



**WMO Arts and Science College, Muttill, Wayanad**

**Department of Electronics**

**Criteria 1**

**1.3.2 Percentage of students undertaken project work/  
field work/ internship**

**Academic year 2021- 2022**

Sl no	Name Of The Student	Title of the project/ area of specialization of field work or internship	Guide's name and institution/ agency concerned	UG /P G	Department
1.	Abhilash PM	Automatic Weather Monitoring and Soil Irrigation System	Rakesh V	UG	Electronics
2.	Apanaya Thampy	Automatic Weather Monitoring and Soil Irrigation System	Rakesh V	UG	Electronics
3.	Harikrishnan T P	Automatic Weather Monitoring and Soil Irrigation System	Rakesh V	UG	Electronics
4.	Marjana Farbin	Automatic Weather Monitoring and Soil Irrigation System	Dr. Manoj M G	UG	Electronics
5.	Muhammed Mufeed M	Automatic Weather Monitoring and Soil Irrigation System	Dr. Manoj M G	UG	Electronics
6.	Ashique Assain P K	IoT based Forest Fire Detection System	Rakesh V	UG	Electronics
7.	Faisal Asif P	IoT based Forest Fire Detection System	Dr. Manoj M G	UG	Electronics
8.	Muhammed Ansil	IoT based Forest Fire Detection System	Mr. Abdul Rasheed, WMO Arts and Science College, Muttill	UG	Electronics
9.	Muhammed Fayis O T	IoT based Forest Fire Detection System	Mr. Siby Joseph, WMO Arts and Science College, Muttill	UG	Electronics
10.	Avmi Khaleel	IoT based Forest Fire Detection System	Dr. Manoj M G	UG	Electronics
11.	Nishma Sherin	Gas Leakage Detector	Mrs. Neethu Mohan	UG	Electronics
12.	Rinsha P T	Gas Leakage Detector	Mrs. Neethu Mohan	UG	Electronics
13.	Shafna Sherin K	Gas Leakage Detector	Mrs. Neethu Mohan	UG	Electronics
14.	Shimna Sherin K	Gas Leakage Detector	Mrs. Neethu Mohan	UG	Electronics
15.	Anas Mubarak	Design and fabrication of two-wheeler security system	Mrs. Neethu Mohan	UG	Electronics
16.	Hani Hakkam	Design and fabrication of two-wheeler security system	Mrs. Neethu Mohan	UG	Electronics
17.	Muhammed Musthafa Os	Design and fabrication of two-wheeler security system	Mrs. Neethu Mohan	UG	Electronics
18.	Muhammed Musthafa P	Design and fabrication of two-wheeler security system	Mrs. Neethu Mohan	UG	Electronics

19.	Muhammed Jasim N K	Seat Management System in Public Buses	Mrs. Neethu Mohan	UG	Electronics
20.	Shabil Ahmmed T	Seat Management System in Public Buses	Mrs. Neethu Mohan	UG	Electronics
21.	Muhammed Ajnas K P	Seat Management System in Public Buses	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
22.	Athulya Das	Design and Development of Ultra Sound Radar Using Arduino	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
23.	Diya R B	Design and Development of Ultra Sound Radar Using Arduino	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
24.	Lubaiba Jabin P P	Design and Development of Ultra Sound Radar Using Arduino	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
25.	Rinsha V P	Design and Development of Ultra Sound Radar Using Arduino	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
26.	Fadhiya E	Water level indicator with automatic pumping system	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
27.	Najil Umair	Water level indicator with automatic pumping system	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
28.	Jessil Jasim	Water level indicator with automatic pumping system	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
29.	Muhammed Waleed P T K	Water level indicator with automatic pumping system	Dr. Nobert Thomas Pallath, WMO Arts and Science College, Muttill	UG	Electronics
30.	Jameela K	Evaluation of DBS Wind Measurement Technique in Different Beam Configurations for a VHF Wind Profiler	Rakesh V	PG	Electronics
31.	Shabna U	Aspect Sensitivity Measurement of Wind Profiler At 205 MHz Frequency Installed at Cochin Coastal Region	Rakesh V	PG	Electronics
32.	Shadiya K	Performance Evaluation of 3 Beam and 4 Beam Method for	Dr. Manoj M G	PG	Electronics

