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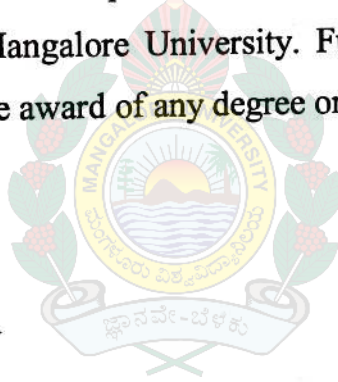


MANGALORE UNIVERSITY
MANGALAGANGOTTHRI
MANGALORE
KARNATAKA
INDIA - 574 199

Supervisor's Certificate

This is to certify that this dissertation titled "**Morphometric analysis and sedimentological studies of Killi River basin, Thiruvananthapuram, Kerala**" is the bona fide work of **AKSHAY O. R** (Reg. No: 201661343101), under my supervision and guidance, as a partial fulfillment of the requirement for the degree of Master of Science in Marine Geology 2021-2022, Mangalore University. Further it is certified that this work has not been submitted for the award of any degree or diploma in any University.

21, September 2022




Dr. K PRIYA

Dr. Rajesh Reghunath
Professor



UNIVERSITY OF KERALA

(Re-accredited with 'A' Grade by NAAC)

Department of Geology

Kariavattom Campus, Trivandrum, Kerala-695581, India

CERTIFICATE

This is to certify that the dissertation work entitled "**MORPHOMETRIC ANALYSIS AND SEDIMENTOLOGICAL STUDIES OF KILLI RIVER, THIRUVANANTHAPURAM DISTRICT, KERALA**" is a bonafide record of the project work carried out by Mr. **AKSHAY O.R. (201661343101)**, IV Semester, M.Sc Marine Geology, Mangalore university under my guidance and direct supervision during the period from June to August 2022. It is also certified that no part of this project has previously formed the basis for the award of any degree, Diploma, Associateship, Fellowship or other similar titles of any University.



Dr. RAJESH REGHUNATH
Professor
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University of Kerala, Kariavattom Campus
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Dr. Rajesh Reghunath
Professor
Department of Geology
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Trivandrum





M.Sc. MARINE GEOLOGY

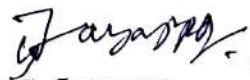
CERTIFICATE

This is to certify that dissertation entitled "*A BRIEF STUDY ON THE COARSE FRACTION CONTENT OF SEDIMENT SAMPLE FROM LAKSHADWEEP TROUGH, ARABIAN SEA.*" submitted by **Ms. AKSHAYA M O** (Reg No: 201661343102). During June 2022 - September 2022 is a record of research work carried out under my supervision during the fourth semester, in partial fulfilment of the award of the Master of Science in Marine Geology from Mangalore University, Mangalore. It has not been submitted elsewhere for the award of any degree or diploma.

This project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangotri

Date: 22/09/2022


K. S. Jayappa
Guide
Department of Marine Geology
Mangalore University
Mangalagangotri 574 199

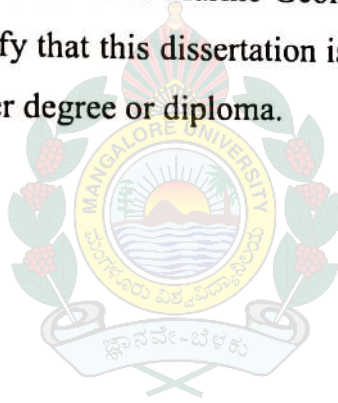


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Government of India, Ministry of Mines
M-1 A, Marine and Coastal Survey division
Geological Survey of India, Mangaluru - 575 001



This is to certify that the project entitled '*A Brief study on the coarse fraction content of sediment samples from Lakshadweep trough, Arabian Sea*' is an authentic work by done by Ms. Akshaya. M. O under my guidance during the period of June,2022 to August,2022 in Geological Survey of India, Marine and Coastal Survey division, Op: Wc-1, Mangalore. This work is in partial fulfilment for the award of degree of Master of Science in Marine Geology in Department of Marine Geology, Mangalore University. I also certify that this dissertation is either wholly or partially has not been the basis for the award of any other degree or diploma.



Place: Mangalore

Date: 29/08/2022

वि. जगन्नाथन/V. JAGANNATHA
वरिष्ठ भूवैज्ञानिक/Senior Geologist
एम एवं सीएसडी/M & CSD
भारतीय भूवैज्ञानिक सर्वेक्षण
Geological Survey of India
भारत सरकार, खान मंत्रालय
Govt. of India, Min. of Mines
मंगलूरु Mangaluru - 575 001



MANGALORE

UNIVERSITY

MANGALAGANGOTHRI – 574 199

M.Sc. MARINE GEOLOGY

GUIDE'S CERTIFICATE

This is to certify that dissertation work entitled “**IDENTIFICATION OF GROUNDWATER POTENTIAL ZONES OF UPPALA RIVER BASIN, NORTHERN KERALA, INDIA**” is carried out by **Bhagyasree Bhaskaran K** of IVth semester M.Sc. course in **Marine Geology** and has satisfactorily completed under the guidance of **Associate Professor. Dr. Shaji. E.** **Department of Geology, University of Kerala** for the partial fulfilment of the requirement for the award of the degree of **Master of Science in Marine Geology**.

Place: Mangalagangothri

Date: 24.09.2022


Smt. Yamuna, S.M. 24/09/2022

Assistant professor
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Department of Geology
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University of Kerala
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Dr. Shaji E.
Associate Professor & Head

GEO/MU/2022/14 dated 31-08-2022

SUPERVISOR'S CERTIFICATE

This is to certify that the dissertation work entitled "*Identification of groundwater potential zones of Uppala River Basin, Northern Kerala, India.*" is a genuine research work carried out by Ms. Bhagyasree Bhaskaran K., under my guidance during the period 23.06.2022 to 31.08.2022. This work is in partial fulfilment for the award of the degree of Master of Science in Marine Geology in Department of Marine Geology, Mangalore University, Mangalagangothri. I also certify that this dissertation, either wholly or partially has not been the basis for the award of any other degree or diploma.




