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Al-Ameen COLLEGE

EDATHALA, ALUVA-683 561

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E-mail : alameencollege@gmail.com Website : www.alameencollege.org

CERTIFICATE

This is to certify that under the collaborative agreement between Al-Ameen College, Edathala and St. Xavier's College for Women, Aluva, Ms. ANCY JAMES, Ms. ANU JOLLY and Ms. VEENA ROMI, the MSc Physics students of St. Xavier's College for Women did their PG project in the Research Lab of Dept. of Physics of Al- Ameen College during the period 01/01/2022 – 31/05/2022 under the guidance of our faculty Ms. Renjini T N.

Project Guide RENSINITN

10.06.2022 Edathala

Rose P. Inalim

Head of the Department

Principal

Dr. Cini Kurian Principal Al-Ameen college edathale





St. Paul's College, Kalamassery Archdiocese of Verapoly Affiliated to the Mahatma Gandhi University, Kottayam

🕽 www.stpauls.ac.in 🚺 0484 2555572 🔛 mail@stpauls.ac.in

CERTIFICATE

This is to certify that the project work entitled " **REVIEW ON THE INTERAC-TION OF TWO LEVEL ATOMS WITH DIFFERENT PHOTON STATES** " is the bonafied work done by **SIYA KURIAN** (Reg. No: 200011012656) student of Al-Ameen College, Edathala under my supervision and guidance in the Department of Physics, St. Paul's College, Kalamassery during 2020-2022 towards the partial fulfillment of the requirements of Master of Science in Physics by Mahatma Gandhi University, Kottayam.

Dr.PRIYESH K.V

Assistant Professor, Department of Physics. St. Paul's College, Kalamassery

Place:

Date :



SREE SANKARA COLLEGE, KALADY

CERTIFICATE

This is to certify that the project work entitled "OPTICAL, STRUCTURAL AND ELECTRICAL PROPERTIES OF RF SPUTTERED ZINC OXIDE" is the bonafide work done by ATHEELA V A and SUSMIN P JOY, student of Al-Ameen College, Edathala under my supervision and guidance during 2020-2022 towards the partial fulfillment of the requirements of Master of Science in Physics by Mahatma Gandhi University, Kottayam.

ARTMENT DATE 9 DLLEG

Dr. MANJU T Assistant Professor Department of Physics Sree Sankara College, Kalady

Place:

Date:



SREE SANKARA COLLEGE, KALADY

CERTIFICATE

This is to certify that the project work entitled "OPTICAL, STRUCTURAL AND ELECTRICAL PROPERTIES OF RF SPUTTERED ZINC OXIDE" is the bonafide work done by ANJALY M NAIR and ASWIN SASEENDRAN, student of Al-Ameen College, Edathala under my supervision and guidance during 2020-2022 towards the partial fulfillment of the requirements of Master of Science in Physics by Mahatma Gandhi University, Kottayam.

WKARAC

Dr. MANJU T Assistant Professor Department of Physics Sree Sankara College, Kalady

Place:

Date:



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CERTIFICATE

This is to certify that the project work entitled "STUDY OF STRUCTURAL PROPERTIES OF BISMUTH FERRITE AND BISMUTH FERRITE DOPED WITH COPPER AND IT'S APPLICATION IN PHOTOCATALYSIS" is the bonafied work done by KRISHNA PRIYA T S (Reg. No: 200011012650) student of Al-Ameen College, Edathala under my supervision and guidance in Department of Physics, The Cochin College, Kochi during 2020-2022 towards the partial fulfillment of the requirements of Master of Science in Physics by Mahatma Gandhi University, Kottayam.

Place: kochi 19/09/2022. Date:

Dr. MANJUSHA M.V Assistant Professor Department of Physics The Cochin College, Cochin

Dr MANJUSHA M V Assistant Professor Department Of Physics The Cochin College Cochin - 682 002

DEPARTMENT OF PHYSICS

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CERTIFICATE

This is to certify that the project entitled "DYNAMICS OF COUPLED & UNCOUPLED IZHIKEVICH NEURON MODEL" is an authentic record of the project work carried out by Mr. MADHUSHYAM P K (REG NO:200011012652) of final year M.Sc. Physics, Al-Ameen College, Edathala, under the supervision and guidance of Dr.ROSE P IGNATIUS, in partial fulfilment of the requirements for the award of the degree of Master of Science in Physics under the faculty of Science of Al-Ameen College, Edathala during the academic year 2020-2022

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DR. ROSE P IGNATIUS HEAD OF THE DEPARTMENT

DEPARTMENT OF PHYSICS

AL AMEENCOLLEGE, EDATHALA



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CERTIFICATE

This is to certify that the project work entitled "STUDY ON THE ANTIBACTERIAL PROPERTIES OF ZINC OXIDE NANOPARTICLES AND SILVER DOPED ZINC OXIDE NANOPARTICLES" is the bonafide work done by KRISHNAPRIYA K.S (Reg. No:200011012651) student of Al-Ameen College, Edathala under my supervision and guidance in Department of Physics, The Cochin College, Kochi during 2020-2022 towards the partial fulfillment of the requirements of Master of Science in Physics by Mahatma Gandhi University, Kottayam.

