of Science in Department of Biotechnology, Kongunadu Arts and Science College, G.N mills, Coimbatore, has done her Internship training work in the Medical Genetics and Epigenetics Laboratory, Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore- 46 under my guidance and supervision for 15 days (06.05.2025 -- 22.05.2025).

Her attendance during the period of project is 100%.

Signature

  
**Dr. A. Vijaya Anand**  
Professor and Head  
Department of Human Genetics and  
Molecular Biology  
Bharathiar University  
Coimbatore - 641 046

## DECLARATION

I, **SUNDAR SRIKAMALI (231BT031)**, hereby declare that this internship report titled **"Department of Human Genetics and Molecular Biology, Medical Genetics And Epi Genetics Laboratory"** is an authentic record of my own work carried out as a part of the internship program at **Bharathiar university, Coimbatore - 46** during the period of **06-05-2025 to 22-05-2025** under the guidance of **Dr. A .Vijaya Anand Ph.D.,( Professor & Head)** at **Department of Human Genetics And Molecular Biology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.

*S.Srikamali*

Signature of the Candidate

PLACE : Coimbatore

DATE : 30-06-2025

**SUMMER INTERNSHIP REPORT ON BIOTECHNOLOGY AND  
MOLECULAR TECHNIQUE FOR DETECTION OF POTATO CYST  
NEMATODE AND ASSESSMENT OF SOIL HEALTH  
PARAMETERS**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in Partial fulfilment for the award of degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**DHANALAKSHMI J (231BT019)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024 Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN**

**ICAR-CENTRAL POTATO RESEARCH INSTITUTE, OOTY**



**Training Period**

**07.05.2025 to 31.05.2025**

**MAY 2025**

## CERTIFICATE

This is to certify that Ms. DHANALAKSHMIJ (Reg.No.231BT019) has done her summer Internship training programme during the month of May 2025 at ICAR- CENTRAL POTATO RESEARCH STATION, OOTY as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



  
Head of the Department

Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

  
Signature of the Principal  
PRINCIPAL  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11:01:2025  
at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



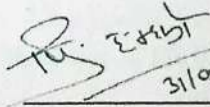
## ICAR-Central Potato Research Institute

Regional Station, Udthagamandalam-643 004, The Nilgiris, Tamilnadu

### Certificate

This is to certify that **Miss Dhanalakshmi J.**, Second Year, B.Sc. Biotechnology student of Kongunadu, Arts and Science College, Coimbatore, Tamil Nadu has completed the Twenty Five days internship program at ICAR-Central Potato Research Institute, Regional Station, Udthagamandalam, from 07.05.2025 to 31.05.2025. We wish her all the success in future endeavours.

Date: 31.05.2025  
Place: Ooty

  
31/05/2025  
Dr. Priyank Hanuman Mhatre  
Head, ICAR-CPRI, RS, Ooty

## DECLARATION

I, DHANALAKSHMI (231BT019), hereby declare that this internship report titled “**Summer Internship & Hands on Training in Potato Research**” is an authentic record of my own work carried out as a part of the internship program at **ICAR- CENTRAL POTATO RESEARCH INSTITUTE ,OOTY**, during the period of **07-05-2025 to 31-05-2025** under the guidance of **Dr.Priyank Hanuman Mhatre**, Head Scientist at **ICAR-Central Potato Research Institute,Ooty**,submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.

*Dhanalakshmi - J*

Signature of the Candidate

PLACE : Coimbatore

DATE : 30/6/25

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **DR.PRIYANK HANUMAN MHATRE, HEAD SCIENTIST** at **ICAR – CENTRAL POTATO RESEARCH INSTITUTE, OOTY**, for his support, guidance, and for providing the facility to undergo this internship training.

I owe a special thanks to the Scientist of Potato Research Station for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the Lab Technicians, and Coordinators of Potato Research Station.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

DHANALAKSHMIJ (231BT019)

**SUMMER INTERNSHIP REPORT  
ON  
FOOD TECHNOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**B.KAVIYA (231BT020)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence - UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
MILK PRODUCERS UNION LTD, COIMBATORE - 641010**



**DEPARTMENT IN FOOD TECHNOLOGY**

**Training period**

**08.05.2025 to 23.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms B.KAVIYA (Reg.No 231BT020)** has done her summer Internship training programme during the month of May 2025 at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



Head of the Department

Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal  
PRINCIPAL  
KONGUNADU ARTS & SCIENCE COLLEGE,  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11/07/2025 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



ED1116 THE COIMBATORE DIST.CO-OP. MILK PRODUCER'S UNION LTD

Pachapalayam, Kalampalayam Post, Coimbatore – 641 010

Phone: 0422 – 2208004 & 2208014 ::: Email: [aavincoe@gmail.com](mailto:aavincoe@gmail.com)

Dr.R.Shanmugam, B.V.Sc.,  
General Manager-i/c

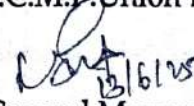
Ref.No.3778 / Estt.5 /2025

Dt : 13.06.2025

### CERTIFICATE

This is to certify that Ms. B.Kaviya, II-B.Sc., (Bio Technology) student of The Kongunadu Arts & Science College, Coimbatore has done the Internship Training from 08.05.2025 to 23.05.2025 (15 days) in this Union.

