

# **“EXPLORING THE EVIDENCES OF BIG BANG THEORY”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**AKSHAYA SURESH (CRASSAP001)**

UNDER THE SUPERVISION OF Ms. GREATTEL FRANCIS PAREMEL



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THRISSUR, KERALA



  
Supervisor

  
Head of the department

# CARMEL COLLEGE

MALA-680732



## DEPARTMENT OF PHYSICS CERTIFICATE

This is to certify that this project report titled EXPLORING THE EVIDENCES OF BIG BANG THEORY, was carried out by the following sixth semester students of B.Sc. Applied Physics in partial fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of Physics, Carmel College Mala.

The Reg. No. and Name of Submitter:

AKSHAYA SURESH (CRASSAP001)

External Examiner

GUIDE 



Ms. GREATTEL FRANCIS  
PAREMEL

Place: Mala

Date:

Dr NAMITHA ASOKAN T  
Assistant Professor  
Department of Physics  
S N College, Nattika

# “POLYMER SOLAR CELL”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ANAKHA C.D (CRASSAP002)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



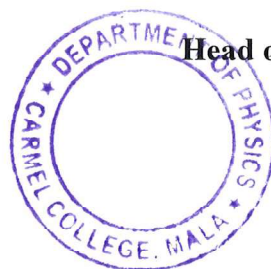
DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

**Supervisor**



**Head of the department**



CARMEL COLLEGE

MALA - 680724



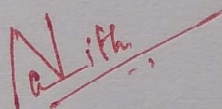
DEPARTMENT OF PHYSICS

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The Register no. and name of submitter: ANAGHA C D (CRASSAP002)

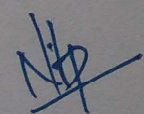
External examiner

  
Dr NAMITHA ASOKANT  
Assistant Professor  
Department of Physics  
S N. College, Nattika

Place: Mala

Date :-

Guide

  
Mrs. Nithya P

**NITHYA P.**  
**ASST. PROFESSOR**  
**DEPT. OF PHYSICS**  
**CARMEL COLLEGE, MALA**

2021/11/10 13:07



**“ELECTRONIC WASTE RECYCLING VIA CRYO  
MILLING AND  
NANOPARTICLE BENEFICIATION”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ANEESHA C.M (CRASSAP018)**

UNDER THE SUPERVISION OF Ms. ATHIRA T. DAS



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THRISSUR, KERALA



  
Supervisor

  
Head of the department

CARMEL COLLEGE

MALA- 680732



DEPARTMENT OF PHYSICS

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This is to that this project report title DELECTRONIC WASTE RECYCLING VIA CRYO-MILLING AND NANOPARTICLE BENEFICIATION, was carried out by the sixth semester student of B.Sc. Applied Physics in partial fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of Physics, Carmel College Mala.

The Reg. No. and Name Of Submitter:

ANEESHA C. M (CRASSAP018)

External Examiner

A handwritten signature in red ink, appearing to read "Namitha", is written over a horizontal line.

Place: Mala

Date: 12-7-2021

**Dr NAMITHA ASOKAN T**  
Assistant Professor  
Department of Physics  
College, Natuna

A handwritten signature in black ink, appearing to read "Athira T. Das", is written over a horizontal line.

GUIDE

Ms. ATHIRA T. DAS

# “SUPER CONDUCTIVITY AND ITS APPLICATIONS”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ANISA MARIA JOSE (CRASSAP019)**

UNDER THE SUPERVISION OF Ms. GREATTEL FRANCIS PAREMEL



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

  
Supervisor

  
Head of the department

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MALA - 680732



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CERTIFICATE

This is to certify that this project report titled **SUPERCONDUCTIVITY AND ITS APPLICATIONS**, was carried out by the following sixth semester student of B.Sc. Applied Physics in partial fulfilment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of Physics, Carmel College Mala.

