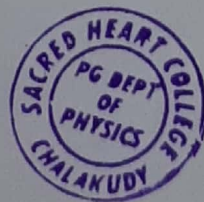
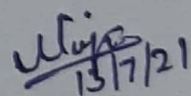


CERTIFICATE

This is to certify that the project work entitled “**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-CAUSHYS CONSTANT AND TRANSIENT RESPONSE OF LCR CIRCUITS**” is bonafide work done by**AIBEL JOHN**..... under the guidance of Dr Nijo Varghese Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:




Dr Nijo Varghese
Department of Physics
Sacred Heart College
Chalakudy

Examiners:

1. 
15/7/21

2.

CERTIFICATE

This is to certify that the project work entitled "**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-CAUSHYS CONSTANT AND TRANSIENT RESPONSE OF LCR CIRCUITS**" is bonafide work done by**ANISHA ANTONY**..... under the guidance of Dr Nijo Varghese Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

Dr Nijo Varghese

Department of Physics

Sacred Heart College

Chalakudy



Examiners:

1.

Sheela
15/7/21

2.



Department of Physics
Cochin University of Science
and Technology
Kochi – 682022

07/07/2021

CERTIFICATE

This is to certify that the project “DETECTION OF EXOPLANET BY RADIAL VELOCITY METHOD/DOPPLER SPECTROSCOPY” is an authentic record of project carried out by Ms. ANJANA P, Student of Bachelor of science in physics , Sacred heart college chalakudy , successfully completed under my supervision. The content of this project has not been presented earlier in any other degree in any other university.

Dr. Charles Jose
Assistant Professor
Department of Physics
Cusat

CERTIFICATE

This is to certify that the project work entitled "**STUDY OF COLOR AND SPECTRAL TYPES OF STARS**" is bonafide work done by **APARNA A A** under the guidance of **Ms Fency K.F**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:



Ms. Fency K.F

Department of Physics

Sacred Heart College

Chalakudy

Examiner:

Green
15/7/21

for
Muj
Nijo Varghese

CERTIFICATE

This is to certify that the project work entitled "**STUDY OF COLOR AND SPECTRAL TYPES OF STARS**" is bonafide work done by **ARATHY S** under the guidance of **Ms Fency K.F**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:



Ms. Fency K.F

Department of Physics

Sacred Heart College

Chalakudy

Examiner:

[Signature]
15/7/21

[Signature]
13/7/21

CERTIFICATE

This is to certify that the project work entitled “**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-PLANCK’S CONSTANT AND EFFICIENCY OF SOLAR CELL**” is bonafide work done by **BLESSY BABY** under the guidance of **DR.NIJO VARGHESE**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

DR.NIJO VARGHESE

Department of Physics

Sacred Heart College

Chalakudy



Examiners:

1.

Green
15/7/21

2.

CERTIFICATE

This is to certify that the project work entitled "**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-PLANCK'S CONSTANT AND EFFICIENCY OF SOLAR CELL**" is bonafide work done by **CHRISTEENA P.X** under the guidance of **DR.NIJO VARGHESE**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

DR.NIJO VARGHESE

Department of Physics

Sacred Heart College

Chalakudy

Examiners:

1.

Heena
15/7/21

2.



CERTIFICATE

This is to certify that the project work entitled " **QUASI NORMAL MODES OF BLACK HOLE USING PöSCHL-TELLER APPROXIMATION METHOD**" is bonafide work done by **DEEPA.P.D** under the guidance of **Dr.NIJO VARGHESE**, Head of Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

Dr.Nijo varghese

Department Of Physics

Sacred Heart College, Chalakudy



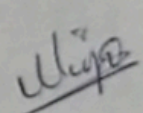
Examiner:

Deepa
15/7/21

CERTIFICATE

This is to certify that the project work entitled "EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-PLANCK'S CONSTANT AND EFFICIENCY OF SOLAR CELL" is bonafide work done by DEVIPRIYA E.P under the guidance of DR.NIJO VARGHESE, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

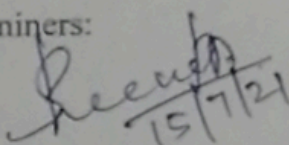
Project Guide:


DR.NIJO VARGHESE
Department of Physics
Sacred Heart College
Chalakudy

Examiners:

1.

2.