For C.D.C.M.P. Union Ltd.,

  
For General Manager

To

Ms. B.Kaviya,  
II-B.Sc., (Bio Technology)  
Kongunadu Arts & Science College,  
Coimbatore-641 029.



## DECLARATION

I, **B.KAVIYA (231BT020)**, hereby declare that this internship report titled "**Department of Food Technology**" is an authentic record of my own work carried out as a part of the internship program at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** during the period of **08-05-2025 to 23-05-2025** under the guidance of **Dr.R.Shanmugam,B.V.Sc.** Department of Food Technology, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfillment of requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in this University.



Signature of the Candidate

PLACE : Coimbatore

DATE : 30.06.2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr.R.Shanmugam,B.V.Sc.**, at Department of Food Technology for his support, guidance, and for providing the facility to undergo this internship training.

I owe a Special thanks to the **Research scholars**, Milk Producer's Union Ltd for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the **Lab Technicians**, and Staff members at **Milk Producer's Union Ltd**.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**S HEMAVARNA (231BT004)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle  
College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024  
Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLOGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

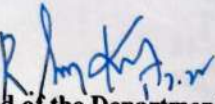
**MAY-2025**

## CERTIFICATE

This is to certify that **Ms. S HEMAVARNA (Reg.No 231BT004)** has done her summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career

Countersigned



  
**Head of the Department**

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamil Nadu, India

  
**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on ~~17.07.25~~ at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



# **SATHYABAMA**

**INSTITUTE OF SCIENCE AND TECHNOLOGY**  
(DEEMED TO BE UNIVERSITY)

Category - I University by UGC

Accredited with Grade "A++" by NAAC I Approved by AICTE

## **CERTIFICATE OF PARTICIPATION**

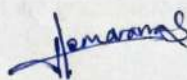
This is to certify that **Ms. S. HEMAVARNA**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days "**SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**", organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

*B. S. L. R.*  
**Dr. B. SHEELA RANI**

(Director Research)

## DECLARATION

I, S HEMAVARNA (231BT004), hereby declare that this internship report titled “ Summer Internship & Hands on Training in Aquatic Microbiology” is an authentic record of my own work carried out as a part of the internship program at Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai , during the period of 12-05-2025 to 28-05-2025 under the guidance of Dr. Inbakandan, professor (Research)& Head, COR at Ocean Research Park , submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of Bachelor of Science in Biotechnology. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of Candidate

PLACE: Coimbatore

DATE: 30-06-2025

**SUMMER INTERNSHIP REPORT  
ON  
FOOD TECHNOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**V.SLINE JENOPHIYA (231BT010)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence - UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
MILK PRODUCERS UNION LTD, COIMBATORE - 641010**



**DEPARTMENT IN FOOD TECHNOLOGY**

**Training period**

**08.05.2025 to 23.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms V.SLINE JENOPHIYA (Reg.No 231BT010)** has done her summer Internship training programme during the month of May 2025 at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



Head of the Department

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology,  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal  
PRINCIPAL  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11/07/2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



ED1116 THE COIMBATORE DIST.CO-OP. MILK PRODUCER'S UNION LTD

Pachapalayam, Kalampalayam Post, Coimbatore – 641 010

Phone: 0422 – 2208004 &2208014 :::Email: [aavincbe@gmail.com](mailto:aavincbe@gmail.com)

---

Dr.R.Shanmugam, B.V.Sc.,  
General Manager-i/c

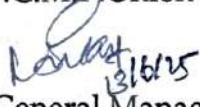
Ref.No.3778 / Estt.5 /2025

Dt : 13.06.2025

### CERTIFICATE

This is to certify that Ms. V.Sline Jenophiya, II-B.Sc., (Bio Technology)  
student of The Kongunadu Arts & Science College, Coimbatore has done  
the Internship Training from 08.05.2025 to 23.05.2025 (15 days) in this  
Union.