The Reg.No. and Name of submitter:

ANISA MARIA JOSE (CRASSA 2019)

External Examiner Guide

Ms. GREATTEL FRANCIS PAREMEL

Place: Mala

Date:

Dr NAMITHA ASOKAN T  
Assistant Professor  
Department of Physics  
S N. College, Nattika

# “STUDY ON ORGANIC FIELD EFFECT TRANSISTOR PRINCIPLE AND WORKING”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ANJALI M. NAIR (CRASSAP003)**

UNDER THE SUPERVISION OF Ms. MARIYA MOOKKEN



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

  
Supervisor

  
Head of the department

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**The Reg. No. and Name of Submitter:**

CRASSAP003: ANJALI .M. NAIR

**External Examiner**

*Anjali*

**GUIDE**

**Mrs. MARIA MOOKKEN**

*Maria*

Place: Mala

Date:



# “OPTICAL TWEEZERS AND CPA IN LASER TECHNOLOGY”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ANJANA .MS (CRASSAP004)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA  
THRISSUR, KERALA

2020-2021

Supervisor



*S. Anantha*  
Head of the department

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This is to certify that this project report titled "OPTICAL TWEEZERS & CPA IN LASER TECHNOLOGY" was carried out by the sixth semester student of B.S.c Applied Physics in fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of physics, Carmel College Mala.

The Reg.No and Name of Submitter

ANJANA M.S (CRASSAP004)

**EXTERNAL EXAMINER**

Place: Mala

Date:

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Ms.NITHYA.P

**NITHYA P.  
ASST. PROFESSOR  
DEPT. OF PHYSICS  
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# “SUPER CONDUCTIVITY AND ITS APPLICATIONS”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ANJITHA K. S (CRASSAP005)**

UNDER THE SUPERVISION OF Ms. GREATEL FRANCIS PAREMEL



DEPARTMENT OF PHYSICS

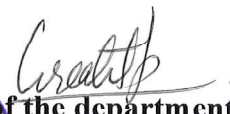
CARMEL COLLEGE, MALA

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2020-2021

  
Supervisor



  
Head of the department



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The Reg.No. and Name of submitter: Anjitha K.S  
CRASSAP005

External Examiner

*Nalitha*

Guide

*Francis*

Ms. GREATEL FRANCIS PAREMEL

Place: Mala

**Dr. NAMITHA ASOKAN T**  
Assistant Professor  
Department of Physics  
S N College, Nattika

Date:

# “SUPER CONDUCTIVITY AND ITS APPLICATIONS”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ANNA DONA VARGHESE (CRASSAP020)**

UNDER THE SUPERVISION OF Ms. GREATTEL FRANCIS PAREMEL



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

*Greattel Francis Paremel*  
Supervisor

*Greattel Francis Paremel*  
Head of the department

A circular purple ink stamp. The outer ring contains the text "DEPARTMENT OF PHYSICS" at the top and "CARMEL COLLEGE" at the bottom. In the center, there is a five-pointed star.

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The Reg.No. and Name of submitter: *Anna Dona Varghese*  
*CRASSAPO20*

External Examiner

*Namitha*

Guide *GreateL*

Ms. GREATEL FRANCIS PAREMEL

**Dr NAMITHA ASOKAN T**  
Assistant Professor  
Department of Physics  
S N College, Nattika

Place: Mala

Date:



# **“EXPLORING THE EVIDENCES OF BIG BANG THEORY”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ARSHNA PULLIKUDI (CRASSAP006)**

UNDER THE SUPERVISION OF Ms. GREATEL FRANCIS PAREMEL



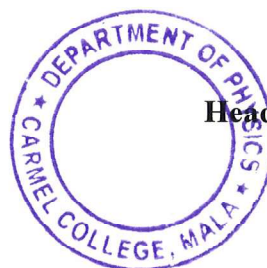
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Supervisor



  
Head of the department

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The Reg. No. and Name of Submitter:

ARSHNA PULLIKKUDI (CRASSAP006)

**External Examiner**

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**Dr NAMITHA ASOKAN T  
Assistant Professor  
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Place: Mala

Date:

**“ELECTRONIC WASTE RECYCLING VIA CRYO  
MILLING AND  
NANOPARTICLE BENEFICIATION”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**ATHIRA A.B (CRASSAP007)**

UNDER THE SUPERVISION OF Ms. ATHIRA T. DAS



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA



*Sdas*  
Supervisor

*Cras*  
Head of the department



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The Reg. No. and Name Of Submitter:

