

**Distribution of Dual Specialisation & Project Guides,  
Department of Physics, Tezpur University, Autumn 2020**

Name	SGPA	Dual specialisation	Project Guide
Ankita Mondal	7.39	Astrophysics + Plasma Physics	JKS
Nilaksha Barman	8.87	Astrophysics + Plasma Physics	ND
Hemanga Tahbildar	8.74	Astrophysics + Plasma Physics	RG
Rajashree Bhuyan	8.65	Astrophysics + Plasma Physics	RG
Rotish sarkar	7.35	Astrophysics + Plasma Physics	PKK
Karthikeya . M	6	Astrophysics + Plasma Physics	GAA
Palash Makumuria	8.22	Astrophysics + Plasma Physics	ND
Sourav Sutradhar	7.91	Astrophysics+ Plasma Physics	PKK
Anupam Deka	8.48	CMP + Nanoscience	SKD
Ranjit Sharma	7.78	CMP + Nanoscience	DM
Bikram Das	7.39	CMP + Nanoscience	DM
Chandan Mahapatra	7.39	CMP + Nanoscience	SKD
Bidisha Borah	6.91	CMP + Nanoscience	RS
Shahnaz Shabnam	7.61	CMP+ Nanoscience	SKD
Maniruz Zaman	6.52	Electronics + Communication	PN
Mithisar Basumatary	6.12	Electronics + Communication	RB
Bhasamrita Sarmah	7.26	Electronics + Communication	NSB
Bitupan Prasad	6.65	Electronics + Communication	RB
Pradipta Prakash Kalita	7.23	Electronics + Communication	RB
Arijit Kar	7.91	Electronics + Photonics	NSB
Tapan Parsain	7.35	Electronics + Photonics	NSB
Chinmay Barman	7.13	Electronics + Photonics	RB
Amitesh Rajkhowa	6.74	Electronics + Photonics	PN
Zahirul Alam Laskar	6.35	Electronics + Photonics	PN
Nitumoni kanwar	6.12	Electronics + Photonics	PD
Manas Pratim Chetry	6.1	Electronics + Photonics	PD
Tanay Sarma	6.26	Electronics + Photonics	GAA
Pinak Mandal	8.43	HEP+ Astrophysics	MKD
Partha Kumar Paul	8.22	HEP + Astrophysics	MKD
Kaustav Dipta Goswami	7.91	HEP + Astrophysics	RG
Kaushik Kalita	7.48	HEP + Astrophysics	MMD
Banasmita Das	7.44	HEP + Astrophysics	MMD
Hrishi Bora	7.13	HEP + Astrophysics	NKF
Harshita Bhuyan	8.48	HEP+ Astrophysics	MMD
Alok P. Mahanta	6.39	HEP+Astrophysics	GAA
Digen Das	7.91	Plasma Physics + HEP	JKS
Trishita Saikia	7.91	Plasma Physics + HEP	MKD
Probit Jyoti Kalita	7.17	Plasma Physics + HEP	DM

Hirakjyoti Mahanta	7.26	Plasma Physics + HEP	PKK
Rajnik Das	7.21	Plasma Physics + HEP	PKK
Abhigyan Baruah	7.65	Plasma Physics + HEP	JKS
Ujjwal Jyoti Nath	7.09	Plasma Physics + HEP	NKF

# CERTIFICATE

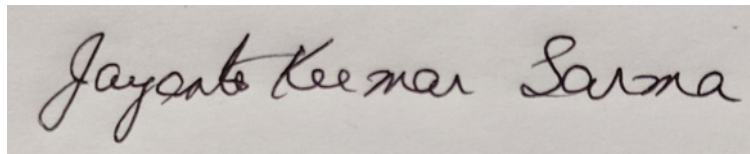
This is to certify that the project work entitled “Prediction of gluon distribution function at NNLO in light of GLR-MQ-ZRS equation”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in Physics, Semester X/V is a record of research work carried out by Mr. Digen Das (PHM19016) under my supervision and guidance.

I wish him all the best for the future endeavour.

Supervisor Name: Dr. Jayanta Kumar Sarma

Designation: Professor

Signature:

A rectangular box containing a handwritten signature in black ink. The signature reads "Jayanta Kumar Sarma" in a cursive script.