		Wind Estimation from Wind Profilers			
<b>33.</b>	Swarna Babu K K	Study of Refractive Index Structure Constant Variation Using 205 MHz Wind Profiler Installed at Cochin During Pre-monsoon and Monsoon	Dr. Manoj M G	PG	Electronics
<b>34.</b>	Sreedevi T P	Study of Refractive Index Structure Constant Variation Using 205 MHz Wind Profiler Installed at Cochin During Post monsoon and Winter	Rakesh V	PG	Electronics
<b>35.</b>	Anusree P M	Performance Analysis of Wind Profiling Radar with Different Tilting Angles	Dr. Manoj M G	PG	Electronics
<b>36.</b>	Arun M V	Study on the Variations in Refractive Index Structure Parameters During Post Monsoon and Winter Using GPS Radiosonde Datasets	Mr. Abdul Rasheed, WMO Arts and Science College, Muttill	PG	Electronics
<b>37.</b>	Ayesha Nihala	Animal Repeller	Mr. Siby Joseph, WMO Arts and Science College, Muttill	PG	Electronics
<b>38.</b>	Abida N P	Obstacle Avoidance Mobile Robot Using Arduino	Dr. Manoj M G	PG	Electronics

# AUTOMATIC WEATHER MONITORING AND SOIL IRRIGATION SYSTEM PROJECT REPORT

Submitted in the partial fulfillment of Bsc Electronics Submitted in the partial of  
University of Calicut

BY:

ABHILASH P M

WMATSEL022

APANYA THAMPY

WMATSEL011

HARIKRISHNAN T P

WMATSEL026

MARJANA FARBIN P

WMATSEL015

MUHAMMED MUFEEED M

WMATSEL002

UNDER THE GUIDANCE OF Mrs. NEETHU MOHAN



W.M.O. Arts and Science College Muttill,

PG DEPARTMENT OF ELECTRONICS

Kalpetta, Wayanad, 673122

Principal

W.M.O. Arts & Science College  
Muttill P.O., Wayanad

PG DEPARTMENT OF ELECTRONICS

WMO ARTS AND SCIENCE COLLEGE , MUTTIL



CERTIFICATE

This is to certify that the project report based on **AUTOMATIC WEATHER MONITORING AND SOIL IRRIGATION SYSTEM** was done by the following students of Department of Electronics ,WMO ARTS AND SCIENCE COLLEGE, MUTTIL to the fulfillment of the BACHELORS DEGREE IN ELECTRONICS of Calicut University under the guidance of Mrs. NEETHU MOHAN during the year 2021-2022.

Submitted By ,

ABHILASH P M

WMATSEL022

APANYA THAMPY

WMATSEL011

HARIKRISHNAN T P

WMATSEL026

MARJANA FARBIN P

WMATSEL015

MUHAMMED MUFEED M

WMATSEL002

Project Guide

Mrs. NEETHU MOHAN

Head of the Department

Mr. SIBY JOSEPH

Associate Professor/HOD  
Department of Electronics  
WMO Arts & Science College  
Muttill P.O., Wayanad - 673122

External Examiner.....

Date : .....

Principal

W.M.O. Arts & Science College  
Muttill P.O., Wayanad



# IOT BASED FOREST FIRE DETECTION SYSTEM

## PROJECT REPORT

Submitted in the partial fulfillment of  
B Sc Electronics of University of Calicut

By

ASHIQUE ASSAIN P K

WMATSEL024

FAISAL ASIF P

WMATSEL025

MUHAMMED ANSIL

WMATSEL030

MUHAMMED FAYIS O T

WMATSEL032

ABDUL VAHAB MUHAMMED

IBRAHIM AL KHALEEL

WMATSEL028<sup>1</sup>

Under the guidance of  
Mrs.NEETHU MOHAN



DEPARTMENT OF ELECTRONICS  
W.M.O. ARTS SCIENCE COLLEGE  
MUTTIL WAYANAD – 673122  
KERALA

Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad

DEPARTMENT OF ELECTRONICS  
WMO ARTS SCIENCE COLLEGE  
MUTTIL WAYANAD – 673122



**CERTIFICATE**

This is to certify that the project report based on IOT BASED FOREST FIRE DETECTOR was done by the following students of Department of Electronics, WMO ARTS AND SCIENCE COLLEGE, MUTTIL, to the fulfillment of the BACHELORS DEGREE IN ELECTRONICS of Calicut University under the guidelines of Mrs. NEETHU MOHAN during the year 2021-2022.

Submitted By,

ASHIQUE ASSAIN P K

FAISAL ASIF P

MUHAMMED ANSIL

MUHAMMED FAYIS O T

ABDUL VAHAB MUHAMMED

IBRAHIM AL KHALEEL

Project Guide

Mrs. NEETHU MOHAN

External Examiner.....