31/8/2022

Associate Professor & Head

Dr. SHAJI E.
Associate Professor & Head
Department of Geology
University of Kerala, Kariavattom
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MANGALORE UNIVERSITY
DEPARTMENT OF MARINE GEOLOGY

MANGALAGANGOTHRI, KARNATAKA

SUPERVISOR'S CERTIFICATE

This is to certify that dissertation entitled “Shoreline change detection using DSAS and Land use/Land cover change analysis of Mangalore Coast, Southwest Coast of India” was submitted by **BHARATH N (Roll No: 201661343104)** from June 2022- October 2022 is a record of research work carried out under my supervision during the fourth semester, in partial fulfillment of the award of Master of Science in Marine Geology from Mangalore University, Mangalore. It has not been submitted elsewhere for any degree or diploma award. This project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangothri

Date: 23.09.2022

Dr. Shivanna

Professor

Department of Marine Geology

Mangalore University

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DEPARTMENT OF WATER RESOURCES AND OCEAN ENGINEERING

(Formerly Department of Applied Mechanics and Hydraulics)

NATIONAL INSTITUTE OF TECHNOLOGY KARNATAKA, SURATHKAL

P.O. Srinivasnagar, Mangaluru - 575 025, Karnataka State, India

CERTIFICATE

This is to certify that the P.G. Project Work Report entitled “**Shoreline Change Detection Using DSAS and Land Use/Land Cover Change Analysis of Mangalore Coast, Southwest Coast of India**” submitted by **BHARATH N (201661343104)**, as the record of the work carried out by him, is accepted as the P.G. Project Work Report submission in partial fulfillment of the requirements for the award of the degree of **Master of Science in Marine Geology Department at Mangalore University**, during the academic year 2021-2022.



G.S. Dwarakish
13.9.22
Prof. Dwarakish G S

External Guide

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B M Dodamani
Prof. B M Dodamani

Head of the Department

Department of Water Resources
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NITK, Surathkal.



Prof. B M Dodamani & HEAD
Dept. of Water Resources & Ocean Engineering
Formerly Dept. of Applied Mechanics & Hydraulics
NITK Surathkal, P.O. Srinivasnagar, Mangaluru-575025





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M.Sc. MARINE GEOLOGY

CERTIFICATE

This is to certify that dissertation entitled "**STUDY OF GROUND WATER ENVIRONMENT OF OLAVANNA GRAMA PANCHAYATH KOZHIKODE DISTRICT KERALA**" submitted by **HARITH V (Reg No: 201661343105)**. During September 2022 - October 2022 is a record of research work carried out under my supervision during the fourth semester, in partial fulfilment of the award of the Master of Science in Marine Geology from Mangalore University, Mangalore. It has not been submitted elsewhere for the award of any degree or diploma.

This project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangotri

Date: 19.09.2022.


19/09/2022
Smt. S. M. Yamuna

Assistant Professor

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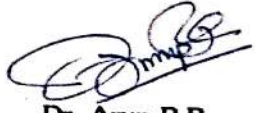


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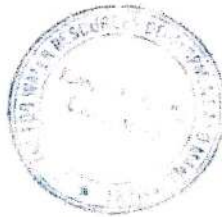
Dr. Arun P.R.
Senior Scientist,
Hydrology and Climatology Research Group

CERTIFICATE

This is to certify that the dissertation entitled "STUDY ON GROUND WATER ENVIRONMENT OF OLAVANNA GRAMA PANCHAYATH, KOZHIKODE DISTRICT, KERALA" is the bonafide work of Mr. Harith V., who carried out the project work under my supervision at Centre for Water Resources Development and Management (CWRDM), Kozhikode, Kerala, during June 2022 - August 2022. To the best of my knowledge, the work reported by him, does not form part of any other thesis or dissertation on the basis of which a degree or award was conferred on an earlier occasion on this or any scholar.


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Dr. K Priya
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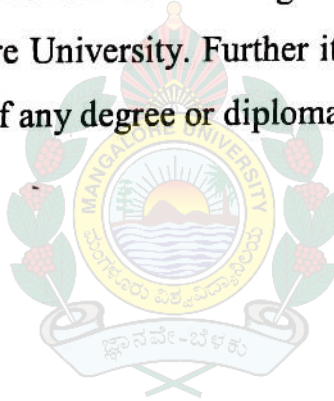
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Supervisor's Certificate

This is to certify that this dissertation titled “**Heavy mineral resources in the marine sediments off Kodungallur, Central Kerala, India**” is the bona fide work of **Harshitha Kumari** (Reg. No: 201661343106), under my supervision and guidance, as a partial fulfillment of the requirement for the degree of Master of Science in Marine Geology 2021-2022, Mangalore University. Further it is certified that this work has not been submitted for the award of any degree or diploma in any University.



20, September 2022

Dr. K PRIYA



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पांडेश्वर / PANDESHWAR, मंगलूर / MANGALURU-575001



CERTIFICATE

Certified that this dissertation entitled “Heavy mineral resources in the marine sediments off Kodungallur, Central Kerala, India” is an authentic record of work done by Miss HARSHITHA KUMARI at Operation: West Coast-1, Marine and Coastal Survey Division, Geological survey of India, Mangalore and Department of Marine Geology, Mangalore University, Mangala Gangothri, Karnataka, under my guidance and supervision during the year 2021-2022.