# CERTIFICATE

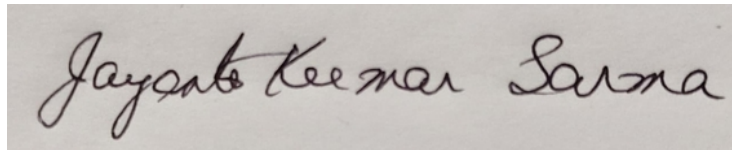
This is to certify that the project work entitled “Study of X-ray Baldwin effect for narrow line Seyfert-1 galaxies (NLS1)”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in Physics, Semester X/V is a record of research work carried out by Ms. Ankita Mondal (PHM19033) under my supervision and guidance.

I wish her all the best for the future endeavour.

Supervisor Name: Dr. Jayanta Kumar Sarma

Designation: Professor

Signature:

A rectangular box containing a handwritten signature in black ink. The signature reads "Jayanta Kumar Sarma" in a cursive script.

# CERTIFICATE

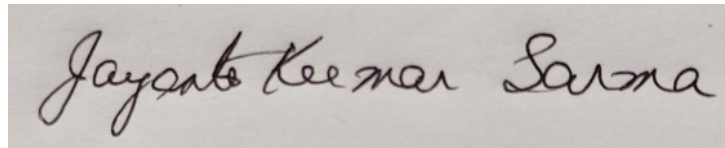
This is to certify that the project work entitled “Analysis of gluon evolution through Balitsky-Kovchegov equation at small-x”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in Physics, Semester X/V is a record of research work carried out by Mr. Abhigyan Baruah (PHM19029) under my supervision and guidance.

I wish him all the best for the future endeavour.

Supervisor Name: Dr. Jayanta Kumar Sarma

Designation: Professor

Signature:

A rectangular box containing a handwritten signature in black ink. The signature reads "Jayanta Kumar Sarma" in a cursive script.

# CERTIFICATE

This is to certify that the project work entitled “**Effect of heavy metal ions on the optical properties of liquid exfoliated WS<sub>2</sub> nanosheets**”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.) in physics in Physics, Semester X is a record of research work carried out by **Mr. Pradipta Prakash Kalita (PHI16007)** under my supervision and guidance.

I wish him all the best for the future endeavors.

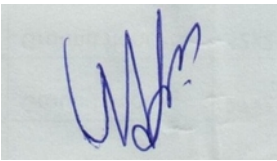


Dr. Rajib Biswas  
Asst. Professor

## CERTIFICATE

This is to certify that the project work entitled “**Baryon Asymmetry of the universe in A4 based Minimal Extended Seesaw**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc) in Physics, Semester X is a record of research work carried out by **Ms. Trishita Saikia (PHI16016)** under my supervision and guidance.

I wish her all the best for the future endeavours.



(Dr. Mrinal Kumar Das)  
Professor, Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “**Synthesis and characterisation of Polypyrrole (PPy) nanotube for supercapacitor application**”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV is a record of research work carried out by **Ms. Shahnaz Shabnam (PHM19021)** under my supervision and guidance.

I wish her all the best for the future endeavours.

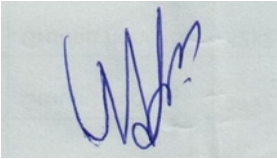


Shyamal Kumar Das  
Assistant Professor  
Department of Physics  
Tezpur University

## CERTIFICATE

This is to certify that the project work entitled “**Phenomenology of keV scale sterile neutrino dark matter in minimal extended seesaw with  $\Delta(96)$  symmetry and TM1 mixing**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc) in Physics, Semester IV is a record of research work carried out by **Mr. Pinak Mandal (PHM19010)** under my supervision and guidance.

I wish him all the best for the future endeavours.

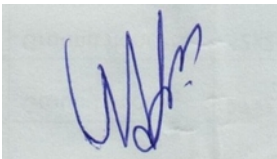


(Dr. Mrinal Kumar Das)  
Professor, Department of Physics  
Tezpur University

## CERTIFICATE

This is to certify that the project work entitled “**Neutrino phenomenology in an A4 flavour symmetry based neutrino two Higgs doublet model**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc) in Physics, Semester IV is a record of research work carried out by **Mr. Partha Kumar Paul (PHM19026)** under my supervision and guidance.