ATHIRA A.B (CRASSAP007)

*A. Athira*

External Examiner

*S. Das*  
GUIDE

Place : Mala

Date: 12-7-2021

**Dr NAMITHA ASOKANT**  
Assistant Professor  
Department of Physics  
S N. College, Nattika

Ms. ATHIRA T. DAS

CARMEL COLLEGE

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DEPARTMENT OF PHYSICS

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This is to certify that this project report titled "OPTICAL TWEEZERS & CPA IN LASER TECHNOLOGY", was carried out by the sixth semester student of B.S.c Applied Physics in fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of physics, Carmel College Mala.

The Reg.No and Name of Submitter

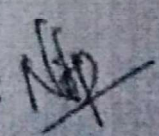
CHAITHANYA.K (CRASSAP008)

EXTERNAL EXAMINER

Place: Mala

Date:

GUIDE

  
Ms. NITHYA P.  
NITHYA P.  
ASST. PROFESSOR  
DEPT. OF PHYSICS  
CARMEL COLLEGE, MALA



# “OPTICAL TWEEZERS AND CPA IN LASER TECHNOLOGY”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**CHAITHANYA.K (CRASSAP008)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



DEPARTMENT OF PHYSICS

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THRISSUR, KERALA

2020-2021

**Supervisor**



**Head of the department**



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The Reg. No. and Name of Submitter:

CRASSAP009: GOPIKA P.G

External Examiner

GUIDE

Mrs. MARIA MOOKKEN

Place: Mala

**Dr NAMITHA ASOKAN T**  
Assistant Professor  
Department of Physics  
S N. College, Nattika

Date:

# “STUDY ON ORGANIC FIELD EFFECT TRANSISTOR PRINCIPLE AND WORKING”

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BY

**GOPIKA P.G (CRASSAP009)**

UNDER THE SUPERVISION OF Ms. MARIYA MOOKKEN





DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THIRISSUR, KERALA

2020-2021

  
Supervisor

  
Head of the department

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The Reg.No and Name of Submitter

GOPIKA U.B (CRASSAP021)

EXTERNAL EXAMINER

Place: Mala

Date:

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Ms. NITHYA. P

**NITHYA P.**  
**ASST. PROFESSOR**  
**DEPT. OF PHYSICS**  
**CARMEL COLLEGE, MALA**



# “OPTICAL TWEEZERS AND CPA IN LASER TECHNOLOGY”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**GOPIKA.U. B (CRASSAP021)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA  
THRISSUR, KERALA

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**Head of the department**

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The Reg. No. and Name of Submitter:

GREESHMA V.C

(CRASSAP022)

External Examiner

*Namitha*

GUIDE

*Francis*

Ms. GREATEL FRANCIS  
PAREMEL

Place: Mala

Date:

Dr NAMITHA ASOKAN T  
Assistant Professor  
Department of Physics  
S N College, Nattika

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BY

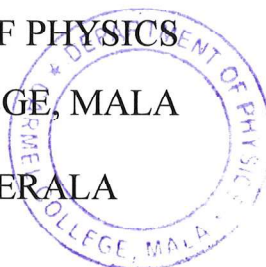
**GREESHMA V.C (CRASSAP022)**

UNDER THE SUPERVISION OF Ms. GREATEL FRANCIS PAREMEL




DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THRISSUR, KERALA



2020-2021

  
**Supervisor**

  
**Head of the department**



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DEPARTMENT OF PHYSICS

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The Register no. and name of submitter: JISNA SHAJI (CRASSAP023)

External examiner

**Dr NAMITHA ASOKAN T**  
Assistant Professor  
Department of Physics  
S N College, Nattika

Place: Mala

Date :-

Guide

Mrs. Nithya P

**NITHYA P.**  
ASST. PROFESSOR  
DEPT. OF PHYSICS  
CARMEL COLLEGE, MALA

# “POLYMER SOLAR CELL”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

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**JISNA SHAJI (CRASSAP023)**

UNDER THE SUPERVISION OF Ms. NITHYA.P




DEPARTMENT OF PHYSICS


CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

  
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The Reg. No. and Name Of Submitter:

KAVYA P.S (CRASSAP010)

External Examiner

A handwritten signature in red ink, appearing to read "Dr. Namitha Asokan T.", is written over a red diagonal line.

