MANGALORE UNIVERSITY

Department of Biosciences
Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**ISOLATION AND IDENTIFICATION OF *ESCHERICHIA COLI* BACTERIA FOR THE SYNTHESIS OF SILVER NANOPARTICLES : CHARACTERIZATION OF THE PARTICLES AND STUDY OF ANTIBACTERIAL ACTIVITY** " submitted by **Ms. AKHILA MICHAEL** under the guidance of **Mrs.AISHWARYA ALVA B,** Lecturer, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date : 10 – 10 – 2022

10/10/2022

Mrs. AISHWARYA ALVA B
Lecturer &Project Guide
Department of Biosciences

10/10/22

Dr. Tharavathy.N.C.
Professor
Department of Biosciences
Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**COMPARITIVE WATER QUALITY ANALYSIS AND THEIR SPECIES DIVERSITY**" submitted by **Ms. AKHILA KV** under the guidance of **Dr. MAHADEVA SWAMY G M.** Lecturer, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date:

18/10/22

Dr. MAHADEVA SWAMY G M.
Lecturer & Project Guide

13/10/22

Dr. THARAVATHY N.C.
Professor

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled **"ANALYSIS OF SOIL SAMPLES FROM ARECANUT AND RUBBER PLANTATIONS"** submitted by Ms. **AKSHATHA** under the guidance Dr. Tharavathy N.C, Professor, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date : 12-10-2022

13/10/22

Dr. Tharavathy N.C

Professor and Project Guide

Department of Biosciences

13/10/22

Dr. Tharavathy N.C

Co-Ordinator

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangotri-574199

CERTIFICATE

This is to certify that the Project entitled "**BIOACCUMULATION OF PHOSPHATE IN VIGNA RADIATA"** submitted by **Ms. AKSHAYA. K** under the guidance of **Ms. GATHA R.S,** Lecturer, Department of Biosciences towards the partial fulfilment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2020-2022.

Place: Mangalagangothri

Date:

06/10/2022

Ms. GATHAR. S

Lecturer &Project Guide

Department of Biosciences

07/10/22

Dr. Tharavathy N.C.

Professor

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**STUDY OF STAINING PROPERTY OF POMEGRANATE PEEL EXTRACT USING ONION ROOT TIP**"
submitted by **Ms. ANJANA SHARMA K** under the guidance of **Mrs. SUSHMITHA.,** Lecturer, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date :

12/10/22

Mrs. SUSHMITHA.
Lecturer & Project Guide
Department of Biosciences

12/10/2022

Dr. THARAVATHY N.C.
Professor
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the project entitled "**The effect of music and detergent on plant growth** " submitted by **Ms.Ashwita** for the partial fulfilment of M.Sc. degree in Environmental Science(IV semester) contains the result of the genuine project work carried out by her during the academic year 2021 -2022.

12/10/22

Mrs. Sushmitha

Project Supervisor

Department of Biosciences

Place: Mangalagangothri

Date: 12-10-2022

12/10/22

Prof.Tharavathy N C

Coordinator,

Environmental Science Programme,

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangothri-574 199
Karnataka State (India)

Examiners:

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**MANGROVE ECOSYSTEM AND IT'S ECOLOGICAL IMPORTANCE"** submitted by **Mr. CHARANRAJ.G. S** under the guidance of **DR.MAHADEVASWAMY.G.M,** Lecturer, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date : 11/10/2022

11/10/22

Dr.Mahadevaswamy.G.M

Lecturer & Project Guide

Department of Biosciences

11/10/'22

Dr. Tharavathy N.C.

Professor

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**ANALYSIS OF SELECTED HEAVYMETALS IN WATER AROUND THE INDUSTRIAL AREA OF BAIKAMPADY AND ITS ECOPHYSIOLOGICAL EFFECTS**" submitted by **Mr. GEORGE MATHEW** under the guidance of **Ms. GATHA R.S.**, Lecturer, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date : 10-10-2022

Gatha 10/10/2022

Ms. GATHA R.S.
Lecturer & Project Guide
Department of Biosciences

10/10/22

Dr. THARAVATHY N.C.
Professor
Department of Biosciences
Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY
DEPARTMENT OF BIOSCIENCES
MANGALAGANGOTHRI-574199

CERTIFICATE

This is to certify that the project entitled **"MITOTIC INHIBITION BY PERIWINKLE (*Catharanthus roseus*) EXTRACT"** submitted by **Ms. Harshitha P. S.** under the guidance of **Mrs. Sushmitha** towards the partial fulfilment of M.Sc. degree in Environmental Science (IV semester) contains the result of the genuine project work carried out by her during the academic year 2021-2022.

Place: Mangalagangothri

Date:

12/10/22

Mrs. Sushmitha
Lecturer & Project Guide
Department of Biosciences

12/10/22

Dr. THARAVATHY N.C.
Professor
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners:

1.