For C.D.C.M.P Union Ltd.,

  
31/6/25  
For General Manager

To

Ms. V.Sline Jenophiya,  
II-B.Sc., (Bio Technology)  
Kongunadu Arts & Science College,  
Coimbatore-641 029.



## DECLARATION

I, **SLINE JENOPHIYA V (231BT010)**, hereby declare that this internship report titled **"Department of Food Technology"** is an authentic record of my own work carried out as a part of the internship program at **Milk Producers Union Ltd., Pachapalayam, Coimbatore - 641010** during the period of **08-05-2025 to 23-05-2025** under the guidance of **Dr.R.Shanmugam,B.V.Sc** at **Department of Food Technology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of the Candidate

PLACE : Coimbatore

DATE : 30.06.2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr.R.Shanmugam,B.V.Sc.**, at Department of Food Technology for his support, guidance, and for providing the facility to undergo this internship training.

I owe a Special thanks to the **Research scholars**, Milk Producer's Union Ltd for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the **Lab Technicians**, and Staff members at **Milk Producer's Union Ltd**.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

V.SLINE JENOPHIYA(231BT010)

# **SUMMER INTERNSHIP REPORT**

**ON**

## **SUSTAINABLE NANOMATERIALS FOR ANTIMICROBIAL RESISTANCE APPLICATIONS**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**JAYASUDHA A (231BT018)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade- 4<sup>th</sup> cycle

College of Excellence – UGC, 52<sup>nd</sup> Rank among college in NIRF 2024

Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN**

**Viyen Biotech LLP, COIMBATORE**



**Training Period**

**07-05-2025 to 21-05-2025**

**May - 2025**

## CERTIFICATE

This is to certify that **Ms. JAYASUDHA A (Reg.No.231BT018)** has done her summer internship training programme during the month of May 2025 at **Viyen Biotech LLP Coimbatore**, as a part of curriculum and submitted to Kongunadu Arts and Science College (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the industrial exposure required by the student in her career

Counter signed



**Head of the Department**

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on **11-07-2025** at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



# VIYEN BIOTECH LLP

## Internship

# Certificate

Cer code: VSRP/0405/25

This certificate awarded to

**JAYASUDHA A** (Reg.No 23IBT018)

**II BSc. Biotechnology candidate From the Department of Biotechnology,  
KONGUNADU ART AND SCIENCE COLLEGE (Autonomous), Coimbatore.**

In recognition of her efforts and achievements in completing the 15 days  
**VIYEN SUMMER INTERNSHIP PROGRAMME-2025 (VSRP-2025)** Offered  
by Viyen Biotech LLP, Coimbatore successfully in the title of  
**Sustainable Nanomaterials for Antimicrobial Resistance (AMR) Applications**

Conducted from 07<sup>th</sup> May - 21<sup>st</sup> May, 2025

5th August, 2024

Signed date

**KARTHIK KUMAR D.M.Sc., PGDBD**  
Founder & Chief Executive Officer

VIYEN BIOTECH LLP  
Supported & Recognized by



**MSME**

**StartupTN #startupindia**

## DECLARATION

I, **Jayasudha A (231BT018)**, hereby declare that this internship report titled "**Sustainable Nanomaterials for Antimicrobial Resistance Applications**" is an authentic record of my own work carried out as a part of the internship program **Viyen Summer Research Programme- 2025** at **Viyen Biotech LLP, Coimbatore**, during the period of **07-05-2025 to 21-05-2025** under the guidance of **Mr.Karthik Kumar, Founder of Viyen Biotech**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree/Diploma/Fellowship or other similar title to any candidate in any university.

  
Signature of Candidate

PLACE:Coimbatore

DATE: 30-06-2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President, late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, for their encouragement.

I submit my sincere thanks to **Dr. V. Kokilavani**, Controller of Examination(i/c), **Dr. R. Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

I express my sincere thanks to **Dr. R. Sathish Kumar M.Sc., Ph.D.**, Assistant professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Mr. D. Karthik Kumar**, Founder and Chief Executive Officer of **Viyen Biotech LLP**, Coimbatore for his support, guidance and for providing facility to undergo the internship training.

I would also like to express my deep appreciation to **Mr. D. Kalaiyarasan**, Facility Manager, for his consistent support, direction, and encouragement throughout the internship. His expertise and advice have played a significant role in making this experience valuable and insightful.

I owe a very special heartfelt thanks to Research Assistant **Mr. R. R. Harish Kumar** and Research Intern **Ms. M. Thamilvani** for guiding me and for the valuable inputs throughout the internship training. Furthermore, I am grateful to all the Staff members, at **Viyen Biotech LLP**.