Place: Mala

Date: 12-7-2021

**Dr NAMITHA ASOKAN T**  
**Assistant Professor**  
**Department of Physics**  
**S N. College, Nattik.**

A handwritten signature in black ink, appearing to read "Athira T. Das", is written over a black diagonal line.

GUIDE

Ms. ATHIRA T. DAS



**“ELECTRONIC WASTE RECYCLING VIA CRYO  
MILLING AND  
NANOPARTICLE BENEFICIATION”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**KAVYA P.S (CRASSAP010)**

UNDER THE SUPERVISION OF Ms. ATHIRA T. DAS



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THRISSUR, KERALA



*Salas*  
Supervisor

*Athira T. Das*  
Head of the department

# CARMEL COLLEGE

MALA -680732



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The Reg.No and Name of Submitter

LAKSHMI K.S (CRASSAP011)

#### EXTERNAL EXAMINER

Place: Mala

Date:

GUIDE

Ms. NITHYA. P.

**NITHYA P.**  
ASST. PROFESSOR  
DEPT. OF PHYSICS  
CARMEL COLLEGE, MALA



# “OPTICAL TWEEZERS AND CPA IN LASER TECHNOLOGY”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**LAKSHMI. K. S (CRASSAP011)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



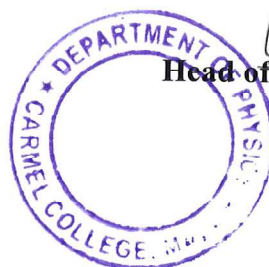
DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

Supervisor



Head of the department



CARMEL COLLEGE

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DEPARTMENT OF PHYSICS

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The Reg.No. and Name of submitter: MANASI MANOJ (CRASSAPO12)

External Examiner

A handwritten signature in blue ink, appearing to be "Namitha", written over a horizontal line.

Guide

A handwritten signature in red ink, appearing to be "GreateL Francis ParemEl", written over a horizontal line.

Ms. GREATEL FRANCIS PAREMEL

Dr NAMITHA ASOKAN T  
Assistant Professor  
Department of Physics  
S N. College, Nattika

Place: Mala

Date: 12-7-2021

# “SUPER CONDUCTIVITY AND ITS APPLICATIONS”

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BY

**MANASI MANOJ (CRASSAP012)**

UNDER THE SUPERVISION OF Ms. GREATEL FRANCIS PAREMEL



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

  
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Head of the department





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**The Reg. No. and Name of Submitter:**

CRASSAP013: MANEESHA P.M

**External Examiner**

**GUIDE**

Mrs. MARIA MOOKKEN

Place: Mala

Date:

**Dr NAMITHA ASOKAN T**  
Assistant Professor  
Department of Physics  
S N College, Nattika



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Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**MANEESHA P.M (CRASSAP013)**

UNDER THE SUPERVISION OF Ms. MARIYA MOOKKEN



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

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The Reg. No. and Name of Submitter:

CRASSAP024: MARIYA NIMMI KD

External Examiner

A handwritten signature in red ink, appearing to read "Namitha", is written over a horizontal line.

GUIDE

Mrs. MARIA MOOKKEN

A handwritten signature in black ink, appearing to read "Maria", is written over a horizontal line.

Dr NAMITHA ASOKAN T  
Assistant Professor  
Department of Physics  
S N College, Nattika

Place: Mala

Date:

# “STUDY ON ORGANIC FIELD EFFECT TRANSISTOR PRINCIPLE AND WORKING”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**MARIYA NIMMI K.D (CRASSAP024)**

UNDER THE SUPERVISION OF Ms. MARIYA MOOKKEN



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

  
Supervisor

  
Head of the department

A circular purple stamp with the text "DEPARTMENT OF PHYSICS" at the top, "CARMEL COLLEGE, MALA" at the bottom, and a small star on the left side.