Head of the Department

Mr. SIBY JOSEPH

Siby Joseph  
Associate Professor/HOD  
Department of Electronics  
WMO Arts & Science College  
Muttill P.O., Wayanad - 673122

Principal

W.M.O. Arts & Science College  
Muttill P.O., Wayanad



# GAS LEAKAGE DETECTOR

## PROJECT REPORT

Submitted in the partial fulfillment of  
B Sc Electronics of University of Calicut

By

NISHMA SHERIN :WMATSEL016

RINSHA PT :WMATSEL017

SHAFNA SHERIN K: WMATSEL019

SHIMNA SHERIN K: WMATSEL020

Under the guidance of

**Dr. Nobert Thomas Pallath**



DEPARTMENT OF ELECTRONICS

W.M.O. ARTS SCIENCE COLLEGE

MUTTIL WAYANAD – 673122

KERALA

Principal

W.M.O. Arts & Science College  
Muttill P.O., Wayanad

DEPARTMENT OF ELECTRONICS  
WMO ARTS SCIENCE COLLEGE  
MUTTIL WAYANAD – 673122



CERTIFICATE

This is to certify that the project report based on GAS LEAKAGE DETECTOR was done by the following students of Department of Electronics, WMO ARTS AND SCIENCE COLLEGE, MUTTIL, to the fulfillment of the BACHELORS DEGREE IN ELECTRONICS of Calicut University under the guidance of Dr. NOBERT THOMAS PALLATH during the year 2021-2022.

Submitted By,  
NISHMA SHERIN :WMATSEL016  
RINSHA PT :WMATSEL017  
SHAFNA SHERIN K: WMATSEL019  
SHIMNA SHERIN K: WMATSEL020

Project Guide  
Dr. Nibert Thomas Pallath

Head of the Department  
Mr. Siby Joseph

External Examiner.....

Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad

***"Design and Fabrication of two wheeler security system"***

*A*

*Project Report*

*Submitted in partial fulfilment*

*For the award of the*

***Degree of Bachelor of science***

***In Department of Electronics***



(Academic Session 2019-22)

**Project Guide**

*Robert*

**Dr Nobert Thomas Pallath**

Associate Professor,

Dept. of Electronics.

WMO arts and Science College

**Submitted By**

Anas Mubarak

Hani Hakkam

Muhammed Musthafa os

Muhammed Musthafa p

Department of Electronics  
WMO Arts and Science College Muttill, Wayanad, Kerala

*[Signature]*

Principal

W.M.O. Arts & Science College  
Muttill P.O., Wayanad



WMO Arts and Science CollegeMuttill

CERTIFICATE

This is to certify that the project entitled "*Design and Fabrication of two wheeler security system*" has been submitted to the Department of Electronics. **WMO Arts and Science College Muttill**, for the fulfilment of the requirement for the award of the degree of Bachelor of science in "**Electronics**" by following student of final year Bsc (Electronics)

Student Name (with REG NO.)

WMATSEL006 ANAS MUBARAK

WMATSEL001 HANI HAKKAM

WMATSEL008 MUHAMMED MUSTHAFA OS

WMATSEL027 MUHAMMED MUSTHAFA P

**Dr N Robert Thomas Pallath**

(Project Guide)

External Examiner.....

**Prof. Siby Joseph**

(Head of Department)

**Principal**

**W.M.O. Arts & Science College  
Muttill P.O., Wayanad**

**"SEAT MANAGEMENT SYSTEM IN PUBLIC BUSES"**

**A Project Report**

*For the award of the*

***Degree of Bachelor of science***

***In Department of Electronics***



(Academic Session 2019-22)

**Project Guide**

HASSANUL BENNA

Dept. of Electronics.

**Submitted By**

Muhammed Jasim N K  
Shabil Ahammed T  
Muhammed Ajnas K P

WMO arts and Science College

*Department of Electronics*

**WMO Arts and Science College Muttill, Wayanad, Kerala**

**Principal**

**W.M.O. Arts & Science College  
Muttill P.O., Wayanad**



# DESIGN AND DEVELOPMENT OF ULTRA SOUND RADAR USING ARDUINO

## PROJECT REPORT

Submitted in the partial fulfillment of Bsc Electronics Submitted in the partial of  
University of Calicut

BY:

ATHULLYA DAS

WMATSEL003

DIYA R B

WMATSEL004

LUBAIBA JABIN P P

WMATSEL005

RINSHA V P

WMATSEL018


UNDER THE GUIDANCE OF Mr.ABDUL RASHEED



**WMO Arts and Science College Muttil,**

**PG DEPARTMENT OF ELECTRONICS**

**Kalpetta, Wayanad, 673122**

  
Principal  
W.M.O. Arts & Science College  
Muttil P.O., Wayanad

# PG DEPARTMENT OF ELECTRONICS

WMO Arts and Science College Muttill



## CERTIFICATE

This is to certify that the project report based on DESIGN AND DEVELOPMENT OF ULTRA SOUND RADAR USING ARDUINO was done by the following students of Department of Electronics , WMO ARTS AND SCIENCE COLLEGE ,MUTTIL,to the fulfillment of the BACHELORS DEGREE IN ELECTRONICS of Calicut University under the guidance of Mr .ABDUL RASHEED during the year 2021-2022.