I gratefully acknowledge my thanks to Staff members, Lab technician, Research Scholars and other members of Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

**JAYASUDHA A (231BT018)**

**SUMMER INTERNSHIP REPORT**  
**ON**  
**SUSTAINABLE NANOMATERIALS FOR ANTIMICROBIAL**  
**RESISTANCE APPLICATIONS**

**Submitted to**  
**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**  
Affiliated to Bharathiar University in partial fulfilment for the award of the degree of  
**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**  
**SWETHA J (231BT024)**  
III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade- 4<sup>th</sup> cycle  
College of Excellence – UGC, 52<sup>nd</sup> Rank among college in NIRF 2024  
Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN**  
**Viyen Biotech LLP, COIMBATORE**



**Training Period**  
**07-05-2025 to 21-05-2025**  
**May - 2025**

## CERTIFICATE

This is to certify that **Ms. SWETHA J (Reg.No.231BT024)** has done her summer internship training programme during the month of May 2025 at **Viyen Biotech LLP Coimbatore**, as a part of curriculum and submitted to Kongunadu Arts and Science College (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the industrial exposure required by the student in her career



Head of the Department

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal

**PRINCIPAL**  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11.07.2025 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore – 641029.



VIYEN BIOTECH LLP  
Supported & Recognized by



WSEIP

StartupTN #startuptindia

# VIYEN BIOTECH LLP Internship Certificate

Cer code: VSRP/0405/25

This certificate awarded to

SWETHA J (Reg.No 23IBT024)

II BSc. Biotechnology candidate From the Department of Biotechnology,  
KONGUNADU ARTS AND SCIENCE COLLEGE (Autonomous), Coimbatore.  
In recognition of her efforts and achievements in completing the 15 days  
VIYEN SUMMER INTERNSHIP PROGRAMME-2025 (VSRP-2025) Offered  
by Viyen Biotech LLP, Coimbatore successfully in the title of  
Sustainable Nanomaterials for Antimicrobial Resistance (AMR) Applications  
Conducted from 07<sup>th</sup> May- 21<sup>st</sup> May, 2025

5th August, 2024  
Signed date

KARTHIK KUMAR D M.Sc., PGDBD  
Founder & Chief Executive Officer

[www.viyenbiotech.com](http://www.viyenbiotech.com)



## DECLARATION

I, **Swetha J (231BT024)**, hereby declare that this internship report titled "**Sustainable Nanomaterials for Antimicrobial Resistance Applications**" is an authentic record of my own work carried out as a part of the internship program **Viyen Summer Research Programme – 2025** at **Viyen Biotech LLP, Coimbatore**, during the period of **07-05-2025 to 21-05-2025** under the guidance of **Mr. Karthik Kumar, Founder of Viyen Biotech**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree/Diploma/Fellowship or other similar title to any candidate in any university.



Signature of Candidate

PLACE: Coimbatore

DATE: 31-06-2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President, late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr. R. Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

I express my sincere thanks to **Dr. R. Sathish Kumar M.Sc., Ph.D.**, Assistant professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Mr. D. Karthik Kumar**, Founder and Chief Executive Officer of **Viyen Biotech LLP**, Coimbatore for his support, guidance and for providing facility to undergo the internship training.

I would also like to express my deep appreciation to **Mr. D. Kalaiyarasan**, Facility Manager, for his consistent support, direction, and encouragement throughout the internship. His expertise and advice have played a significant role in making this experience valuable and insightful.

I owe a very special heartfelt thanks to Research Assistant **Mr. R. R. Harish Kumar** and Research Intern **Ms. M. Thamilvani** for guiding me and for the valuable inputs throughout the internship training. Furthermore, I am grateful to all the Staff members, at **Viyen Biotech LLP**.

I gratefully acknowledge my thanks to Staff members, Lab technician, Research Scholars and other members of Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

SWETHA J (231BT024)

**SUMMER INTERNSHIP REPORT  
ON  
MEDICAL GENETICS AND EPIGENETICS STUDIES**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**ABINAYA K (231BT028)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
BHARATHIAR UNIVERSITY, COIMBATORE – 46**



**DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY**

**Training period**

**06.05.2025 to 22.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms. ABINAYA K (Reg.No231BT028)** has done her summer Internship training programme during the month of May 2025 at **Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore - 46** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



  
**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

  
**Signature of the Principal**  
**PRINCIPAL**  
KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11/7/2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.

## CERTIFICATE



DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY  
**BHARATHIAR UNIVERSITY**  
COIMBATORE - 641 046, TAMILNADU, INDIA.