Place: Ko Date: 20

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Dr. MANJUSHA M.V Assistant Professor Department of Physics The Cochin College, Cochin

> Dr MANJUSHA M V Assistant Professor Department Of Physics The Cochin C Cochin- S





THE COCHIN COLLEGE, KOCHI

CERTIFICATE

This is to certify that the project work entitled "STUDY OF THE STRUCTURAL PROPERTIES OF BARIUM TITANATE AND BARIUM TITANATE DOPPED WITH IRON AND ITS APPLICATION IN PHOTOCATALYTIC ACTIVITY" is the bonafide work done by ANJALY E.U (Reg. No: 200011012643), student of Al-Ameen College, Edathala under the supervision and guidance of DR. MANJUSHA M.V, Assistant Professor, Department of Physics, The Cochin College, Kochi during 2020-2022 towards the partial fulfillment of the requirements of Master of Science in Physics by Mahatma Gandhi University, Kottayam.

Place: Date: kochi 19/09/2022 ·



DR. MANJUSHA M.V Assistant Professor Department of Physics The Cochin College, Kochi

> Dr MANJUSHA M V Assistant Professor Department Of Physics The Cochin College Cochin- 682 002



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CERTIFICATE

(0484 2555572

This is to certify that the project work entitled "REVIEW ON THE INTERACTION OF COHERENT PHOTON FIELD WITH ATOM is the bonafied work done by MIDILAJ M ABUBAKKAR (Reg. No.: 200011012653) student of Al-Ameen College, Edathala under my supervision and guidance in the Department of Physics, St. Paul's College, Kalamassery during 2020-2022 towards the partial fulfillment of the requirements of Master of Science in Physics by Mahatma Gandhi University, Kottayam.

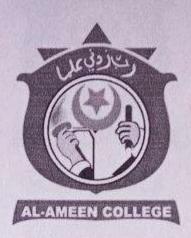
Dr. PRIYESH K. V.

Assistant Professor, Department of Physics. St. Paul's College, Kalamassery.

Place: Date :

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CERTIFICATE

This is to certify that the project work entitled "Green Synthesis and Characterisation of Bismuth Oxide Nanoparticles" submitted to Al-Ameen College, Edathala is a bonafide record of work done by Ms.AJANYA K for the partial fulfillment of the award of Master of Science degree in Physics during the year 2020-22 under my supervision and guidance.

Signature of guide

Mrs. RENJINI T N Assistant professor Department of physics Al -Ameen College,Edathala

CERTIFICATE

I Niloofar Sulthana N hereby declare that the project report titled "Nonlinear Optical Study Of Zinc Phthalocyanine By Open Aperture Z- Scan Technique And The Determination Of Nonlinear Parameters By Developing A Curve Fitting Program In Python" is a record of original research work carried out by me towards the award of the degree of Master of Science in Physics. I have completed this study under the supervision of Dr.Reji Philip, Ultrafast And Nonlinear Optics Lab, Light and Matter Physics Group, Raman Research Institute. I also declare that this report has not been submitted for the award of any degree, diploma, fellowship or other title.

Date: 11/09/2022 Place: Ernakulam

Niloofar Sulthana (Reg No: 200011012654) Department of Physics Al Ameen College, Edathala, Kochi. M G University, Kottayam.

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CERTIFICATE

This is to certify that the project work entitled "Synthesis of zinc oxide nanoparticles using sol-gel method" submitted to Al-Ameen College, Edathala is a bonafide record of work done by Ms.Feba David and Ms.Aiswarya S R for the partial fulfillment of the award of Master of Science degree in Physics during the year 2020-22 under my supervision and guidance.

Signature of gui

Dr.SREEJA S Assistant professor Department of physics Al-Ameen College, Edathala

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CERTIFICATE

This is to certify that the project work entitled "Synthesis and characterization of Iron Oxide nanoparticles using *Syzygium cumini* Extract" submitted to Al-Ameen College, Edathala is a bonafide record of work done by Ms.Alfiya M A for the partial fulfillment of the award of Master of Science degree in Physics during the year 2020-22 under my supervision and guidance.

Signature of guide

Mrs.Renjini TN Assistant professor Department of physics Al-Ameen College, Edathala