I wish him/her all the best for the future endeavours.



(Dr. Mrinal Kumar Das)  
Professor, Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “**To study the sensitivity of LDR and Phototransistor with respect to different wavelengths and comparison of sensitivity of both**”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by **Mr. Mithisar Basumatary (PHM19018)** under my supervision and guidance.

I wish him all the best for the future endeavors.



Dr. Rajib Biswas  
Asst. Professor

# CERTIFICATE

This is to certify that the project work entitled “**A study about Bismuth tungstate as an electrode material for aqueous aluminium ion battery**”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV is a record of research work carried out by **Mr. Chandan Mahapatra (PHM19005)** under my supervision and guidance.

I wish him/her all the best for the future endeavours.



Shyamal Kumar Das  
Assistant Professor  
Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “**Dual ion batteries and the use of graphite as electrodes**”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.) in Physics, Semester X is a record of research work carried out by **Mr. Anupam Deka (PHI16014)** under my supervision and guidance.

I wish him/her all the best for the future endeavours.



Shyamal Kumar Das  
Assistant Professor  
Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “**Effect of heavy metal ions on the optical properties of liquid exfoliated MoS<sub>2</sub> nanosheets**”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.) in physics in Physics, Semester X is a record of research work carried out by **Mr. Bitupan Prasad (PHI16018)** under my supervision and guidance.

I wish him all the best for the future endeavors.



Dr. Rajib Biswas  
Asst. Professor

**DEPARTMENT OF PHYSICS**  
**TEZPUR UNIVERSITY, ASSAM**

Napam, Tezpur- 784 028

**CERTIFICATE**

This is to certify that Mr Palash Makumuria (Roll No. PHM19008) has carried out M.Sc. project work under my supervision during the Autumn semester, 2021 and has submitted a project report entitled “*Influence of Dust Excess Pressure on Jeans Instability in self Gravitating Dusty Plasma*” to Department of Physics, Tezpur University in partial fulfilment for the award of the Degree of Master of Science (M.Sc.) in Physics.

Name & Signature of the Supervisor: 

( Prof. Nilakshi Das)

**DEPARTMENT OF PHYSICS**  
**TEZPUR UNIVERSITY, ASSAM**

Napam, Tezpur- 784 028

**CERTIFICATE**

This is to certify that Mr. Nilaksha Barman (Roll No. PHI 16008) has carried out M.Sc. project work under my supervision during the Autumn semester, 2021 and has submitted a project report entitled “*Dust Cyclotron Modes in Visco-elastic Dusty Plasma*” to Department of Physics, Tezpur University in partial fulfilment for the award of the Degree of Master of Science (M.Sc.) in Physics.

Name & Signature of the Supervisor: 

(Prof. Nilakshi Das)

## CERTIFICATE

This is to certify that the project work entitled “**Appearance Oscillation probability behaviour with an eV scale Sterile Neutrino in NOvA experiment**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in physics in Physics, Semester X is a record of research work carried out by Mr. Hrishu Bora (PHM19027) under my supervision and guidance.

I wish him all the best for the future endeavours.

(Supervisor

Name: **Dr. Ng. K. Francis**, designation: **Associate Professor** and signature)



Handwritten signature of Dr. Ng. K. Francis and the date 3/11/21.

# CERTIFICATE

This is to certify that the project work entitled “Estimation of the age of globular clusters and hence the age of the universe”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by Mr.ALOK PROTIM MAHANTA (Roll No.PHM19034) under my supervision and guidance.

I wish him/her all the best for the future endeavors.



(Gazi Ameen Ahmed)  
Associate Professor  
Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “Simulation of a Series LCR circuit and show plots of its responses to various frequencies”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by Mr.TANAY SARMA (Roll No.PHM19025) under my supervision and guidance.

I wish him/her all the best for the future endeavors.



(Gazi Ameen Ahmed)  
Associate Professor  
Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “Orbital Variation of X - Ray Binaries in its different Spectral States”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by Mr.KARTHIKEYA MULUGU (Roll No.PHM19023) under my supervision and guidance.