2.

Mangalore University
Department of Biosciences
Post-Graduate Course in Environmental Science
Managalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled **" STUDIES ON COMMERCIAL USE OF AQUACULTURE AND ITS MANAGEMENT''** submitted by **Mrs. Maneesha** under the guidance of **Mrs. Aishwarya Alva B Lecturer, Department of Biosciences,** towards the partial fulfilment of M.Sc .Degree in Environmental Science (IV Semester) contains the result of the genuine project work carried out by her during the academic year 2021-2022.

Place: Mangala Gangothri
Date: 17/09/2022

10/10/2022

Mrs. Aishwarya Alva B

Project guide

Department of Biosciences

10/10/22

Dr.Tharavathy N.C.

Professor & Coordinator

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners 1.

2.

Prof. Tharavathy N.C.
Department of Biosciences
Mangalore University
Mangalagangothri 574199
Mangalore, Karnataka, India

CERTIFICATE

This is certify that the project entitled "Studies on Waste Management Methods of Kanachur Hospital, Deralakette, Mangalore, Karnataka (India)" is a bonafide work done by Mohammad Zamir Taqwa (Reg No. 201611438111) under the guidance of Prof. Tharavathy N.C., Department of Biosciences, Mangalore University towards the partial fulfilment of M.Sc. degree in Environmental Science carried out during the academic year 2020-2022 at Mangalore University, Mangalagangothri, Konaje. This work is original and has not been submitted in part or full to any other University for any other degree or diploma.

Place: Mangalagangothri

Date: 17/09/2022

Examiners:

1.

2.

17/09/22

Coordinator

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

MANGALORE UNIVERSITY
DEPARTMENT OF BIOSCIENCES
MANGALAGANGOTHRI-574199

PROJECT WORK ON

ANALYSIS OF DIFFERENT MILK SAMPLES AND DETERMINING THE QUANTITY OF CASEIN, FAT, LACTOSE AND PROTEIN PRESENT IN EACH SAMPLES

A dissertation submitted to Mangalore University in partial fulfilment of the requirement for Master's Degree in

ENVIRONMENTAL SCIENCE

PAPER CODE: ESP 557

By

NISHMITHA P S

Reg. No. 201611438112

Guided by

Mrs Aishwarya Alva B

Lecturer, Department of Biosciences

SEPTEMBER, 2022.

MANGALORE UNIVERSITY

Department of Bioscience

Post-Graduate Programme in Environmental Science

Mangalagangothri-574199

CERTIFICATE

This is to certify that the project entitled **"Study on Antibacterial Activity of Mushrooms"** submitted by **Ms.Prameela** under the guidance of **Dr. Mahadevaswamy G.M** Lecturer in Environmental Science, Department of Biosciences towards the partial fulfilment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine project work carried out by her during the academic year 2021-2022.

I also certify that it has not previously formed the basis of any degree of diploma of the Mangalore University or any other University.

12/9/22

Dr. Mahadevaswamy G.M.
Lecturer and Project guide
Department of Biosciences

12/10/2022

Dr. Tharavathy N.C.
Professor and Coordinator
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Place: Mangalagangothri

Date: 17. 09. 2022

Examiners 1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**ANALYSIS OF WATER SAMPLE OF PILIKULA LAKE AND IDENTIFICATION OF MICROBES AND THEIR CHARACTERISTICS**" Submitted by **Mr. PENTA SAI KUMAR** under the guidance of **Mrs. SUSHMITHA.,** Lecturer, Department of Biosciences towards the partial fulfilment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by him during the academic year 2021-22.

Place: Mangalagangothri

Date: 10/10/22.

Mrs. SUSHMITHA

Lecturer & Project Guide

Department of Biosciences

Examiners

1.

2.

10/10/22

Dr. Tharavathy N.C.

Co-Ordinator

Department of Bioscience

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

MANGALORE UNIVERSITY

Department of Biosciences Mangalagangothri-574199

CERTIFICATE

to certify that the Project entitled "**PHYSIOCHEMICAL AND MICROBIOLGICAL ITY ANALYSIS OF THE WATER SAMPLES COLLECTED FROM VARIOUS SITES IANDAGIRI RIVER, KASARAGOD, KERALA**" submitted by **Ms. PRATHEEKSHA AR** under the guidance of **Dr. THARAVATHY N.C.** Professor, Department of Biosciences s the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the f the genuine Project work carried out by her during the academic year 2021-22.

