



# MSc **ENVIRONMENTAL SCIENCE**





Dr. KALADEVI 🗸

**Assistant Professor** 

PG Department of Environmental Science

St. John's College, Anchal

This is to certify that "EFFECT OF HEAVY METALS ON DIFFERENT TYPES OF COMPOST AMENDED SOIL SAMPLES AND THE MORPHOMETRIC CHARACTERISTICS OF Abelmoschus esculentus" is an authentic record of research work done by Ms. AMMU S KRISHNA., REG NO. 61521138001 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal, and that no part thereof has been presented for any other degree, diploma of associateship, fellowship, or other similar title or recognition in any University.

Counter Signed by:

Dr. Kaladevi 🗸

Assistant Professor & HoD PG & Research Dept. of Environmental Sciences St. John's College, Anchal

(Supervising Teacher) Dr. KALADEVI V M.Sc, B.Ed, Mphil, Ph.D. Assistant Professor & HoD PG & Research Dept. of Environmental Sciences

Da l-m

St. John's College, Anchal

Dr. Brilliant Rajan

Assistant Professor

PG Department of Environmental Science

St. John's College, Anchal

This is to certify that "ANALYSIS OF SOIL NUTRIENTS IN SELECTED AGRO ECOSYSTEM OF SOUTHERN WESTERN GHATS" is an authentic record of research work done by Ms. ANCY.V.S, REG NO. 61521138002 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal and that no part thereof has been presented for any other degree, diploma of associateship, fellowship or other similar title or recognition in any University.

Counter Signed by:

Dr. Kaladevi 🗸

(Head of the Department)

Dr. Brilliant Rajan
(Supervising Teacher)

Dr. KALADEVI V M.Sc, B.Ed, Mphil, Ph.D

Assistant Professor & HoD

PG & Research Dept. of Environmental Sciences

St. John's College, Anchal

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Dr. KALA DEVI

**Assistant Professor** 

**PG Department of Environmental Science** 

St. John's College, Anchal

This is to certify that "THE STUDY OF SOIL CHEMISTRY AND ITS ROLE IN SOIL QUALITY BY USING DIFFERENT TYPES OF ORGANIC AMENDMENTS" is an authentic record of research work done by Ms. ATHULYA THULASI, REG NO. 61521138003 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal and that no part thereof has been presented for any other degree, diploma of associateship, fellowship or other similar title or recognition in any University.

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Counter Signed by:

Dr. Kaladevi V

(Head of the Department)

Dr. KALADEVI V M.Sc, B.Ed, Mphil, Ph.D Assistant Professor & HoD PG & Research Dept. of Environmental Sciences St. John's College, Anchal (Supervising Teacher)

Dr. KALADEVI V.
Assistant Professor
PG Dept. of Environmental Science
St. John's College, Anchal



partment of Environmental Sciences St. John's College, Anchal 0475 2273326 (O) Mobile:94969195458 Email: anila george44@gmail con

## **CERTIFICATE**

This is to certify that the project entitled "DIVERSITY OF MALAKKAYAL ESTUARY IN RELATION WITH WATER QUALITY AND PLANT SPECIES IDENTIFICATION" is an authentic record work carried out by H.M.THOLHATH, Reg. No.61521138004 in the P.G. Department of Environmental Science St. Johns College, Anchal and that no part of work has been presented earlier for the award of any other degree or diploma of any other universities. The work is submitted to University of Kerala is based on the result of studies carried out by the candidate, under my supervising Guide.

Counter Signed by

(Head of the Department)

Dr.Anila Georg

(Supervising Guide)

Dr. KALADEVI V M.Sc, B.Ed, Mphil, Ph.D

Assistant Professor & HoD

PG & Research Dept. of Environmental Sciences St. John's College, Anchal

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Dr. ANILA GEORGE M.Sc,M Phil,Ph.D. Assistant Professor

Dept. of Environmental Sciences
St. John's College Apple

### Dr. Anila George M.Sc. M.Phil. Ph.D. **Assistant Professor**



PG Department of Environmental Sciences St. John's College, Anchal 0475 - 2273326 (O) Mobile:94969195458 Email: anila.george44@gmail.com

#### **CERTIFICATE**

**ABSORPTION METAL** certify "HEAVY This that **MANGROVE SPECIES** IN **POTENTIAL OF PHYTOREMEDIATION** AYIRAMTHENGU, KOLLAM, KERALA" an authentic record of research work done by Ms. LINA VARGHESE, REG NO. 61521138005 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal and that no part thereof has been presented for any other degree, diploma of associateship, fellowship or other similar title or recognition in any University.