**Dr. A. Vijaya Anand Ph.D.,**  
Professor and Head

Email : avamict@yahoo.com | avahgmba@buc.edu.in

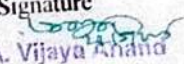
Mobile : +91 98425 25830 | Landline : +91 422 2428511

## **CERTIFICATE**

This is to certify that **Ms. Abinaya K (Reg. No. 231BT028)** pursuing her Bachelor of Science in Department of Biotechnology, Kongunadu Arts and Science College, G.N mills, Coimbatore, has done her Internship training work in the Medical Genetics and Epigenetics Laboratory, Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore- 46 under my guidance and supervision for 15 days (06.05.2025 – 22.05.2025).

Her attendance during the period of project is 100%.

Signature

  
**Dr. A. Vijaya Anand**  
Professor and Head  
Department of Human Genetics and  
Molecular Biology  
Bharathiar University  
Coimbatore - 641 046

## DECLARATION

I, **ABINAYA K (231BT028)**, hereby declare that this internship report titled "**Department of Human Genetics and Molecular Biology, Medical Genetics And Epi Genetics Laboratory**" is an authentic record of my own work carried out as a part of the internship program at **Bharathiar university, Coimbatore - 46** during the period of **06-05-2025 to 22-05-2025** under the guidance of **Dr. A .Vijaya Anand Ph.D.,( Professor & Head)** at **Department of Human Genetics And Molecular Biology**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of the Candidate

PLACE : Coimbatore

DATE : 30/6/25

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr. A.Vijaya Anand Ph.D.**, Professor & Head, at Department of Human Genetics and Molecular Biology for his support, guidance, and for providing the facility to undergo this internship training.

I owe a Special thanks to the **Research scholars**, Bharathiar university for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the **Lab Technicians**, and Staff members at **Bharathiar University**.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

ABINAYA K (231BT028)

# **SUMMER INTERNSHIP REPORT**

**ON**

## **SUSTAINABLE NANOMATERIALS FOR ANTIMICROBIAL RESISTANCE APPLICATIONS**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**Dhanush Kumar S (231BT007)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade- 4<sup>th</sup> cycle

College of Excellence – UGC, 52<sup>nd</sup> Rank among college in NIRF 2024

Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN**

**Viyen Biotech LLP, COIMBATORE**



**Training Period**

**07-05-2025 to 21-05-2025**

**May - 2025**

## CERTIFICATE

This is to certify that **Mr. Dhanush Kumar S (Reg.No.231BT007)** has done his summer internship training programme during the month of May 2025 at **Viyen Biotech LLP Coimbatore**, as a part of curriculum and submitted to Kongunadu Arts and Science College (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the industrial exposure required by the student in his career



Head of the Department

Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

Signature of the Principal  
PRINCIPAL

KONGUNADU ARTS & SCIENCE COLLEGE  
COIMBATORE - 641 029

Submitted for the Evaluation of Summer Internship Programme held on 11/07/2025 at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



VIYEN BIOTECH LLP  
Supported & Recognized by



MSME

StartupTN #startuptingit

# VIYEN BIOTECH LLP Internship Certificate

Cer code: VSRP/0405/25

**This certificate awarded to**

**DHANUSH KUMAR S (Reg.No 23IBT007)**

**II BSc. Biotechnology candidate From the Department of Biotechnology,  
KONGUNADU ARTS AND SCIENCE COLLEGE (Autonomous),Coimbatore.**

**In Recognition of Him efforts and achievements in completing the 15 days  
VIYEN SUMMER INTERNSHIP PROGRAMME-2025 (VSRP-2025) Offered  
by Viyen Biotech LLP, Coimbatore successfully in the title of**

**Sustainable Nanomaterials for Antimicrobial Resistance (AMR) Applications**

**Conducted from 07<sup>th</sup> May- 21<sup>st</sup> May, 2025**

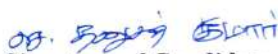
5th August, 2024  
Signed date

**KARTHIK KUMAR D M.Sc., PGDBD**  
Founder & Chief Executive Officer

www.viyenbiotech.com

## DECLARATION

I, **Dhanush Kumar S (231BT007)**, hereby declare that this internship report titled **Sustainable Nanomaterials for Antimicrobial Resistance Applications** is an authentic record of my own work carried out as a part of the internship program **Viyen Summer Research Programme – 2025** at **Viyen Biotech LLP, Coimbatore**, during the period of **07-05-2025 to 21-05-2025** under the guidance of **Mr. Karthik Kumar, Founder of Viyen Biotech**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree/Diploma/Fellowship or other similar title to any candidate in any university.