Rajaneesh Narayan P R

Senior Geologist

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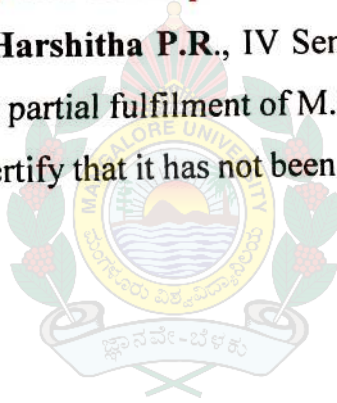


UNIVERSITY

DEPARTMENT OF MARINE GEOLOGY
MANGALAGANGOTRI, KARNATAKA

Supervisor's Certificate

I certify that the dissertation work titled "*Change detection analysis of land use land cover by using geospatial techniques: A case study of Souparnika-Chakra-Haladi estuary.*" carried out by **Harshitha P.R.**, IV Semester, M.Sc. course in Marine Geology under my guidance for the partial fulfilment of M.Sc. Degree in Marine Geology during the year 2021-22. Further, I certify that it has not been submitted elsewhere for the award of any degree or diploma.



Dr. K. S. Jayappa

Department of Marine Geology
Mangalore University
Mangalagangotri-574 199

ಪರಿಸರ ನಿರ್ವಹಣೆ ಮತ್ತು ನೀತಿ
ಸಂಶೋಧನಾ ಸಂಸ್ಥೆ



Environmental Management
& Policy Research Institute

ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆಯಲ್ಲಿ ಸ್ಥಾಪಿತ ಸಂಸ್ಥೆ ಮತ್ತು ಕರ್ನಾಟಕ ಸೊಸೈಟೀಸ್ ನೋಂದಣಿ ಕಾಯ್ದೆ, 1960ರಡಿ ನೋಂದಾಯಿತ ಸಂಸ್ಥೆ
A society established under Forest, Ecology and Environment Department, Government of Karnataka and registered under
Karnataka Societies Registration Act 1960

No. ADM/CR-16/ADM/2022-23/ 739

Date : 14.09.2022

TO WHOMSOEVER IT MAY CONCERN

CERTIFICATE

This is to certify that Ms. Harshitha.P.R. student of Mangalore University, Mangalagangothri, has carried out her internship in the Office of Environmental Management & Policy Research Institute, from 01.06.2022 to 30.07.2022. During the internship she was assigned the task of Land Use/Land Cover mapping and in "SOUPARNIKA-CHAKRA-HALADI ESTUARY" and 10Km periphery for the period 2011-2021 using remote sensing and GIS. She has submitted the Project Completion Report for the assignment given to her.


Director (Research)
EMPRI 14/9/22



"ಹಸಿರು ಭವನ", ದೊರೆಸಾನಿಪಾಳ್ಯ ಅರಣ್ಯ ಆವರಣ, ವಿನಾಯಕ ನಗರ ವೃತ್ತ, ಹೆ.ಪಿ. ನಗರ 5ನೇ ಹಂತ, ಬೆಂಗಳೂರು - 560 078
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Cochin University of Science and Technology
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DEPARTMENT OF MARINE GEOLOGY AND GEOPHYSICS
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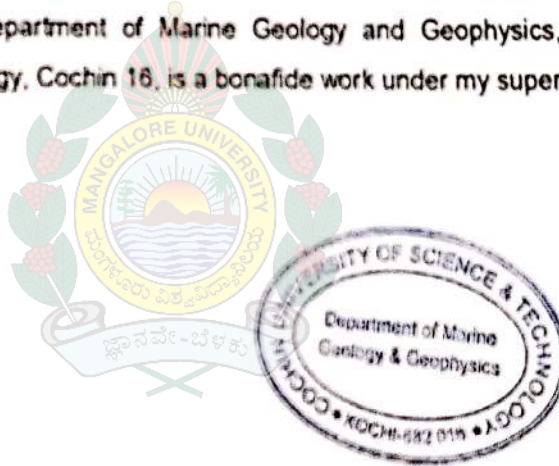
Dr. Sunil P.S.
Associate Professor

14 September 2022

CERTIFICATE

This is to certify that the dissertation entitled "PRIORITIZATION OF SUB-BASINS IN THE MUVATTUPUZHA RIVER BASIN BASED ON MORPHOMETRIC ANALYSIS AND GEOMORPHOLOGY: A GEOSPATIAL APPROACH" submitted by JASEELUDHEEN was carried out at the Department of Marine Geology and Geophysics, Cochin University of Science and Technology, Cochin 16, is a bonafide work under my supervision.

(Dr. Sunil P.S.)



Dr. K Priya
Asst. Professor
Department of Marine Geology

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INDIA - 574 199

Supervisor's Certificate

This is to certify that this dissertation titled “**Landslide susceptibility mapping using frequency ratio method of Thamarassery Taluk, Calicut, Kerala**” is the bona fide work of Jishna Mol Dennis P (Reg. No: 201661343109), under my supervision and guidance, as a partial fulfillment of the requirement for the degree of Master of Science in Marine Geology 2021-2022, Mangalore University. Further it is certified that this work has not been submitted for the award of any degree or diploma in any University.

26, September 2022

Dr. K PRIYA

Dr. K Priya
Asst. Professor
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Supervisor's Certificate

This is to certify that this dissertation titled "**Granulometric and geochemical characters of sediment core from Ninety-East Ridge (NER), Bay of Bengal: significance to sediment provenance and depositional environment**" is the bona fide work of **MAYOORI. N. K** (Reg. No: 201661343110), under my supervision and guidance, as a partial fulfillment of the requirement for the degree of Master of Science in Marine Geology 2021-2022, Mangalore University. Further it is certified that this work has not been submitted for the award of any degree or diploma in any University.