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Counter Signed by

Dr. KALADEVI . V

(Head of the Department)

Dr. KALADEVI V M.Sc, B.Ed, Mphil, Ph.D

Assistant Professor & HoD PG & Research Dept. of Environmental Sciences

St. John's College, Anchal

Dr. ANILA GEORGE

(Supervising Teacher)

Dr. ANILA GEORGE M.Sc;M.Phil,Ph.D. **Assistant Professor** Dept. of Environmental Sciences St. John's College, Anchal

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Dr. KALA DEVI

Assistant Professor

PG Department of

**Environmental Science** 

St. John's College, Anchal

This is to certify that "STUDY ON THE INFLUENCE OF ORGANIC AMENDMENTS ON SOIL NUTRIENT STATUS AND MICROBIAL GROWTH" is an authentic record of research work done by Ms. SRAVYA K.R, REG NO. 61521138006 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal and that no part thereof has been presented for any other degree, diploma of associateship, fellowship or other similar title or recognition in any University.

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Counter Signed by:

Dr. Kaladevi.

(Head of the Department) **Dr. KALADEVI V M.Sc**, B.Ed, Mphil, Ph.D

Assistant Professor & HoD PG & Research Dept. of Environmental Sciences

St. John's College, Anchal

(Supervising Teacher)

Dr. KALADEVI V. **Assistant Professor** PG Dept. of Environmental Science

St. John's College, Anchal

Dr. T. ALEXANDER

**Assistant Professor** 

PG Department of Environmental Science

St. John's College, Anchal

This is to certify that "STATUS OF SOIL NUTRIENTS WITH SPECIAL REFERENCE TO THE HEAVY METALS IN THE RIPARIAN ZONE OF VAMANAPURAM RIVER AT VAMANAPURAM PANCHAYATH", an authentic record of research work done by Ms. SRUTHY KRISHNA M.R, REG NO. 61521138007 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal and that no part thereof has been presented for any other degree, diploma of associateship, fellowship or other similar title or recognition in any University.

Counter Signed by:

Dr. KALA DEVI V

(Head of Karaderiar Insert Ed. Mphil, Ph.D Assistant Professor & Hod PG & Research Dept. of Environmental Sciences St. John's College, Anchal Dr. T ALEXANDER

(Supervising Teacher)

Dr. Brilliant Rajan

Assistant Professor

PG Department of Environmental Science

St. John's College, Anchal

This is to certify that "ANALYSIS OF ANTIBACTERIAL ACTIVITY OF SELECTED MEDICINAL PLANT EXTRACTS WITH POTENTIAL STRAINS OF PATHOGENIC BACTERIA", an authentic record of research work done by Ms. SUMAYYA J, REG NO. 61521138008 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal and that no part thereof has been presented for any other degree, diploma of associateship, fellowship or other similar title or recognition in any University.

Counter Signed by:

Dr. Kaladevi V

Or. KALADEVI V M.Sc, B.Ed, Mphil, Ph.D (Head of the AssprantiProfes)sor & HoD PG & Research Dept. of Environmental Sciences St. John's College, Anchal Dr. Brilliant Rajan

(SupervisingTeacher)



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### **CERTIFICATE**

This is to certify that "HEAVY METAL ANALYSIS OF SOIL AND CARDAMOM BOLT OFUDUMBANCHOLA TALUK IDUKKI DISTRICT, KERALA" an authentic record of research work done by Ms. TREESA SCARIA, REG NO. 61521138009 under my supervision and guidance in the Department of Environmental Science, St. John's College, Anchal and that no part thereof has been presented for any other degree, diploma of associateship, fellowship or other similar title or recognition in anyUniversity.

Counter Signed by:

Dr. KALADEVI . V

(Head of the Department)

Dr. KALADEVI V M.Sc, B.Ed, Mphil, Ph.D Assistant Professor & HoD PG & Research Dept. of Environmental Sciences St. John's College, Anchal MANS CONTROL PROCESS

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Dr. ANILA GEORGE

(Supervising Teacher)

Dr. ANILA GEORGE M.Sc;M.Phil.Ph.D.
Assistant Professor
Dept. of Environmental Sciences
St. John's College, Anchal

Dr. T. ALEXANDER

**Assistant Professor** 

PG Department of Environmental Science

St. John's College, Anchal

This is to certify that the project entitled "STUDY OF WATER QUALITY AND VEGETATION PATTERN OF ANCHAL WATERSHED SYSTEM USING GIS" is an authentic record work carried out by VIJIL KA NAIR, Reg No.61521138010 in the P.G. Department of Environmental Science, St. Johns College, Anchal and that no part of work has been presented earlier for the award of any other degree or diploma of any other universities. The work is submitted to University of Kerala is based on the result of studies carried out by the candidate, under my supervision and guidance.

Counter Signed by:

Dr Kaladevi.V

Dr. T. ALEXANDER

(Supervising Guide)

Assistant Professor & HoD
PG & Research Dept. of Environmental Sciences
St. John's College, Anchal