15/7/21



CERTIFICATE

This is to certify that the project work entitled “ **QUASI NORMAL MODES OF BLACK HOLE USING PÖSCHL-TELLER APPROXIMATION METHOD**” is bonafide work done by **GREESHMA.K.G** under the guidance of **Dr.NIJO VARGHESE**, Head of Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

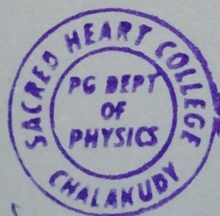
Project Guide:

Nijo
13/7/21

Dr.Nijo varghese

Department Of Physics

Sacred Heart College, Chalakudy



Examiner:

Greeshma
15/7/21

CERTIFICATE

This is to certify that the project work entitled " **QUASI NORMAL MODES OF BLACK HOLE USING PöSCHL-TELLER APPROXIMATION METHOD**" is bonafide work done by **HIBA** under the guidance of **Dr.NIJO VARGHESE**, Head of Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

Dr.Nijo varghese

Department Of Physics

Sacred Heart College, Chalakudy



Examiner:

Heena
15/7/21

CERTIFICATE

This is to certify that the project work entitled "**STUDY OF COLOR AND SPECTRAL TYPES OF STARS**" is bonafide work done by **JEEMOL JOJO K** under the guidance of **Ms Fency K.F**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:



Ms. Fency K.F

Department of Physics

Sacred Heart College

Chalakudy

Examiner:

[Signature]
15/7/21

[Signature]
13/7/21

CERTIFICATE

This is to certify that the project work entitled "**STUDY OF COLOR AND SPECTRAL TYPES OF STARS**" is bonafide work done by **JESNA SEBASTIAN** under the guidance of **Ms Fency K.F**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:



Ms. Fency K.F

Department of Physics

Sacred Heart College

Chalakudy

Examiner:

Heena
15/7/21

for
Nijo
Nijo Varghese

CERTIFICATE

This is to certify that the project work entitled “**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-PLANCK’S CONSTANT AND EFFICIENCY OF SOLAR CELL**” is bonafide work done by **JESTEENA JOY** under the guidance of **DR.NIJO VARGHESE**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

DR.NIJO VARGHESE

Department of Physics

Sacred Heart College

Chalakudy



Examiners:

1.

Green
15/7/21

2.

CERTIFICATE

This is to certify that the project work entitled "**COMPARATIVE STUDY OF RADIATION SHIELDING PARAMETERS FOR DIFFERENT SHIELDING MATERIALS**" is bonafide work done by **JISMY SUNNY** under the guidance of **Ms Fency K.F**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Ms.Fency KF
Department of Physics
Sacred Heart College
Chalakkudy



Examiners

1.

A handwritten signature in blue ink, appearing to be "Sheena".

2.

for
A handwritten signature in blue ink, appearing to be "Nijo Varghese".
Nijo Varghese

**DETECTION OF EXOPLANETS BY RADIAL
VELOCITY METHOD/ DOPPLER
SPECTROSCOPY**

PROJECT REPORT

Submitted to the
UNIVERSITY OF CALICUT

In partial fulfilment of the requirements for the award of the degree
BACHELOR OF SCIENCE

**IN
PHYSICS**

By
**N P KAUSALYA
SHASSPH018**

Under the guidance of:

Dr.Charles Jose

Assistant professor of Department of Physics
Cochin University of Science and Technology, Kochi

CERTIFIED AS BONAFIDE PROJECT WORK

EXAMINERS

- 1.
- 2.

[Signature]
15/7/21



HEAD OF THE DEPARTMENT

[Signature]
13/7/21

Department of Physics, Sacred Heart College Chalakudy, Thrissur

2020-2021



Department of Physics
Cochin University of Science
and Technology
Kochi – 682022

07/07/2021

CERTIFICATE

This is to certify that the project “DETECTION OF EXOPLANET BY RADIAL VELOCITY METHOD/DOPPLER SPECTROSCOPY” is an authentic record of the project carried out by Ms. N P KAUSALYA, Student of Bachelor of science in physics, Sacred heart college chalakudy, successfully completed under my supervision. The content of this project has not been presented earlier in any other degree in any other university.

Dr. Charles Jose
Assistant Professor
Department of Physics
Cusat

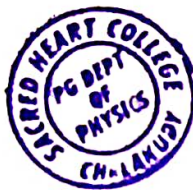
CERTIFICATE

This is to certify that the project work entitled “**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-CAUSHYS CONSTANT AND TRANSIENT RESPONSE OF LCR CIRCUITS**” is bonafide work done by**SONA P.P.**..... under the guidance of Dr Nijo Varghese Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
15/7/21

Dr Nijo Varghese
Department of Physics
Sacred Heart College
Chalakudy



Examiners:

1.

Sheena
15/7/21

2.