I wish him/her all the best for the future endeavors.



(Gazi Ameen Ahmed)  
Associate Professor  
Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled **TOPOLOGICAL INSULATORS**, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV, is a record of research work carried out by **Ms. BIDISHA BORAH (PHM 19019)** under my supervision and guidance.

I wish her all the best for the future endeavors.



**Dr. Ritupan Sarmah**  
**Assistant Professor**  
**Department of Physics**  
**Tezpur University**

## CERTIFICATE

This is to certify that the project work entitled “**Non-local analysis of gravitational instability excitable in composite cosmic fluids**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in physics in Physics, Semester IV is a record of research work carried out by Mr. Sourav Sutradhar (ROLL NO: **PHM19013**) under my supervision and guidance.

I wish him/her all the best for the future endeavors.



(Pralay Kumar Karmakar, Associate Professor, Physics, TU)

# CERTIFICATE

This is to certify that the project work entitled “**Nonlocal nonlinear fluctuating dynamics in gravitating spherical cosmic fluids**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in physics in Physics, Semester IV is a record of research work carried out by Mr. Rajnik Das (ROLL NO: **PHM19031**) under my supervision and guidance.

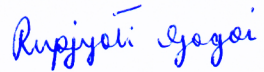
I wish him/her all the best for the future endeavors.



(Pralay Kumar Karmakar, Associate Professor, Physics, TU)

# Certificate

This is to certify that the project report entitled **CLUES REGARDING THE ORIGIN OF JETS IN HOST GALAXY MORPHOLOGY** submitted to the Department of Physics, Tezpur University is a record of the bonafide project work carried out by **Rajashree Bhuyan(PHI16013)** under my supervision and is submitted for partial fulfillment of the requirements for the degree of Integrated Master of Science in Physics

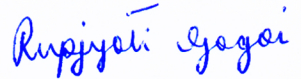


Dr. Rupjyoti Gogoi  
Assistant Professor  
Department of Physics  
Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “**Study of X-ray Timing and Spectral Profile in Blazars using NuSTAR**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.) in Physics, Semester X is a record of research work carried out by **Mr. Hemanga Tahbaldar (PHI16010)** under my supervision and guidance.

I wish him/her all the best for the future endeavors.

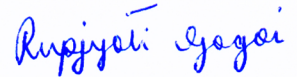


Dr Rupjyoti Gogoi  
Assistant Professor  
Department of Physics

# CERTIFICATE

This is to certify that the project work entitled “**Study of variability in radiation from the Blazar source 3C454.3**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV is a record of research work carried out by **Mr. Kaustav Dipta Goswami (PHM19002)** under my supervision and guidance.

I wish him/her all the best for the future endeavors.



Dr Rupjyoti Gogoi  
Assistant Professor  
Department of Physics

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**TEZPUR UNIVERSITY**

Napaam, Sonitpur, Assam-784 028, INDIA

**Dr. Moon Moon Devi**  
*Assistant Professor*  
*Department of Physics*

Room No. 263

Phone: +91-3712-27-5565

E-mail: devimm@tezu.ernet.in, devi.moonmoon@gmail.com

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**August 10, 2021**

**TO WHOM IT MAY CONCERN**

This is to certify that the thesis entitled “A STUDY ON THE VECTOR NSI EFFECTS IN NEUTRINOS”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV is a record of research work carried out by Ms. Banasmita Das (PHM19009) under my supervision and guidance.

Ms. Banasmita is a highly motivated and hardworking student and she has worked very well in spite of her severe and prolonged health issues due to COVID-19. I wish her good health and all the best for her future endeavors.

Sincerely Yours,



Moon Moon Devi

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**TEZPUR UNIVERSITY**

Napaam, Sonitpur, Assam-784 028, INDIA

**Dr. Moon Moon Devi**  
*Assistant Professor*  
*Department of Physics*

Room No. 263

Phone: +91-3712-27-5565

E-mail: devimm@tezu.ernet.in, devi.moonmoon@gmail.com

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**June 20, 2021**

**TO WHOM IT MAY CONCERN**

This is to certify that the thesis entitled “A STUDY ON THE EFFECTS OF SCALAR NON STANDARD INTERACTIONS IN NEUTRINO OSCILLATIONS”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV is a record of research work carried out by Mr. Kaushik Kalita (PHM19001) under my supervision and guidance.