21, September 2022


Dr. K PRIYA



भारत सरकार / GOVERNMENT OF INDIA
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भारतीय भूवैज्ञानिक सर्वेक्षण / GEOLOGICAL SURVEY OF INDIA
मंगलादेवी पथ / MANGALADEVI ROAD, पांडेश्वर / PANDESHWAR
मंगलूरु / MANGALURU- 575001

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फैक्स/FAX: (0824) 2425087

दिनांक/ / Dated:

CERTIFICATE

This is to certify that the dissertation work entitled **"GRANULOMETRIC AND GEOCHEMICAL CHARACTERS OF SEDIMENT CORE FROM NINETYEAST RIDGE, BAY OF BENGAL: SIGNIFICANCE TO SEDIMENT PROVENANCE AND DEPOSITIONAL ENVIRONMENT."** is an authentic record of work done by Ms. **MAYOORI N.K. (201661343110)** at Operation: West Coast-I, Marine and Coastal Survey Division, Geological Survey of India, Mangalore and Department of Marine Geology, Mangalore University, Mangala Gangotri, Karnataka, under my guidance and supervision during the year 2021-2022.



MANOJ R.V.

**Geologist, Emp. ID 121405
Operation West Coast-I,
Marine and Coastal Survey Division
Geological Survey of India
Pandeshwar, Mangalore-575001**

भार.वी./MANOJ R.V.
भूवैज्ञानिक/Geologist
स. एवं त.स.प्र./M & CSD
भारतीय भूवैज्ञानिक सर्वेक्षण
Geological Survey of India
मंगलूरु Mangaluru - 575 001





MANGALORE UNIVERSITY
MANGALAGANGOTRI - 574199

CERTIFICATE

This is to certify that dissertation entitled “**SURFACE DISTRIBUTION OF FORAMINIFERA AND OTHER MICROFAUNA IN THE NORTHERN REGION, OFF KERALA COAST**” submitted by **Miss. MONISHA K M** (Reg No: **201661343111**). During June 2022 - August 2022 is a record of research work carried out under my supervision during the fourth semester, in partial fulfilment of the award of the Master of Science in Marine Geology from Mangalore University, Mangalore. It has not been submitted elsewhere for the award of any degree or diploma.

This project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangotri

Date: 23.09.2022.


23/09/2022.
Smt. Yamuna S M

Assistant Professor

Department of Marine Geology



SUPERVISOR'S CERTIFICATE

I certify that the dissertation work entitled "SURFACE DISTRIBUTION OF MICROFAUNA IN THE NORTHERN REGION, OFF KERALA COAST" is a genuine research work carried out by Ms. Monisha K M, under the guidance of undersigned during the period June to August, 2022. This work is in partial fulfillment for the award of the degree of Master of Science in Department of Marine Geology, Mangalore University, Mangalagangothri. Undersigned hereby also certify that this dissertation, either wholly or partially has not been the basis for the award of any other degree or diploma.

Place: Mangalore

Date: 12.09.2022



(Signature)
12/09/2022

(Angeshri M Hikare)

Sr. Geologist,
Geo informatics & Project EEZ
OPWC-I,
Marine and Coastal Survey Division
Mangalore

श्रीमति अंगेश्री एम. हिकरे
Smt. ANGESHRI M. HIKARE
वरिष्ठ भूवैज्ञानिक / Senior Geologist
एम एवं सी.एल.डी./M & CSD
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Geological Survey of India
भारत सरकार / Govt. of India
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Dr. K Priya
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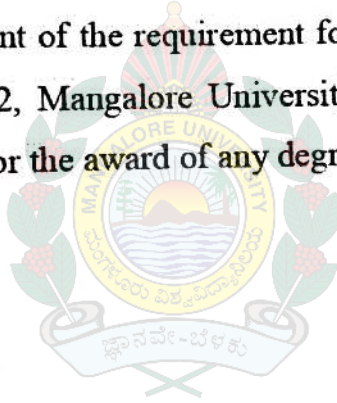
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INDIA - 574 199

Supervisor's Certificate

This is to certify that this dissertation titled “**Hydrogeochemical mapping in Kodayar sub-basin of Kanyakumari District Tamilnadu using geospatial techniques**” is the bona fide work of **K. R. Moulis** (Reg. No: 201661343112), under my supervision and guidance, as a partial fulfillment of the requirement for the degree of Master of Science in Marine Geology 2021-2022, Mangalore University. Further it is certified that this work has not been submitted for the award of any degree or diploma in any University.



Dr. K PRIYA

Date:



PERIYAR UNIVERSITY
NAAC 'A++' Grade - State University - NIRF Rank 73 - ARIIA Rank 10
DEPARTMENT OF GEOLOGY
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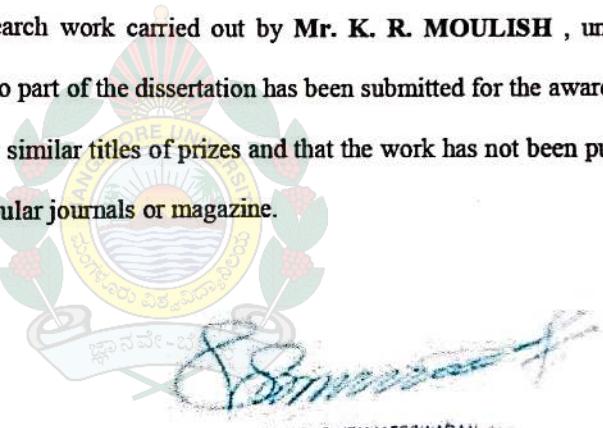
Lr. No: 941 / Geos / PU / 2022

Prof. Dr. S. VENKATESWARAN., Ph.D.,
Professor and Head

Date: 14.09.2022

BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled "HYDROGEOCHEMICAL MAPPING IN KODAYAR SUB-BASIN OF KANNYAKUMARI DISTRICT, TAMILNADU USING GEOSPATIAL TECHNIQUES" submitted for the fulfillment of the requirement of the Degree of Master of Science in Marine Geology in the Department of Marine Geology, Mangalore University, Mangalagangothri is a bonafide research work carried out by **Mr. K. R. MOULISH**, under my supervision and guidance and then no part of the dissertation has been submitted for the award of any degree, diploma, fellowship or other similar titles of prizes and that the work has not been published in part or full in any scientific or popular journals or magazine.