  
Signature of Candidate

PLACE: Coimbatore

DATE : 30/06/2025

**SUMMER INTERNSHIP REPORT**  
**ON**  
**SUSTAINABLE NANOMATERIALS FOR ANTIMICROBIAL**  
**RESISTANCE APPLICATIONS**

**Submitted to**  
**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**  
**Dhurga P (231BT006)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade- 4<sup>th</sup> cycle

College of Excellence – UGC, 52<sup>nd</sup> Rank among college in NIRF 2024

Coimbatore – 641029

**INTERNSHIP CARRIED OUT IN**  
**Viyen Biotech LLP, COIMBATORE**



**Training Period**  
**07-05-2025 to 21-05-2025**  
**May - 2025**

## CERTIFICATE

This is to certify that **Ms. Dhurga P (Reg.No.231BT006)** has done his summer internship training programme during the month of May 2025 at **Viyen Biotech LLP Coimbatore**, as a part of curriculum and submitted to Kongunadu Arts and Science College (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the industrial exposure required by the student in his career

Countersigned



**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

**Signature of the Principal**

**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE,**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on **17.07.2025** at  
Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore – 641029.



VIYEN BIOTECH LLP  
Supported & Recognized by



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StartupTN #startuptindia

# VIYEN BIOTECH LLP Internship Certificate

Cer code: VSRP/0405/25

This certificate awarded to

DHURGA P (Reg.No 23IBT006)

II BSc. Biotechnology candidate From the Department of Biotechnology,  
KONGUNADU ARTS AND SCIENCE COLLEGE (Autonomous),Coimbatore.  
In recognition of her efforts and achievements in completing the 15 days  
**VIYEN SUMMER INTERNSHIP PROGRAMME-2025 (VSRP-2025)** Offered  
by Viyen Biotech LLP, Coimbatore successfully in the title of  
**Sustainable Nanomaterials for Antimicrobial Resistance (AMR) Applications**

Conducted from 07<sup>th</sup> May- 21<sup>st</sup> May, 2025

5th August, 2024  
Signed date

KARTHIK KUMAR D M.Sc., PGDBD  
Founder & Chief Executive Officer

## DECLARATION

I, **Dhurga P (231BT006)**, hereby declare that this internship report titled **Sustainable Nanomaterials for Antimicrobial Resistance Applications** is an authentic record of my own work carried out as a part of the internship program **Viyen Summer Research Programme – 2025** at **Viyen Biotech LLP, Coimbatore**, during the period of **07-05-2025 to 21-05-2025** under the guidance of **Mr. Karthik Kumar, Founder of Viyen Biotech**, submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of Degree/Diploma/Fellowship or other similar title to any candidate in any university.

  
Signature of Candidate

**PLACE:** Coimbatore

**DATE :** 30-06-2025

**SUMMER INTERNSHIP REPORT  
ON  
HANDS ON TRAINING IN AQUATIC MICROBIOLOGY**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**JAVVADI HEMAVATHI (231BT039)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
SATHYABAMA INSITUTE OF SCIENCE AND TECHONOLOGY, CHENNAI**



**CENTRE FOR OCEAN RESEARCH**

**Training period**

**12-05-2025 to 28-05-2025**

**MAY-2025**

## CERTIFICATE

This is to certify that **Ms. JAVVADI HEMAVATHI (Reg.No 231BT039)** has done her summer Internship training programme during the month of May 2025 at **Centre for Ocean Research, Sathyabama University, Chennai** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career



  
Head of the Department

**Dr.R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College,  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

  
Signature of the Principal  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on...11/7/25 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



# SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY  
(DEEMED TO BE UNIVERSITY)

Category - I University by UGC

Accredited with Grade "A++" by NAAC I Approved by AICTE

## CERTIFICATE OF PARTICIPATION

This is to certify that **Ms. JAVVADI HEMAVATHI**, Student, Kongunadu Arts and Science College, Coimbatore, has participated in the 15-days **"SUMMER INTERNSHIP AND HANDS ON TRAINING IN AQUATIC MICROBIOLOGY"**, organized by Centre for Ocean Research and National Facility for Coastal and Marine Research, Sathyabama Institute of Science and Technology, in association with the Marine Bioprospecting Network, Capacity Building Program, Department of Biotechnology, Government of India, held from 12<sup>th</sup> May 2025 to 28<sup>th</sup> May 2025.

  
**Dr. B. SHEELARANI**  
(Director Research)

## DECLARATION

I, JAVVADI HEMAVATHI (231BT039), hereby declare that this internship report titled “**Summer Internship & Hands on Training in Aquatic Microbiology**” is an authentic record of my own work carried out as a part of the internship program at **Sathyabama Institute of science and Technology Organised by Centre for Ocean Research Chennai** , during the period of **12-05-2025 to 28-05-2025** under the guidance of **Dr. Inbakandan, professor (Research)& Head, COR at Ocean Research Park** , submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.