Mr. Kalita is a highly motivated student and I wish him all the best for his future endeavors.

Sincerely Yours,



Moon Moon Devi

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## TEZPUR UNIVERSITY

Napaam, Sonitpur, Assam-784 028, INDIA

**Dr. Moon Moon Devi**

*Assistant Professor*

*Department of Physics*

Room No. 263

Phone: +91-3712-27-5565

E-mail: devimm@tezu.ernet.in, devi.moonmoon@gmail.com

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**June 20, 2021**

### TO WHOM IT MAY CONCERN

This is to certify that the thesis entitled “A STUDY ON THE EFFECT OF ENVIRONMENTAL DECOHERENCE IN NEUTRINOS”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.) in Physics, Semester X is a record of research work carried out by Ms. Harshita Bhuyan (PHI16009) under my supervision and guidance.

Ms. Harshita is a highly motivated and hardworking student and I wish her all the best for her future endeavors.

Sincerely Yours,

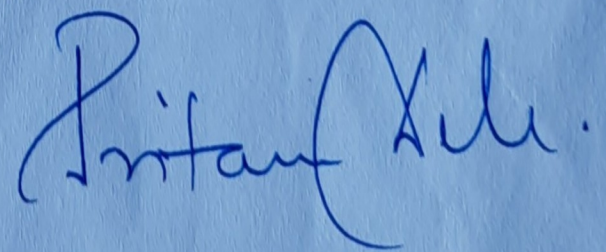


Moon Moon Devi

# CERTIFICATE

This is to certify that the project work entitled “Development of a remote-controlled mobile device for collection of oil from oil spill on land”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by Ms. Nitumoni Kanwar (PHM19032) under my supervision and guidance.

I wish him/her all the best for the future endeavors.

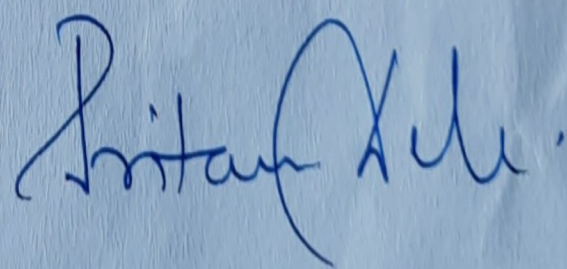


(Prof. Pritam Deb)

# CERTIFICATE

This is to certify that the project work entitled “Development of oil spill cleaning device for removal of oil from waterbody”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by Mr. Manas Pratim Chetry (PHI16015) under my supervision and guidance.

I wish him/her all the best for the future endeavors.

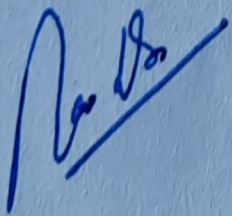


(Prof. Pritam Deb)

# CERTIFICATE

This is to certify that the project work entitled “**Smartphone Based Quantification of Iron (II) in Borewell Water**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by **Mr./Ms. Zahirul Alam Laskar (PHM19030)** under my supervision and guidance.

I wish him/her all the best for the future endeavors.



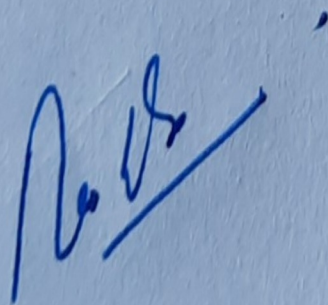
(Dr. PABITRA NATH, Professor)

(Supervisor Name, designation and signature)

# CERTIFICATE

This is to certify that the project work entitled “**Detection of Aerosol Using Raman Spectroscopy Technique**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by **Mr./Ms. Maniruz Zaman (PHM19022)** under my supervision and guidance.

I wish him/her all the best for the future endeavors.