Prof. Dr. S. VENKATESWARAN, Ph.D.
Professor and Head
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Signature of the Research Supervisor

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MANGALORE

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M.Sc. MARINE GEOLOGY

GUIDE'S CERTIFICATE

This is to certify that dissertation work entitled "*MORPHOMETRIC AND MORPHOTECTONIC ANALYSIS OF SHIRIYA RIVER BASIN USING GIS AND REMOTE SENSING TECHNIQUES*" is carried out by **Nija Binu** of IV semester M.Sc. course in **Marine Geology** and has satisfactorily completed under my guidance and external guide **Dr. Rajesh Regunath, Department of Geology, Kerala University** for the partial fulfillment of the requirement for the award of the degree of **Master of Science in Marine Geology**.

Place: Mangalagangothri

Date: 23/09/2022



K S Jayappa
Department of Marine Geology
Mangalore University
Mangalagangothri-574199

Dr. Rajesh Reghunath
Professor



UNIVERSITY OF KERALA

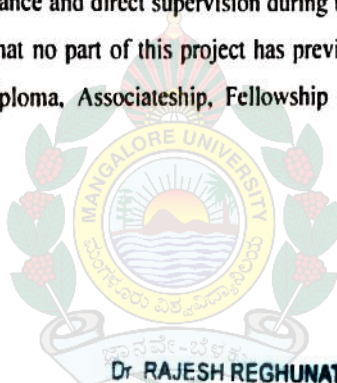
(Re-accredited with 'A' Grade by NAAC)

Department of Geology

Kariavattom Campus, Trivandrum, Kerala-695581, India

CERTIFICATE

This is to certify that the dissertation work entitled "**MORPHOMETRIC AND MORPHOTECTONIC ANALYSIS OF SHIRIYA RIVER BASIN USING GIS AND REMOTE SENSING TECHNIQUES**" is a bonafide record of the project work carried out by **Ms. NIJA BINU (201661343113)**, 4th Semester, M.Sc. Marine Geology, Mangalore University, under my guidance and direct supervision during the period from June to August 2022. It is also certified that no part of this project has previously formed the basis for the award of any degree, Diploma, Associateship, Fellowship or other similar titles of any University.



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Professor
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Dr. Rajesh Reghunath
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MSc. MARINE GEOLOGY

CERTIFICATE

This is to certify that dissertation entitled **“Flood Susceptibility Mapping of Netravathi River Basin using Analytical Hierarchy Process Technique”** Submitted by **Pranith P (201661343114)** in partial fulfillment of the award of the **Master of Science in MARINE GEOLOGY** from **Mangalore University, Mangalagangotri**. It has not been submitted elsewhere for the award of any degree or diploma.

The project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangotri

Date: 16/09/2022

Dr. R. Nirmala

Assistant professor

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Dr. K Priya
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KARNATAKA
INDIA - 574 199

Supervisor's Certificate

This is to certify that this dissertation titled “**Heavy mineral placer distribution in the surface sediment off Vizhinjam-Muttamtura sector, Southern Kerala-Tamilnadu**” is the bona fide work of **RAJATH ANAND V** (Reg. No: 201661343115), under my supervision and guidance, as a partial fulfillment of the requirement for the degree of Master of Science in Marine Geology 2021-2022, Mangalore University. Further it is certified that this work has not been submitted for the award of any degree or diploma in any University.



21, September 2022


Dr. K PRIYA

CERTIFICATE

I certify that the dissertation work entitled **“HEAVY MINERAL PLACER DISTRIBUTION IN THE SURFACE SEDIMENT OF VIZHINJAM-MUTTAMTURA SECTOR SOUTHERN KERALA-TAMIL NADU”** is a authentic record of work done by **Mr. RAJATH ANAND V**, under the guidance of undersigned during the period **June to August, 2022**. This work is in partial fulfillment for the award of the degree of Master of Science in Department of Marine Geology, Mangalore University, Mangalagangothri. Undersigned hereby also certify that this dissertation, either wholly or partially has not been the basis for the award of any other degree or diploma.

Place: Mangalore

Date: 12.09.2022



DIVYA K

Geologist,

Operation West Coast-1

Marine and Coastal Survey Division

Geological Survey of India

Pandeshwar, Mangalore-575001



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MSc. MARINE GEOLOGY

CERTIFICATE

This is to certify that dissertation entitled **“MAPPING & CHANGE DETECTION IN CHANDRAGIRI RIVER ESTUARY OF KASARAGOD DISTRICT USING GEOSPATIAL TECHNIQUES”** Submitted by **Rakshith.C.M (201661343116)** in partial fulfilment of the award of the **Master of Science in MARINE GEOLOGY** from **Mangalore University, Mangalagangothri**. It has not been submitted elsewhere for the award of any degree or diploma.

The project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangothri

Date: 16/9/2022

Dr. R. Nirmala

Assistant professor
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Mangalore University
Mangalagangothri- 574199



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M.Sc. MARINE GEOLOGY

INTERNAL GUIDE'S CERTIFICATE

This is to certify that the dissertation work entitled “**IDENTIFICATION OF THE INDICATORS OF LAND DEGRADATION IN THE COASTAL ZONE**” is carried out by Ms. **SHALIKRISHNA** of IVth semester M.Sc course in **MARINE GEOLOGY** and has satisfactorily completed under the guidance of Dr. K. S. JAYAPPA, Department of Marine Geology, Mangalore University for the partial fulfillment of the requirement for the award of the degree of Master of science in MARINE GEOLOGY.