Submitted By ,

ATHULLYA DAS	WMATSEL003
DIYA R B	WMATSEL004
LUBAIBA JABIN P P	WMATSEL005
RINSHA V P	WMATSEL018

Project Guide

Mr .ABDUL RASHEED

Head of the Department

Siby Joseph  
Mr. SIBY JOSEPH  
Associate Professor/HOD  
Department of Electronics  
WMO Arts & Science College  
Muttill P.O., Wayanad - 673122

External Examiner.....

Principal

W.M.O. Arts & Science College  
Muttill P.O., Wayanad

**Design and Development of a Water Level Indicator  
with Automatic Pumping System**

*A Project Report*

*Submitted to the*

**University of Calicut**

*in partial fulfillment of requirements for the award of degree*

*Bachelor of Science*

*in*

*Electronics*

*by*

**FADHIYA E**

**WMATSEL013**

**NAJIL UMAIR**

**WMATSEL010**

**JESSIL JASIM**

**WMATSEL007**

**MUHAMMED WALEED P T K**

**WMATSEL009**



**PG DEPARTMENT OF ELECTRONICS  
W.M.O. ARTS AND SCIENCE COLLEGE, MUTTIL**

**KERALA**

**March 2022**

**Principal**  
**W.M.O. Arts & Science College**  
**Muttill P.O., Wayanad**



PG DEPT. OF ELECTRONICS  
WMO ARTS & SCIENCE COLLEGE MUTTIL

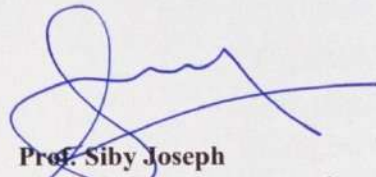
2021 - 22




CERTIFICATE

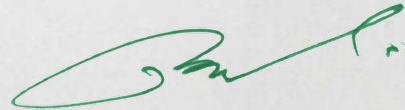
This is to certify that the report entitled **Design and Development of a Water Level Indicator with Automatic Pumping System** submitted by **FADHIYA. E, NAJIL UMAIR, JESSIL JASM** and **MUHAMMED WALEED PTK** to the Calicut University in partial fulfillment of the award of degree Bachelor of Science in Electronics is a bonafide record of the project work carried out by him under our guidance and supervision. This report in any form has not been submitted to any other University or Institute for any purpose.

**Prof. Abdul Rasheed**  
(Project Guide)  
Assistant Professor  
Dept.of Electronics  
WMO Arts & Science College  
Muttill

  
**Prof. Siby Joseph**  
Head of the Department and  
Associate Professor  
Dept.of Electronics  
WMO Arts & Science College  
Muttill

Associate Professor/HOD  
Department of Electronics  
WMO Arts & Science College  
Muttill P.O., Wayanad - 673122

Examiner:.....  




Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad

**EVALUATION OF DBS WIND MEASUREMENT  
TECHNIQUE IN DIFFERENT BEAM CONFIGURATIONS  
FOR A VHF WIND PROFILER**

*A PROJECT REPORT*

*SUBMITTED BY*

**ATHILA JASMIN**

**REG NO. WMAUMEL004**



**FOR THE AWARD OF THE  
DEGREE OF MASTER OF SCIENCE  
(MSc.) IN ELECTRONICS  
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF ELECTRONICS  
WMO ARTS & SCIENCE COLLEGE, MUTTIL- WAYANAD**