Mangalagangothri

13/10/22

haravathy N.C.
sor & Project Guide
ment of Biosciences

ners

13/10/22

Dr. Tharavathy N.C.
Coordinator
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

MANGALORE UNIVERSITY

DEPARTMENT OF BIOSCIENCES

MANGALAGANGOTHRI-574199

CERTIFICATE

This is to certify that the project entitled **"EXPERIMENTAL STUDY ON TREATMENT OF DOMESTIC WASTE WATER USING NATURAL COAGULANTS"** submitted by **Mr. SANDEEP** under the guidance of **Prof. THARAVATHY N.C.,** Co-ordinator of M.Sc. Environmental Science,Department of Biosciences towards the partial fulfillment of M.Sc. Degree in environmental Science (IV Semester) contains the result of the genuine project work carried out by his during the academic year 2021-2022.

Place : mangalore university, mangalagangothri, konaje

Date : 17-09-2022

03/10/22

Prof. THARAVATHY N.C

Co-ordinator & project guide

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**WATER QUALITY ANALYSIS OF DRINKING WATER FROM SELECTED REGIONS OF MANGALAGANGOTHRI**" submitted by **Ms. SHIJINA K. J** under the guidance of **Ms. GATHA R. S.,** lecturer, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date : 13/10/22

13/10/2022

Ms. GATHA R. S
Lecturer & Project Guide
Department of Biosciences

13/10/22

Dr. THARAVATHY N.C
Professor
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

Mangalore University

Department of Biosciences

Post-Graduate Programme in Environmental Science

Managalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled **"STUDIES ON WATER QUALITY OF RIVERS BELONG TO DAKSHINA KANNADA AND UDUPI DISTRICTS"** submitted by **Ms. Shilpa G S** under the guidance of **Dr. Tharavathy N.C., Professor & Coordinator in Environmental Science, Department of Biosciences** towards the partial fulfilment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine project work carried out by her during the academic year 2021-2022.

Place: Mangalagangothri

Date: 17-09-2022

26/09/22

Dr. Tharavathy N.C.
Professor & Project Guide
Department of Biosciences

26/09/22

Dr. Tharavathy N.C.
Professor & Coordinator
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners 1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**PHYSICO-CHEMICAL PARAMETERS AND HEAVY METAL ANALYSIS OF WATER SAMPLES OF PILIKULA LAKE**" submitted by **Mr. SHIVANTH UMESH** under the guidance of **Dr. MAHADEVASWAMY G.M.** Lecturer, Department of Biosciences towards the partial fulfillment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by his during the academic year 2021-22.

Place: Mangalagangothri

Date :

18/10/22

Dr. Mahadevaswamy G.M
Lecturer & Project Guide
Department of Biosciences

13/10/22

Dr. Tharavathi.N.C.
Co-Ordinator
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences Mangalagangothri-574199

CERTIFICATE

This is to certify that the Project entitled "**PHYSIOCHEMICAL AND MICROBIOLOGICAL QUALITY ANALYSIS OF THE WATER SAMPLES COLLECTED FROM VARIOUS SITES OF NETRAVATI RIVER, MANGALORE, KARNATAKA**" submitted by **Ms. SREELAKSHMI PV** under the guidance of **Ms. GATHA R. S**, Lecturer, Department of Biosciences towards the partial fulfilment of M.Sc. Degree in Environmental Science (IV Semester) contains the result of the genuine Project work carried out by her during the academic year 2021-22.

Place: Mangalagangothri

Date:

Ms. Gatha R. S.
Lecturer & Project Guide

13/10/22

Dr. Tharavathy N. C.
Coordinator
Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

CERTIFICATE

This is to certify that the project entitled "Mangrove Forest in Udupi district" is a bonafide work done by Sudharani (Reg No. :201611438121), under the guidance of Dr. Mahadevaswamy G.M, Lecturer. Department of Biosciences, Mangalore University, towards the partial fulfilment of M.Sc. Degree in Environmental science Programme, Mangalore University carried out during the academic year 2021-22 at Mangalore University, Mangalagangothri, Konaje. This work is original and has not been submitted in part or full to any other university for any other degree or diploma.

Place: Mangalagangothri
Date: 17.09.2022

24/09/22

Coordinator

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners:

1.

2.

MANGALORE UNIVERSITY

Department of Biosciences

Mangalagangothri-574199

Certificate

This is to certify that the project entitled **"COMPARATIVE STUDY OF ORGANIC AND INORGANIC SOIL"** submitted by Ms. SUSHMA PERANA under guidance of Mrs AISHWARYA ALVA. B, towards the partial fulfilment of M.Sc degree in Environmental science contains the result of the genuine project work carried out by her during the academic year 2020-2022.

Place: Mangalagangothri

Date: 12-10-2022

12/10/2022

Mrs Aishwarya Alva.B

Lecturer & project guide

Department of Biosciences

12/10/22

Dr. Tharavathy N C,

Professor & Coordinator

Department of Biosciences

Co-ordinator
M.Sc. Environmental Science
DEPARTMENT OF BIO-SCIENCES
Mangalore University
Mangalagangotri-574 199
Karnataka State (India)

Examiners 1.

2.