Place : Mangalagangothri

Date : 25/9/2012

Dr. K. S. Jayappa

Chairman

Department of Marine Geology

Mangalore University

Mangalagangothri - 574 199

EXTERNAL GUIDE'S CERTIFICATE

This is to certify that the dissertation work entitled "**IDENTIFICATION OF THE INDICATORS OF LAND DEGRADATION IN THE COASTAL ZONE**" is carried out by Ms. **SHALIKRISHNA** of IVth Semester **M.Sc** course in **MARINE GEOLOGY** and she has satisfactorily completed the project under my guidance for the partial fulfillment of the requirement for the award of the degree of Master of science in **MARINE GEOLOGY**.

Place : **Bangalore**

Date : 26-09-2022



Dr. HARINI SANTHANAM

Associate Professor & H.O.D

Department of Public Policy

Manipal Academy of Higher Education

Bangalore - 560 064



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MANGALAGANGOTRI – 574 199

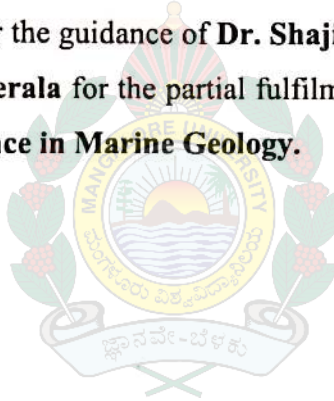
M.Sc. MARINE GEOLOGY

GUIDE'S CERTIFICATE

This is to certify that dissertation work entitled “**IDENTIFICATION OF GROUNDWATER POTENTIAL ZONES OF MOGRAL RIVER BASIN, NORTHERN KERALA, INDIA**” is carried out by **Sharanya B.** of IV semester M.Sc. course in **Marine Geology** and has satisfactorily completed under the guidance of **Dr. Shaji, E., Associate Professor, Department of Geology, University of Kerala** for the partial fulfilment of the requirement for the award of the degree of **Master of Science in Marine Geology**.

Place: Mangalagangotri

Date: 26/09/2022



K. S. Jayappa

K. S. Jayappa

Department of Marine Geology
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Mangalagangotri – 574 199

CHAIRMAN

Department of Marine Geology
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Department of Geology
DST - FIST AND UGC - SAP SPONSORED DEPARTMENT
University of Kerala

(Re- accredited by NAAC with 'A++' Grade)

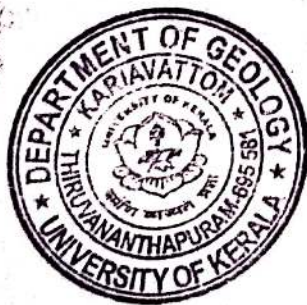
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Geo/MU/2022/12 dated 31-08-2022

SUPERVISOR'S CERTIFICATE

This is to certify that the dissertation work entitled "*Identification of groundwater potential zones of Mogral River Basin, Northern Kerala, India.*" is a genuine research work carried out by Ms. Sharanya B., under my guidance during the period 23.06.2022 to 31.08.2022. This work is in partial fulfilment for the award of the degree of Master of Science in Marine Geology in Department of Marine Geology, Mangalore University, Mangalagangothri. I also certify that this dissertation, either wholly or partially has not been the basis for the award of any other degree or diploma.



31/8/22

Associate Professor & Head

Dr. SHAJI E.
Associate Professor & Head
Department of Geology
University of Kerala, Kariavattoor
Thiruvananthapuram-695 581



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MANGALAGANGOTRI - 574199
M.Sc. MARINE GEOLOGY

CERTIFICATE

This is to certify that dissertation entitled “CHANGE DETECTION ANALYSIS OF LAND USE / LAND COVER BY USING GEOSPATIAL TECHNIQUES, A CASE STUDY OF SITA - SUVARNA ESTUARY” Submitted by **Shilpa Bali P.T. (Reg.No:201661343119)** in partial fulfillment of the award of the **Master of science in Marine Geology** from **Mangalore University, Mangalagangothri**. It has not been submitted elsewhere for the award of any degree or diploma.

The project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangothri

Date: 21.09.2022


Smt. Yamuna S.M

Assistant professor
Department of Marine Geology
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Mangalagangothri- 574199

ಪರಿಸರ ನಿರ್ವಹಣೆ ಮತ್ತು ನೀತಿ
ಸಂಶೋಧನಾ ಸಂಸ್ಥೆ



Environmental Management
& Policy Research Institute

ಅರಣ್ಯ, ಪರಿಸರ ಮತ್ತು ಜೀವಿಶಾಸ್ತ್ರ ಇಲಾಖೆಯಲ್ಲಿ ಸ್ಥಾಪಿತ ಸಂಸ್ಥೆ ಮತ್ತು ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸಂಶೋಧನಾ ಕಾರ್ಯ, ಇಲಾಖೆಯ ಸಂಶೋಧನಾ ಸಂಸ್ಥೆ
A society established under Forest, Ecology and Environment Department, Government of Karnataka and registered under
Karnataka Societies Registration Act 1960

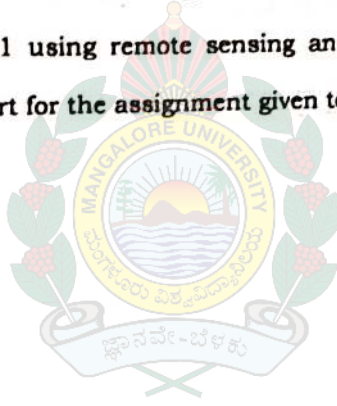
No. ADM/CR-16/ADM/2022-23/ 740

Date : 14.09.2022

TO WHOMSOEVER IT MAY CONCERN

CERTIFICATE

This is to certify that Ms. Shilpa Bali. P.T student of Mangalore University, Mangalagangothri, has carried out her internship in the Office of Environmental Management & Policy Research Institute, from 01.06.2022 to 30.07.2022. During the internship she was assigned the task of Land Use/Land Cover mapping and "CHANGE DETECTION IN SITA_SUVARNA ESTUARY" and 10Km periphery for the period 2011-2021 using remote sensing and GIS. She has submitted the Project Completion Report for the assignment given to her.