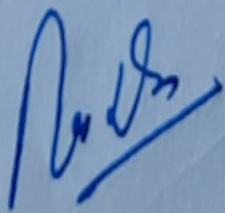
(Dr. PABITRA NATH, Professor)

(Supervisor Name, designation and signature)

# CERTIFICATE

This is to certify that the project work entitled “**Photometric method for measurement of refractive index of liquids using smartphone**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by **Mr./Ms. Amitesh Rajkhowa, (PHI16002)** under my supervision and guidance.

I wish him/her all the best for the future endeavors.



(Dr. PABITRA NATH, Profesor)

(Supervisor Name, designation and signature)

# CERTIFICATE

This is to certify that the project work entitled “Blood Glucose Level Monitoring using Metamaterial Structures in the ISM Band”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Integrated Master of Science (Int. M.Sc.) in Physics, Semester X is a record of research work carried out by Ms. Bhasamrita Sarmah (PHI16017) under my supervision and guidance.

I wish her all the best for the future endeavours.



(Dr. Nidhi S. Bhattacharyya)  
Professor

# CERTIFICATE

This is to certify that the project work entitled “Design and Development of a Thin Flexible and Precise Tunable Metamaterial Absorber”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV is a record of research work carried out by Mr. Tapan Parsain (PHM19012) under my supervision and guidance.

I wish him all the best for the future endeavours.



(Dr. Nidhi S. Bhattacharyya)  
Professor

# CERTIFICATE

This is to certify that the project work entitled “Detection of Disease Affected Tea Leaf by Canny Edge Detection through Image Processing using Mobile Phone Camera”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester IV is a record of research work carried out by Mr. Arijit Kar (PHM19003) under my supervision and guidance.

I wish him all the best for the future endeavours.



(Dr. Nidhi S. Bhattacharyya)  
Professor



# Tata Institute of Fundamental Research

National Centre of the Government of India for Nuclear Science and Mathematics, and a Deemed to be University


## Vigyan Vidushi - 2021 CERTIFICATE OF PARTICIPATION

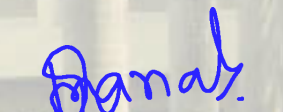
This is to certify that

**Smitakshi Goswami**

participated in Vigyan Vidushi 2021,  
a TIFR Advanced Programme in Physics for women students in first year M.Sc.,  
held in an online format during May 31 to June 19, 2021.

  
Anwesh Mazumdar  
Co-Convener

  
Amol Dighe  
Convener

  
Vandana Nanal  
Co-Convener



*Summer Research Fellowship Programme  
Certificate*

*This is to certify that Mr Vishrut Bezbarua worked on a project entitled "FR properties of PNe with PG-1159 stars" in online mode during May - July 2021 as a Summer Research Fellow under the supervision of Prof. G. Muthumariappan, Indian Institute of Astrophysics, Bengaluru. The Summer Research Fellowship Programme is jointly sponsored by IASc (Bengaluru), INSA (New Delhi) and NASI (Prayagraj).*



*Place: Bengaluru*

*Date: 27-10-2021*

*P. K. Das*

*Chairman, Science Education Panel*



INDIAN INSTITUTE OF ASTROPHYSICS  
Bengaluru



Online Summer School

*E-Certificate of Participation*

This is to certify that **Dharitree Bezboruah**  
has participated in the Summer School 2021 Programme held during July 12 -  
16, 2021 conducted online at INDIAN INSTITUTE OF ASTROPHYSICS  
Bengaluru, India.

16th July 2021

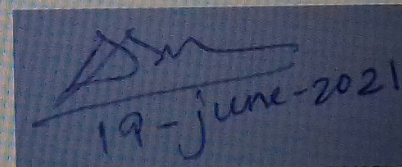
DATE

BGS, IIA

# CERTIFICATE

## TO WHOM IT MAY CONCERN

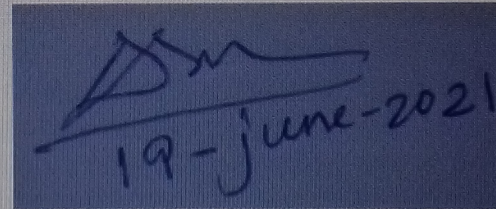
This is to certify that the project work titled '**Exfoliation and characterization of MoS<sub>2</sub> nano-sheets and the impact of energetic photon bombardment on their magneto-transport properties**', submitted by RANJIT SHARMA, Integrated M. Sc. in Physics (10<sup>th</sup> semester), Enrolment no.: PHI16011, Tezpur University is an authentic work carried out by him under my guidance and supervision. So far as my concern this report is entirely fresh and has not been reported anywhere for any degree by him/anyone.