Signature of Candidate

PLACE: Coimbatore

DATE: 30/6/25

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr. Inbakandan**, professor (Research)& Head, COR at Ocean Research Park for his support, guidance, and for providing the facility to undergo this internship training.

I owe a Special thanks to the **Research scholars**, Ocean Research Park for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the **Lab Technicians**, and Staff members at **Ocean Research Park**.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

JAVVADI HEMAVATHI (231BT039)

**SUMMER INTERNSHIP REPORT  
ON  
MEDICAL GENETICS AND EPIGENETICS STUDIES**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in partial fulfilment for the award of the degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**R.RAMYA (231BT001)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024

Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN  
BHARATHIAR UNIVERSITY, COIMBATORE – 46**



**DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY**

**Training period**

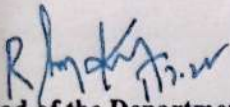
**06.05.2025 to 22.05.2025**

**MAY – 2025**

## CERTIFICATE

This is to certify that **Ms. R.RAMYA (Reg.No231BT001)** has done her summer Internship training programme during the month of May 2025 at **Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore - 46** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University, in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.

Countersigned



**Head of the Department**

**Dr. R. SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India



**Signature of the Principal**  
**PRINCIPAL**

**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11/07/2025 at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous), Coimbatore - 641029.



DEPARTMENT OF HUMAN GENETICS AND MOLECULAR BIOLOGY  
**BHARATHIAR UNIVERSITY**  
COIMBATORE - 641 046, TAMILNADU, INDIA.

Dr. A. Vijaya Anand Ph.D.,  
Professor and Head

E-mail : avamiet@yahoo.com | avahgmb@buc.edu.in

Mobile : +91 98425 25830 | Landline : +91 422 2428511

## CERTIFICATE

This is to certify that **Ms. Ramya R (Reg. No. 231BT001)** pursuing her Bachelor of Science in Department of Biotechnology, Kongunadu Arts and Science College, G.N mills, Coimbatore, has done her Internship training work in the Medical Genetics and Epigenetics Laboratory, Department of Human Genetics and Molecular Biology, Bharathiar University, Coimbatore- 46 under my guidance and supervision for 15 days (06.05.2025 – 22.05.2025).

Her attendance during the period of project is 100%.

Signature

**Dr. A. Vijaya Anand**

Professor and Head  
Department of Human Genetics and  
Molecular Biology  
Bharathiar University  
Coimbatore - 641 046

## DECLARATION

I, R. RAMYA (231BT001), hereby declare that this internship report titled "Department of Human Genetics and Molecular Biology, Medical Genetics And Epi Genetics Laboratory" is an authentic record of my own work carried out as a part of the internship program at Bharathiar university, Coimbatore - 46 during the period of 06-05-2025 to 22-05-2025 under the guidance of Dr. A .Vijaya Anand Ph.D., ( Professor & Head) at Department of Human Genetics And Molecular Biology, submitted to Kongunadu Arts and Science College (Autonomous), affiliated to Bharathiar University, Coimbatore in partial fulfilment of the requirements for the award of Bachelor of Science in Biotechnology. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.

R. Ramya.

Signature of the Candidate

PLACE : Coimbatore

DATE : 30-06-2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

I submit my sincere thanks to **Dr.V. Kokilavani**, Controller of Examination(i/c), **Dr.R.Saravana Moorthy**, Academic Coordinator, Kongunadu Arts and Science College, Coimbatore for their support and motivation.

I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **Dr. A.Vijaya Anand Ph.D.**, Professor & Head, at Department of Human Genetics and Molecular Biology for his support, guidance, and for providing the facility to undergo this internship training.

I owe a Special thanks to the **Research scholars**, Bharathiar university for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the **Lab Technicians**, and Staff members at **Bharathiar University**.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

R.RAMYA(231BT001)

**SUMMER INTERNSHIP REPORT ON BIOTECHNOLOGY AND  
MOLECULAR TECHNIQUE FOR DETECTION OF POTATO CYST  
NEMATODE AND ASSESSMENT OF SOIL HEALTH  
PARAMETERS**

**Submitted to**

**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Affiliated to Bharathiar University in Partial fulfilment for the award of degree of

**BACHELOR OF SCIENCE IN BIOTECHNOLOGY**

**Submitted by**

**DHARSHINI S (231BT009)**

III BSc Biotechnology (2023-2026)



**KONGUNADU ARTS AND SCIENCE COLLEGE (AUTONOMOUS)**

Re-Accredited by the NAAC with A<sup>+</sup> Grade - 4<sup>th</sup> cycle

College of Excellence-UGC, 52<sup>th</sup> Rank among college in NIRF2024 Coimbatore- 641029