CARMEL COLLEGE

MALA - 680724



DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that this project report title "POLYMER SOLAR CELL", was carried out by the following sixth semester students of B.Sc. Applied Physics in partial fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of Physics, Carmel College Mala.

The Register no. and name of submitter: NIJA FATHIMA N (CRASSAP025)

External examiner

Dr NAMITHA ASOKAN T  
Assistant Professor  
Department of Physics  
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Mrs. Nithya P

Place: Mala

Date :-

**NITHYA P.**  
**ASST. PROFESSOR**  
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CARMEL COLLEGE

MALA- 680732



DEPARTMENT OF PHYSICS

CERTIFICATE

This is to that this project report title DELECTRONIC WASTE RECYCLING VIA CRYO-MILLING AND NANOPARTICLE BENEFICIATION, was carried out by the sixth semester student of B.Sc. Applied Physics in partial fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of Physics, Carmel College Mala.

The Reg. No. and Name Of Submitter:

P.V LIGISHA (CRASSAP026)

External Examiner

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Place: Mala

Date: 12-7-2021

**Dr NAMITHA ASOKAN T**  
**Assistant Professor**  
**Department of Physics**  
**S N College, Nattika**

*Ms. Athira T. Das*

GUIDE

Ms. ATHIRA T. DAS

# “POLYMER SOLAR CELL”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**NIJA FATHIMA. N (CRASSAP025)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



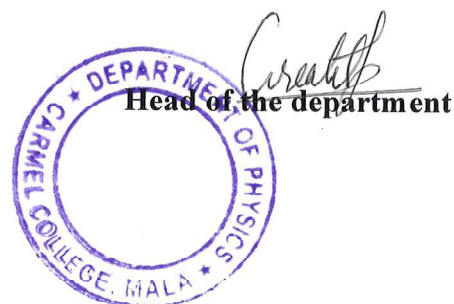
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2020-2021

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**“ELECTRONIC WASTE RECYCLING VIA CRYO  
MILLING AND  
NANOPARTICLE BENEFICIATION”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**P.V. LIGISHA (CRASSAP026)**

UNDER THE SUPERVISION OF Ms. ATHIRA T. DAS



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA  
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# “OPTICAL TWEEZERS AND CPA IN LASER TECHNOLOGY”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**PRAVEENA. E. V (CRASSAP014)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



DEPARTMENT OF PHYSICS  
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2020-2021

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**Head of the department**

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DEPARTMENT OF PHYSICS

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The Reg.No and Name of Submitter

PRAVEENA E.V (CRASSAP014)

EXTERNAL EXAMINER

Place: Mala

Date:

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**NITHYA P.**  
**ASST. PROFESSOR**  
**DEPT. OF PHYSICS**  
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MALA – 680724



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The Register no. and name of submitter: RIYA SHAJU (CRASSAP015)

External examiner

*Nithya*

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*Nithya*

Mrs Nithya P

Place: Mala

**Dr NAMITHA ASOKAN T**  
**Assistant Professor**  
**Department of Physics**  
**S N. College, Nattika**

Date:

**NITHYA P.**  
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# “POLYMER SOLAR CELL”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**RIYA SHAJU (CRASSAP015)**

UNDER THE SUPERVISION OF Ms. NITHYA.P



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

  
Supervisor



  
Head of the department

**“ELECTRONIC WASTE RECYCLING VIA CRYO  
MILLING AND  
NANOPARTICLE BENEFICIATION”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**RUGMA C SHY (CRASSAP027)**

UNDER THE SUPERVISION OF Ms. ATHIRA T. DAS



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THRISSUR, KERALA



  
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Head of the department



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CERTIFICATE

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The Reg. No. and Name Of Submitter:

RUGMA C SHY (CRASSAP027)

External Examiner

Place: Mala

Date: 12-7-2021

Dr. NAMITHA ASOKAN T  
Assistant Professor  
Department of Physics  
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Ms. ATHIRA T. DAS

# “STUDY ON ORGANIC FIELD EFFECT TRANSISTOR PRINCIPLE AND WORKING”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**SAFNA. T. M (CRASSAP016)**

UNDER THE SUPERVISION OF Ms. MARIYA MOOKKEN



DEPARTMENT OF PHYSICS  
CARMEL COLLEGE, MALA

THRISSUR, KERALA

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CERTIFICATE

This is to certify that this project report titled STUDY ON ORGANIC FIELD EFFECT TRANSISTORS: PRINCIPLE AND WORKING, was carried out by the following sixth semester student of B.Sc. Applied Physics in partial fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of Physics, Carmel College Mala.