Director (Research)
EMPRI/14/9/22

"ಹಸಿರು ಭವನ". ದೊರೆಸಾನಿಪಾಳ್ಯ ಅರಣ್ಯ ಆವರಣ, ವಿನಾಯಕ ನಗರ ಪುತ್ರ್, ಜಿ.ಪಿ. ನಗರ 5ನೇ ಹಂತ, ಬೆಂಗಳೂರು - 560 078
"Hasiru Bhavana", Doresanipalya Forest Campus, Vinayakanagar Circle, J. P. Nagar 5th Phase, Bangalore - 560 078
Phone No: 080-2649 0747 /46; Email: empri.blr@gmail.com; Website: <http://empri.karnataka.gov.in>



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Supervisor's Certificate

I certify that the dissertation work titled, "**Comparative study of Sullia and Angadimogar syenite Pluton's, in the Mercara Suture Zone, Southern Granulite Terrain**" is carried out by **Mr .Sourav Sekhar**, IV Semester, M.Sc. course in Marine Geology under my guidance for the partial fulfilment of M.Sc. Degree in Marine Geology during the year 2020-2022. Further, I certify that this work or a part there of has not been the basis for the award of any degree or diploma.

Place: Mangalagangothri

Date: 26/09/2022


Prof. Manjunath B R

Professor

Dept. of Marine Geology

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Dr. AMALDEV T
Assistant Professor

Certificate

This is to certify that the thesis entitled "Comparative study of Sullia and Angadimogar Syenite pluton's, in the Mercara Suture Zone, Southern Granulite Terrain" is an authentic record of the research work carried out by Mr. Sourav Sekhar., under my supervision and guidance at the Department of Marine Geology and Geophysics, Cochin University of Science and Technology, in partial fulfillment of the requirements for the degree of Master of Science in Marine Geology and no part thereof has been submitted for any other degree at any other institution.



Dr. Amaldev T
12/09/2022

Dr. Amaldev T

Dr. AMALDEV T
Assistant Professor
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Cochin University of Science and Technology
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Kerala, India



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M.Sc. MARINE GEOLOGY

GUIDE'S CERTIFICATE

This is to certify that dissertation work entitled "*DELINEATION OF GROUNDWATER POTENTIAL ZONES IN SHIRIYA RIVER BASIN, KASARGOD DISTRICT, KERALA USING GEOSPATIAL TECHNOLOGY*" is carried out by **Sruthi Lakshmi R.** of IV the semester **M.Sc.** course in **Marine Geology** and has satisfactorily completed under my guidance and external guide **Dr. Rajesh Regunath, Department of Geology, Kerala University** for the partial fulfillment of the requirement for the award of the degree of **Master of Science in Marine Geology.**

Place: Mangalagangothri

Date: 24/9/22

Dr. K.S. Jayappa
Department of Marine Geology
Mangalore University
Mangalagangothri-574 199

Dr. Rajesh Reghunath
Professor



UNIVERSITY OF KERALA

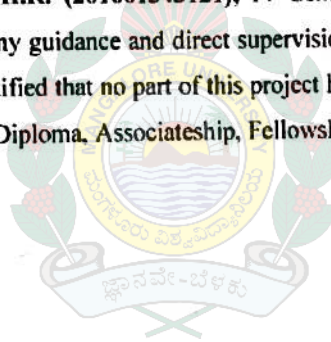
(Re-accredited with 'A' Grade by NAAC)

Department of Geology

Kariavattom Campus, Trivandrum, Kerala-695581, India

CERTIFICATE

This is to certify that the dissertation work entitled "**DELINEATION OF GROUNDWATER POTENTIAL ZONES IN SHIRIYA RIVER BASIN, KASARGOD DISTRICT, KERALA USING GEOSPATIAL TECHNOLOGY**" is a bonafied record of the project work carried out by **Ms. SRUTHI LAKSHMI.R. (201661343121)**, IV Semester, M.Sc Marine Geology. Mangalore university under my guidance and direct supervision during the period from June to August 2022. It is also certified that no part of this project has previously formed the basis for the award of any degree, Diploma, Associateship, Fellowship or other similar titles of any University.



Dr. RAJESH REGHUNATH
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Dr. Rajesh Reghunath
Professor
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University of Kerala
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MANGALAGANGOTRI - 574199

M.Sc. MARINE GEOLOGY

CERTIFICATE

This is to certify that dissertation entitled **“GROUNDWATER FLOW MODELLING OF KEECHERI-PUZHAKKAL RIVER BASIN APPLYING FINITE DIFFERENCE METHOD”** submitted by **SYAMJITH P V** (Reg No: **201661343122**). During June 2022 - August 2022 is a record of research work carried out under my supervision during the fourth semester, in partial fulfilment of the award of the Master of Science in Marine Geology from Mangalore University, Mangalore. It has not been submitted elsewhere for the award of any degree or diploma.

This project was carried out under my supervision and was found worthy of acceptance.