CERTIFICATE

This is to certify that the project work entitled “ **QUASI NORMAL MODES OF BLACK HOLE USING PöSCHL-TELLER APPROXIMATION METHOD**” is bonafide work done by **SREELAKSHMI P.M** under the guidance of **Dr.NIJO VARGHESE**, Head of Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
12/7/21

Dr.Nijo varghese

Department Of Physics

Sacred Heart College, Chalakudy



Examiner:

Sheena
15/7/21

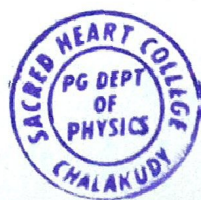
CERTIFICATE

This is to certify that the project work entitled “**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-CAUSHYS CONSTANT AND TRANSIENT RESPONSE OF LCR CIRCUITS**” is bonafide work done by**SREELEKHA T.S.**..... under the guidance of Dr Nijo Varghese Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

Dr Nijo Varghese
Department of Physics
Sacred Heart College
Chalakudy



Examiners:

1.

Sreenidhi
15/7/21

2.

CERTIFICATE

This is to certify that the project work entitled "**EXPERIMENTAL DESIGNS USING PYTHON AND EXPEYES KIT-CAUSHYS CONSTANT AND TRANSIENT RESPONSE OF LCR CIRCUITS**" is bonafide work done by**AGNA WILSON**..... under the guidance of Dr Nijo Varghese Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/7/21

Dr Nijo Varghese

Department of Physics

Sacred Heart College

Chalakudy



Examiners:

1.

Sheena
15/7/21

2.

CERTIFICATE

This is to certify that the project work entitled "COMPARATIVE STUDY OF RADIATION SHIELDING PARAMETERS FOR DIFFERENT SHIELDING MATERIALS" is bonafide work done by ANJITHA VARGHESE under the guidance of Ms Fency K.F, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Ms.Fency KF
Department of Physics
Sacred Heart College
Chalakkudy



Examiners

1.

A handwritten signature in black ink, appearing to be "Sreenidhi".

2.

for
A handwritten signature in black ink, appearing to be "Nijo".
Nijo Varghese

CERTIFICATE

This is to certify that the project work entitled "COMPARATIVE STUDY OF RADIATION SHIELDING PARAMETERS FOR DIFFERENT SHIELDING MATERIALS" is bonafide work done by ANSIYA NAZAR under the guidance of Ms Fency K.F, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Ms.Fency KF
Department of Physics
Sacred Heart College
Chalakkudy



Examiners

1.

Shreejith
15/7/21

2.

for
Ujja
Nijo Varghese

CERTIFICATE

This is to certify that the project work entitled "COMPARATIVE STUDY OF RADIATION SHIELDING PARAMETERS FOR DIFFERENT SHIELDING MATERIALS" is bonafide work done by ANU HARSHAN under the guidance of Ms Fency K.F, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:



Ms.Fency KF
Department of Physics
Sacred Heart College
Chalakkudy

Examiners

1.

2.

[Signature]
15/7/21

[Signature]
Nijo Varghese

CERTIFICATE

This is to certify that the project work entitled "**STUDY OF COLOR AND SPECTRAL TYPES OF STARS**" is bonafide work done by **ARSHITHA SHAJI C** under the guidance of **Ms Fency K.F**, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:



Ms. Fency K.F

Department of Physics

Sacred Heart College

Chalakudy

Examiner:

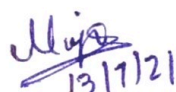
[Signature]
15/7/21

for
Wjjo
13/7/21
Nijo Varghese

CERTIFICATE

This is to certify that the project work entitled “ **QUASI NORMAL MODES OF BLACK HOLE USING PöSCHL-TELLER APPROXIMATION METHOD**” is bonafide work done by **CELESTE ALBERT** under the guidance of **Dr.NIJO VARGHESE**, Head of Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:


Dr.Nijo varghese

Department Of Physics

Sacred Heart College, Chalakudy



Examiner:



CERTIFICATE

This is to certify that the project work entitled "COMPARATIVE STUDY OF RADIATION SHIELDING PARAMETERS FOR DIFFERENT SHIELDING MATERIALS" is bonafide work done by SANDRA JAMES under the guidance of Ms Fency K.F, Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:



Ms.Fency KF
Department of Physics
Sacred Heart College
Chalakkudy

Examiners

1.

[Signature]
15/7/21

2.

for
[Signature]
Nijo Varghese

CERTIFICATE

This is to certify that the project work entitled " **QUASI NORMAL MODES OF BLACK HOLE USING PöSCHL-TELLER APPROXIMATION METHOD**" is bonafide work done by **SANDRA.ROJI** under the guidance of **Dr.NIJO VARGHESE**, Head of Department of Physics, Sacred Heart College, Chalakudy during the academic year of 2020-2021 and submitted for partial fulfilment of requirement of award of Degree of Bachelor of Science in Physics.

Project Guide:

Nijo
13/4/21
Dr.Nijo varghese

Department Of Physics

Sacred Heart College, Chalakudy

Examiner:

Seena