**2020 - 2022**

*UNDER THE GUIDANCE OF*

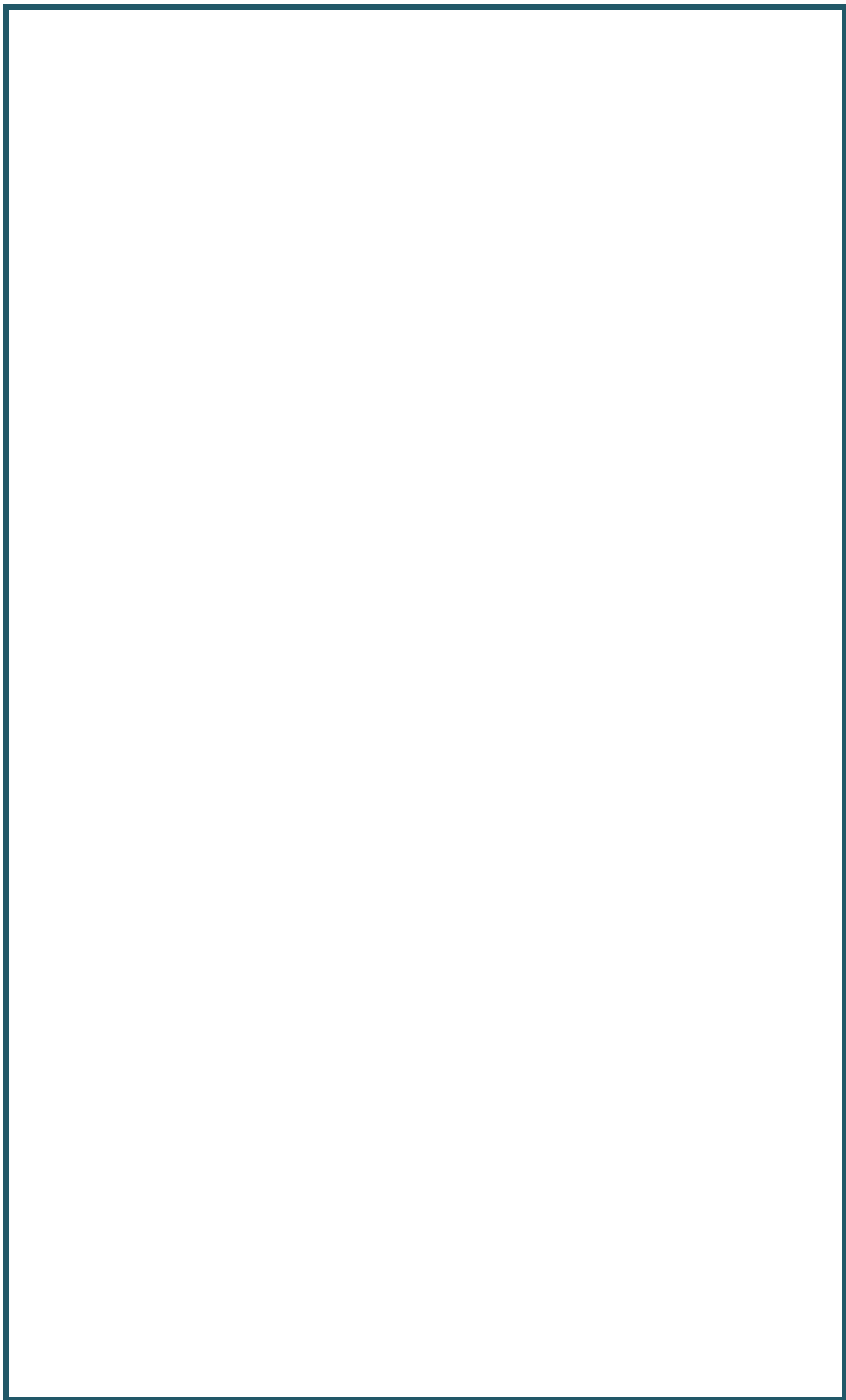
**MR. RAKESH V**

*Principal*  
**W.M.O. Arts & Science College  
Muttill P.O., Wayanad**

**ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH**

**COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY**







ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH  
അന്തരീക്ഷ റഡാർ ഗവേഷണ നൂതന കേന്ദ്രം  
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY  
കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല  
ST Radar Facility, Cochin - 682 022, India




Ref No.: ACARR/STR/2022-23/035(e)

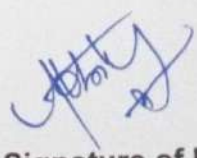
Dated: 11.08.2022

### CERTIFICATE

This is to certify that the project report entitled **Evaluation of DBS wind Measurement Technique in different beam configurations for a VHF wind profiler** submitted by **Athila Jasmin**. in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during April 2022 under my supervision and guidance.

  
Signature of Guide

Rakesh V.

  
Signature of Director

Dr. Abhilash S.





Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad

**ASPECT SENSITIVITY MEASUREMENT OF WIND  
PROFILER**

**AT 205 MHZ FREQUENCY INSTALLED AT  
COCHIN COASTAL REGION**

**A PROJECT REPORT**

*SUBMITTED BY*

**JAMEELA K**



*FOR THE AWARD OF THE*

**DEGREE OF MASTER OF SCIENCE**

**(MSc.) IN ELECTRONICS**

**(UNIVERSITY OF CALICUT)**



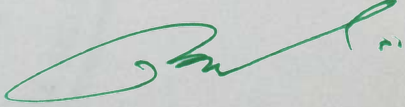
**DEPARTMENT OF ELECTRONICS**

**W.M.O. ARTS & SCIENCE COLLEGE, MUTTIL**

**(AFFILIATED TO UNIVERSITY OF CALICUT)**

**JULY, 2022**

1

  
Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad



ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH

അന്തരീക്ഷ റഡാർ ഗവേഷണ നൂതന കേന്ദ്രം  
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല  
ST Radar Facility, Cochin - 682 022, India



Ref No.: ACARR/STR/2022-23/035(a)

Dated: 11.08.2022

## CERTIFICATE

This is to certify that the project report entitled **Aspect Sensitivity Measurement of Wind Profiler at 205MHz Frequency Installed at Cochin Coastal Region** submitted by **Jameela K.** in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during April 2022 under my supervision and guidance.

Signature of Guide

Rakesh V.

Signature of Director

Dr. Abhilash S.



Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad



**PERFORMANCE EVALUATION OF 3 BEAM AND 4  
BEAM METHOD FOR WIND ESTIMATION FROM WIND  
PROFILERS**

**A PROJECT REPORT  
SUBMITTED BY  
SHABNA U**



**FOR THE AWARD OF THE  
DEGREE OF MASTER OF SCIENCE  
(MSc.) IN ELECTRONICS  
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF ELECTRONICS  
W.M.O. ARTS & SCIENCE COLLEGE, MUTTIL  
(AFFILIATED TO UNIVERSITY OF CALICUT)  
THENHIPALAM, CALICUT UNIVERSITY  
P.O KERALA, 673 635, INDIA**

**Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad**





ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH

അന്തരീക്ഷ റഡാർ ഗവേഷണ നൂതന കേന്ദ്രം  
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല  
ST Radar Facility, Cochin - 682 022, India



Ref No.: ACARR/STR/2022-23/035(g)

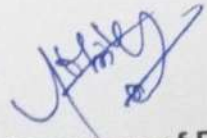
Dated: 11.08.2022

### CERTIFICATE

This is to certify that the project report entitled **Performance Evaluation of Three Beam and Four Beam Method for Wind Estimation from Wind Profilers** submitted by **Shabna U.** in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during April 2022 under my supervision and guidance.

  
Signature of Guide

Rakesh V.

  
Signature of Director

Dr. Abhilash S.





Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad

**STUDY OF REFRACTIVE INDEX STRUCTURE  
CONSTANT VARIATION USING 205MHZ WIND  
PROFILER INSTALLED AT COCHIN DURING  
PREMONSOON AND MONSOON**

**A PROJECT REPORT**

*SUBMITTED BY*


**SHADIYA K**



**FOR THE AWARD OF THE  
DEGREE OF MASTER OF SCIENCE  
(MSc.) ELECTRONICS  
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF ELECTRONICS  
WMO ARTS AND SCIENCE COLLEGE, MUTTIL  
(AFFILIATED TO UNIVERSITY OF CALICUT)  
THENHIPALAM, CALICUT UNIVERSITY  
P.O KERALA, 673 635, INDIA**

  
**Principal  
W.M.O. Arts & Science College  
Muttil P.O., Wayanad**



ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH

അന്തരീക്ഷ റഡാർ ഗവേഷണ നൂതന കേന്ദ്രം  
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല  
ST Radar Facility, Cochin - 682 022, India

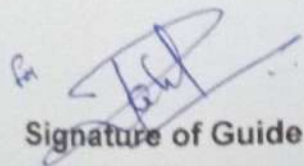


Ref No.: ACARR/STR/2022-23/035(f)

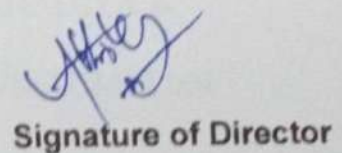
Dated: 11.08.2022

## CERTIFICATE

This is to certify that the project report entitled **Study of Refractive Index structure constant variation using 205MHz wind profiler installed at Cochin during premonsoon and monsoon** submitted by **Shadiya K.** in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during April 2022 under my supervision and guidance.

  
Signature of Guide

Dr. Manoj M. G.

  
Signature of Director

Dr. Abhilash S.





Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad



**STUDY OF REFRACTIVE INDEX STRUCTURE  
CONSTANT VARIATION USING 205MHz WIND  
PROFILER INSTALLED AT COCHIN DURING POST  
MONSOON AND WINTER**

**A PROJECT REPORT**

*SUBMITTED BY*

**SWARNA BABU K K**



**FOR THE AWARD OF THE  
DEGREE OF MASTER OF SCIENCE  
(MSc.) IN ELECTRONICS  
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF ELECTRONICS  
WMO ARTS & SCIENCE COLLEGE, MUTTIL  
(AFFILIATED TO UNIVERSITY OF CALICUT)  
THENHIPALAM, CALICUT UNIVERSITY  
P.O KERALA, 673 635, INDIA**

A handwritten signature in green ink, likely of the Principal, written over the printed name.

**Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad**



ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH

അന്തരീക്ഷ റഡാർ ഗവേഷണ നൂതന കേന്ദ്രം  
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY  
കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല  
ST Radar Facility, Cochin - 682 022, India

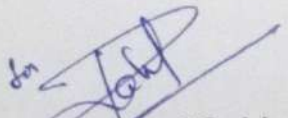


Ref No.: ACARR/STR/2022-23/035(h)

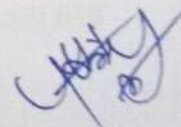
Dated: 11.08.2022

## CERTIFICATE

This is to certify that the project report entitled **Study of Refractive Index structure constant variation using 205MHz wind profiler installed at Cochin during post monsoon and winter** submitted by **Swarna Babu K. K.** in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during **April 2022** under my supervision and guidance.

  
Signature of Guide

Dr. Manoj M. G.

  
Signature of Director

Dr. Abhilash S.





Principal  
W.M.O. Arts & Science College  
Muttil P.O., Wayanad



**PERFORMANCE ANALYSIS OF WIND PROFILING RADAR WITH  
DIFFERENT TILTING ANGLES**

A PROJECT REPORT

SUBMITTED BY

**SREDEVI.T.P**



FOR THE AWARD OF THE  
DEGREE OF MASTER OF SCIENCE  
(MSc.) IN ELECTRONICS  
(UNIVERSITY OF CALICUT)



DEPARTMENT OF ELECTRONICS  
WMO ARTS & SCIENCE COLLEGE, MUTTIL  
(AFFILIATED TO UNIVERSITY OF CALICUT)  
THENHIPALAM, CALICUT UNIVERSITY

P.O KERALA, 673 635, INDIA

A handwritten signature in green ink, likely belonging to the Principal of the college.

Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad



ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH

അന്തരീക്ഷ റഡാർ ഗവേഷണ നൂതന കേന്ദ്രം  
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY  
കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല  
ST Radar Facility, Cochin - 682 022, India



Ref No.: ACARR/STR/2022-23/035(b)

Dated: 11.08.2022

## CERTIFICATE

This is to certify that the project report entitled **Performance Analysis of Wind Profiling Radar with Different Tilting Angles** submitted by **Sreedevi T. P.** in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during April 2022 under my supervision and guidance.

Signature of Guide

Rakesh V.

Signature of Director

Dr. Abhilash S.



Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad

**STUDY ON THE VARIATIONS IN REFRACTIVE INDEX  
STRUCTURE PARAMETER DURING POST-MONSOON  
AND WINTER USING GPS RADIOSONDE DATA SETS**

**A PROJECT REPORT  
SUBMITTED BY  
ANUSREE PM**



**FOR THE AWARD OF THE  
DEGREE OF MASTER OF SCIENCE  
(MSc.) IN ELECTRONICS  
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF ELECTRONICS  
WMO ARTS & SCIENCE COLLEGE, MUTTIL  
(AFFILIATED TO UNIVERSITY OF CALICUT)  
THENHIPALAM, CALICUT UNIVERSITY**

**P.O KERALA, 673 635, INDIA**

A handwritten signature in green ink, likely belonging to the Principal.

**Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad**





Ref No.: ACARR/STR/2022-23/035(d)

Dated: 11.08.2022

## CERTIFICATE

This is to certify that the project report entitled **Study on the Variations in Refractive Index Structure Parameter during post monsoon and winter using GPS Radiosonde Data Sets** submitted by **Anusree P. M.** in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during April 2022 under my supervision and guidance.

Signature of Guide

Dr. Manoj M. G.

Signature of Director

Dr. Abhilash S.



Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad



**ANIMAL REPELLER**

**A PROJECT REPORT**

**SUBMITTED BY**

**ARUN M V**



**FOR THE AWARD OF THE  
DEGREE OF**

**MASTER OF SCIENCE (M.Sc.)  
IN  
ELECTRONICS**

**UNIVERSITY OF CALICUT**



**DEPARTEMENT OF ELECTRONICS  
W.M.O. ARTS AND SCIENCE COLLEGE MUTTIL  
AFFILIATED TO THE UNIVERSITY OF CALICUT  
WAYANAD 673122**


**APRIL 2022**

A handwritten signature in green ink, likely of the Principal.

**Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad**

## CERTIFICATE

This is to certify that the project report entitled **ANIMAL REPELLER** submitted by **ARUN M V** (Register Number: **WMAUMEL003**) to University of Calicut for the award of the degree of Master of Science (M.Sc.) in Electronics is a bona-fide record of the project work carried out by him/her under my supervision and guidance. The content of the report, in full or parts have not been submitted to any other Institute or University for the award of any other degree or diploma.

  
Signature: **ABDUL RASHEED**  
Assistant Professor  
Department of Electronics  
WMO Arts & Science College  
Muttil P.O., Wayanad-673122  
Department of Electronics

  
Signature: **Mr. SIBY JOSEPH**  
Head of department  
**Siby Joseph**  
Assistant Professor/HOD  
Department of Electronics  
WMO Arts & Science College  
Muttil P.O., Wayanad - 673122

Place: MUTTIL

Date: 17-08-2022.



Principal  
W.M.O. Arts & Science College  
Muttil P.O., Wayanad

**OBSTACLE AVOIDANCE MOBILE ROBOT USING  
ARDUINO**

**A PROJECT REPORT**

***SUBMITTED BY***

**AYESHA NIHALA**

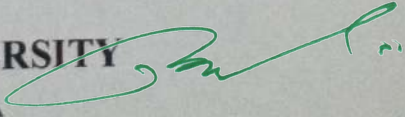


**FOR THE AWARD OF THE  
DEGREE OF MASTER OF SCIENCE  
(MSc.) IN ELECTRONICS  
(UNIVERSITY OF CALICUT)**



**DEPARTMENT OF ELECTRONICS  
WMO ARTS & SCIENCE COLLEGE, MUTTIL  
(AFFILIATED TO UNIVERSITY OF CALICUT)**

**THENHIPALAM, CALICUT UNIVERSITY  
P.O KERALA, 673 635, INDIA**

  
Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad



## CERTIFICATE

This is to certify that the project report entitled "OBSTACLE AVOIDANCE MOBILE ROBOT USING ARDUINO" submitted by **AYESHA NIHALA** (Register Number: WMAUMEL011) to University of Calicut for the award of the degree of Master of Science (M.Sc.) in Electronics is a bona-fide record of the project work carried out by her under my supervision and guidance. The content of the report, in full or parts have not been submitted to any other Institute or University for the award of any other degree or diploma.

Signature:

**Mr. Abdul Rasheed**

Asst. Professor

Department of Electronics

Signature:

**Mr. Siby Joseph**

HOD **Siby Joseph**

Associate Professor/HOD

Department of Electronics

W.M.O. Arts & Science College  
Muttil P.O., Wayanad - 673122

Place:

Date:

Principal

W.M.O. Arts & Science College  
Muttil P.O., Wayanad

**VARIATIONS IN REFRACTIVE INDEX STRUCTURE  
PARAMETER DURING PRE-MONSOON & MONSOON  
USING GPS RADIOSONDE DATA SETS**

**A PROJECT REPORT**

*Submitted by*

**ABIDA NP  
WMAUMEL001**



*For the award of the degree of*

**MASTER OF SCIENCE**

*in*

**ELECTRONICS**

**(UNIVERSITY OF CALICUT)**



**PG DEPARTMENT OF ELECTRONICS**

**WMO ARTS & SCIENCE COLLEGE, MUTTIL**

**(Affiliated to the University of Calicut)**

**Kalpetta, Wayanad, Kerala 673122**

**Principal**

**W.M.O. Arts & Science College  
Muttill P.O., Wayanad**

**AUGUST 2022**



ADVANCED CENTRE FOR ATMOSPHERIC RADAR RESEARCH

അന്തരീക്ഷ റഡാർ ഗവേഷണ നൂതന കേന്ദ്രം  
COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

കൊച്ചി ശാസ്ത്ര സാങ്കേതിക സർവ്വകലാശാല  
ST Radar Facility, Cochin - 682 022, India



Ref No.: ACARR/STR/2022-23/035(c)

Dated: 11.08.2022

## CERTIFICATE

This is to certify that the project report entitled **Variations in Refractive Index Structure Parameter during Pre-Monsoon, Monsoon using GPS Radiosonde Data Sets** submitted by **Abida N. P.** in partial fulfilment of the requirements for the award of the degree of **Master of Science in Electronics** is a bonafide record of the work carried out at **ST Radar Facility, Advanced Centre for Atmospheric Radar Research, Cochin University of Science and Technology, Cochin** during April 2022 under my supervision and guidance.

for  
  
Signature of Guide

Dr. Manoj M. G.

Signature of Director

Dr. Abhilash S.



Principal  
W.M.O. Arts & Science College  
Muttill P.O., Wayanad