Place: Mangalagangotri

Date: 19/9/2022

Dr. R. Nirmala

Assistant Professor

Department of Marine Geology





KSCSTE-CWRDM

**KSCSTE - CENTRE FOR WATER RESOURCES
DEVELOPMENT AND MANAGEMENT**
ജലവിഭവ വികസന വിനിയോഗ കേന്ദ്രം

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DR.C.P. PRIJU M.Sc., Ph.D.
Senior Scientist
Hydrology and Climatology Research Group

31 August 2022

CERTIFICATE

This is to certify that the dissertation work entitled **"GROUNDWATER FLOW MODELLING OF KEECHERI-PUZHAKKAL RIVER BASIN APPLYING FINITE DIFFERENCE METHOD"** has been done by Mr. SYAMJITH P V under my supervision and guidance at **Centre for Water Resource Development and Management (CWRDM), Kozhikode, Kerala** during 6th June 2022 to 31st August 2022 in partial fulfilment of the requirements for the award of **Master of Science in Marine Geology** from **Mangalore University, Mangalore** and no part thereof has been presented for the award of any degree in any University/Institute.

(C.P. PRIJU)

Kunnamangalam, Kozhikode-673571, Kerala, India | കുന്നമംഗലം, കോഴിക്കോട്-673571, കേരളം, ഇന്ത്യ
E-mail: ed@cwrdm.org, registrar@cwrdm.org | Website: www.cwrdm.org
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Dr. K Priya
Asst. Professor
Department of Marine Geology

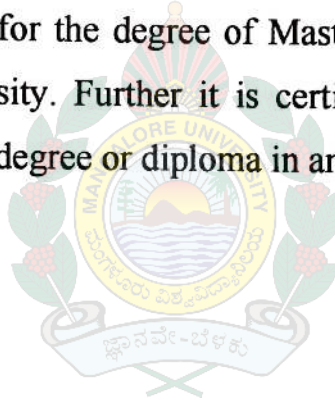
Mobile No. : 91-9741627654
E-mail: priyavellikara@gmail.com



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MANGALORE
KARNATAKA
INDIA - 574 199

Supervisor's Certificate

This is to certify that this dissertation titled “**Study of coarse fraction components within the territorial water off Vizhinjam, Southern Kerala**” is the bona fide work of Tejaswini (Reg. No: 201661343123), under my supervision and guidance, as a partial fulfillment of the requirement for the degree of Master of Science in Marine Geology 2021-2022, Mangalore University. Further it is certified that this work has not been submitted for the award of any degree or diploma in any University.



19, September 2022


Dr. K PRIYA

CERTIFICATE

This is to certify that the dissertation work entitled “**STUDY OF COARSE FRACTION COMPONENTS WITHIN THE TERRITORIAL WATER OFF VIZHINJAM, SOUTHERN KERALA**” is an authentic record of work done by Ms. **TEJASWINI (201661343123)** at Operation: West Coast-1, Marine and Coastal Survey Division, Geological Survey of India, Mangalore and Department of Marine Geology, Mangalore University, Mangala Gangothri, Karnataka, under my guidance and supervision during the year 2021-2022.




Ashalatha C P

Senior Geologist
Geological Survey of India
Mangalore

आशालता सी.पी. / **ASHALATHA C.P.**
वरिष्ठ भूवैज्ञानिक / **Senior Geologist**
एम एवं सी.एस.डी. / **M & CSD**
भारतीय भूवैज्ञानिक सर्वेक्षण
Geological Survey of India
भारत सरकार / **Govt. of India**
मंगलूरु / **MANGALURU - 575 001**



Mangalore University

Department of Marine Geology

Mangalagangothri, Karnataka.

Supervisor's Certificate

I certify that the dissertation work titled *RADIOISOTOPIC STUDY OF LATERITES AROUND MANGALURU, WEST COAST OF INDIA* is carried out by Mr. Umashankar S, IV Semester, M.Sc. course in Marine Geology under my guidance for the partial fulfilment of M.Sc. Degree in Marine Geology during the year 2020-22. Further, I certify that this work or a part thereof has not been the basis for the award of any degree or diploma.

Place: Mangalagangothri

Date: 26/09/2022

Prof. Manjunatha B R

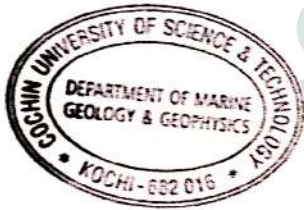
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Mangalore University
Mangalagangothri

DEPARTMENT OF MARINE GEOLOGY AND GEOPHYSICS
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
School of Marine Sciences, Lakeside Campus, Fine Arts Avenue, Kochi - 16, Kerala

Dr. AMALDEV T
Assistant Professor

Certificate

This is to certify that the thesis entitled "Petrography and Geochemistry of Sullia Syenite, Mercara Suture Zone, Southern Granulite Terrain, southern India" is an authentic record of the research work carried out by Mr. Unnikrishnan P., under my supervision and guidance at the Department of Marine Geology and Geophysics, Cochin University of Science and Technology, in partial fulfillment of the requirements for the degree of Master of Science in Marine Geology and no part thereof has been submitted for any other degree at any other institution.



Amaldev T
12/09/2022

Dr. Amaldev T

Dr. AMALDEV. T
Assistant Professor
Dept. of Marine Geology & Geophysics
Cochin University of Science and Technology
Lakeside Campus, Kochi - 16
Kerala, India

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UNIVERSITY

DEPARTMENT OF MARINE GEOLOGY

MANGALAGANGOTRI, KARNATAKA

Supervisor's Certificate

I certify that the dissertation works titled "**Petrography and Geochemistry of Sullia Syenite, Mercara Suture Zone, Southern Granulite Terrain, southern India**" carried out by **Mr. UNNIKRISHNAN P**, IV Semester, M.Sc. course in Marine Geology under my guidance for the partial fulfilment of M.Sc. Degree in Marine Geology during the year of 2021- 2022. Further, I certify that this work or a part thereof has not been the basis for the award of any degree or diploma.

Place: Mangalagangothri

Date: 21.09.2022


(YAMUNA S.M) 21/09/2022

Assistant Professor

Department of Marine Geology

Mangalore University