**INTERNSHIP CARRIED OUT IN**

**ICAR-CENTRAL POTATO RESEARCH INSTITUTE, OOTY**



**Training Period**

**07.05.2025 to 31.05.2025**

**MAY 2025**

## CERTIFICATE

This is to certify that **Ms. DHARSHINI S (Reg.No.231BT009)** has done her summer Internship training programme during the month of May 2025 at **ICAR- CENTRAL POTATO RESEARCH STATION, OOTY** as a part of Curriculum and submitted to Kongunadu arts and science college (Autonomous) Affiliated to Bharathiar University. in fulfilment of the requirements for the award of the degree of Bachelor of science in Biotechnology. The training work done in this organisation is expected to provide the Industrial exposure required by the student in her career.



**Head of the Department**

**Dr.R.SATHISH KUMAR, M.Sc., Ph.D.,**  
Assistant Professor and Head  
Department of Biotechnology  
Kongunadu Arts and Science College  
G.N. Mills Post, Coimbatore - 641 029  
Tamilnadu, India

**Signature of the Principal**  
**PRINCIPAL**  
**KONGUNADU ARTS & SCIENCE COLLEGE**  
**COIMBATORE - 641 029**

Submitted for the Evaluation of Summer Internship Programme held on 11:07:2025  
at Department of Biotechnology, Kongunadu Arts and Science College (Autonomous),  
Coimbatore - 641029.



## **ICAR-Central Potato Research Institute**

**Regional Station, Udhagamandalam-643 004, The Nilgiris, Tamilnadu**

### **Certificate**

This is to certify that **Miss Dharshini S.**, Second Year, B.Sc. Biotechnology student of Kongunadu, Arts and Science College, Coimbatore, Tamil Nadu has completed the Twenty Five days internship program at ICAR-Central Potato Research Institute, Regional Station, Udhagamandalam, from 07.05.2025 to 31.05.2025. We wish her all the success in future endeavours.

**Date: 31.05.2025**  
**Place: Ooty**

  
**Dr. Priyank Hanuman Mhatre**  
**Head, ICAR-CPRI, RS, Ooty**

## DECLARATION

I, **DHARSHINI S (231BT009)**, hereby declare that this internship report titled “ **Summer Internship & Hands on Training in Potato Research**” is an authentic record of my own work carried out as a part of the internship program at **ICAR- CENTRAL POTATO RESEARCH INSTITUTE ,OOTY**, during the period of **07-05-2025 to 31-05-2025** under the guidance of **Dr.Priyank Hanuman Mhatre, Head Scientist at ICAR-Central Potato Research Institute,Ooty**,submitted to **Kongunadu Arts and Science College (Autonomous)**, affiliated to **Bharathiar University, Coimbatore** in partial fulfilment of the requirements for the award of **Bachelor of Science in Biotechnology**. All sources of information used have been duly acknowledged. The internship report has not been submitted for the award of degree/Diploma/Fellowship or other similar title to any candidate in any University.

*Dharshini.S*  
Signature of the Candidate

PLACE : Coimbatore

DATE : 30:06:2025

## ACKNOWLEDGEMENT

I would like to express my gratitude and appreciation to all those who gave me the possibility to complete this report. I thank the Almighty, for giving me the strength, courage and knowledge.

I'm thankful and I would like to express my heartfelt gratitude to my college Former President late, **Dr. M. Aruchami**, Secretary and Director **Dr. C. A. Vasuki** and Principal **Dr. V. Sangeetha**, Kongunadu Arts and Science College, Coimbatore for their encouragement.

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I express my sincere thanks to **Dr. R. Sathish Kumar M. Sc., Ph.D.**, Assistant Professor and Head, PG and Research Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore for supporting us in all endeavours.

My sincere thanks and gratitude to **DR.PRIYANK HANUMAN MHATRE, HEAD SCIENTIST** at **ICAR – CENTRAL POTATO RESEARCH INSTITUTE, OOTY**, for his support, guidance, and for providing the facility to undergo this internship training.

I owe a special thanks to the Scientist of Potato Research Station for guiding me and for the valuable inputs throughout the internship training. Furthermore I am graceful to all the Lab Technicians, and Coordinators of Potato Research Station.

I gratefully acknowledge my thanks to the Staff members, Lab technicians, Research Scholars, and other members of the Department of Biotechnology, Kongunadu Arts and Science College, Coimbatore, for their encouragement.

I Indebted to my family and friends for their love and care, which made me to complete the work successfully.

DHARSHINI S (231BT009)