The Reg. No. and Name of Submitter:

CRASSAP016: SAFNA T.M

External Examiner

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Mrs. MARIA MOOKKEN

Place: Mala

Date:

Dr. NAMITHA ASOKAN T  
Assistant Professor  
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# “SUPER CONDUCTIVITY AND ITS APPLICATIONS”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**SREESATHYA M.A (CRASSAP028)**

UNDER THE SUPERVISION OF Ms. GREATEL FRANCIS PAREMEL



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

THRISSUR, KERALA

2020-2021

*Greath*  
Supervisor

*Greath*  
Head of the department

A circular purple stamp with the text "DEPARTMENT OF PHYSICS" at the top and "CARMEL COLLEGE MALA" at the bottom. The stamp is partially overlaid by the signature of the Head of the Department.

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This is to certify that this project report titled SUPERCONDUCTIVITY AND ITS APPLICATIONS, was carried out by the following sixth semester student of B.Sc. Applied Physics in partial fulfillment of the requirement for the award of the degree in Applied Physics during the year 2020-2021 under the guidance of the department of Physics, Carmel College Mala.

The Reg.No. and Name of submitter: *Sreesalhya M.A*  
*CRASSAP028*

External Examiner

A handwritten signature in red ink, appearing to read "Namitha", with a horizontal line underneath.

Guide

A handwritten signature in black ink, appearing to read "Greatel Francis Paremél", with a horizontal line underneath.

Ms. GREATEL FRANCIS PAREMEL

Place: Mala

**Dr NAMITHA ASOKAN T**  
**Assistant Professor**  
**Department of Physics**  
**S N College, Nattika**

Date:

---

# “POLYMER SOLAR CELL”

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**SURYA M.S (CRASSAP029)**

UNDER THE SUPERVISION OF Ms. NITHYA.P




DEPARTMENT OF PHYSICS

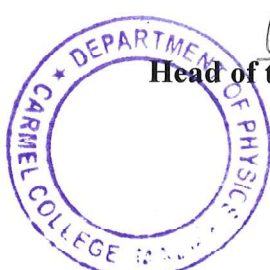
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Supervisor

  
Head of the department





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The Register no. and name of submitter: SURYA M S (CRASSAP029)

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**Dr NAMITHA ASOKAN T**  
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Place: Mala

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**NITHYA P.**  
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# **“EXPLORING THE EVIDENCES OF BIG BANG THEORY”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**VARSHA K. V (CRASSAP017)**

UNDER THE SUPERVISION OF Ms. GREATTEL FRANCIS PAREMEL



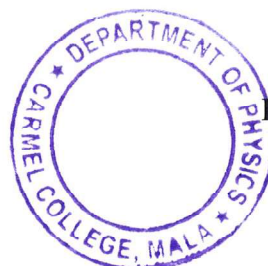
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2020-2021

  
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Head of the department

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The Reg. No. and Name of Submitter:

VARSHA K.V

(CRASSAP017)

External Examiner

*Namitha*

GUIDE

*Greatel*

Ms. GREATTEL FRANCIS  
PAREMEL

Place: Mala

Date:

**Dr NAMITHA ASOKAN T**  
**Assistant Professor**  
**Department of Physics**  
**S N College, Nattika**



# **“EXPLORING THE EVIDENCES OF BIG BANG THEORY”**

Project report Submitted to the University of Calicut for the partial fulfillment of the award of the degree of B.Sc. APPLIED PHYSICS

BY

**VYSHNAVI P.M (CRASSAP030)**

UNDER THE SUPERVISION OF Ms. GREATEL FRANCIS PAREMEL



DEPARTMENT OF PHYSICS

CARMEL COLLEGE, MALA

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Head of the department



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The Reg. No. and Name of Submitter:

VYSHNAVI P.M

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Place: Mala

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