A rectangular stamp containing a handwritten signature in blue ink and the date '19-june-2021' written below it.

Dr. DAMBARUDHAR MOHANTA  
Associate Professor, Department of Physics  
Tezpur University

## CERTIFICATE

This is to certify that the project work entitled 'Pattern formation in nature: Construction of natural fractals and their study', submitted by BIKRAM DAS, M. Sc. in Physics (4th semester), Enrollment no.: PHM19017, Tezpur University is an authentic work carried out by him under my guidance and supervision. So far as my concern this report is entirely fresh and has not been reported anywhere for any degree by him/anyone.

A rectangular box containing a handwritten signature in blue ink, followed by a horizontal line and the date '19-june-2021' written below it.

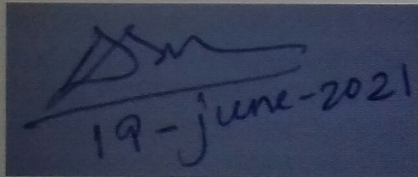
Date: 19/06/2021

Place: Tezpur University

Dr. DAMBARUDHAR MOHANTA  
Associate Professor, Department of Physics  
Tezpur University

# Certificate

This is to certify that the project report titled “**A modelling-based study on the variation of polarised reflectance with angle of incidence in metal oxide nano-systems**” is a record of the project work carried out by **Probit Jyoti Kalita (PHI16012)** under my supervision and is submitted to the Department of Physics, Tezpur University as the progress report of the student’s Integrated M.Sc. 5<sup>th</sup> year’s project completed till the 10<sup>th</sup> semester.

A blue rectangular stamp containing a handwritten signature in black ink and the date "19-june-2021" written below it.

Dr. Dambarudhar Mohanta  
Associate Professor, Department of Physics  
Tezpur University

## CERTIFICATE

This is to certify that the project work entitled, “**NONLINEAR JEANS INSTABILITY DYNAMICS IN SELF-GRAVITATING SUPERFLUIDS**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester-IV is a record of research work carried out by **Mr. Rotish Sarkar** (ROLL NO: **PHM19014**) under my supervision and guidance.

I wish him all the best for the future endeavors.



Supervisor: **Pralay Kumar Karmakar**  
Associate Professor, Physics, Tezpur University

## CERTIFICATE

This is to certify that the project work entitled, “**NONLINEAR DYNAMICS OF JEANS-BUNEMAN INSTABILITY IN DUSTY PLASMAS**”, submitted to the School of Science, Tezpur University in partial fulfillment for the requisites of Master of Science (M.Sc.) in Physics, Semester-IV is a record of research work carried out by **Mr. Hirakjyoti Mahanta** (ROLL NO: **PHM19024**) under my supervision and guidance.

I wish him all the best for the future endeavors.



Supervisor: **Pralay Kumar Karmakar**  
Associate Professor, Physics, Tezpur University

# CERTIFICATE

This is to certify that the project work entitled “**A TRIAL ON ANDROID APPLICATION BASED OPTICAL DETECTION OF HEAVY METAL IONS**”, submitted to the School of Science, Tezpur University in partial fulfilment for the requisites of Integrated Master of Science (Int. M.Sc.)/Master of Science (M.Sc.) in physics in Physics, Semester X/V is a record of research work carried out by **Mr. CHINMAY BARMAN (PHM19015)** under my supervision and guidance.

I wish him all the best for the future endeavours.



Dr. Rajib Biswas  
Assistant Professor  
Department of Physics



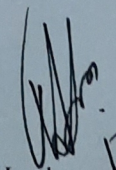
**DEPARTMENT OF PHYSICS**  
**TEZPUR UNIVERSITY**  
Napaam, Tezpur - 784 028  
Sonitpur (Assam), India

☎ : 03712-267111  
03712-267007-9( ext- 5551,5550)  
Fax : 03712-267005, 267006  
e-mail- hod\_phy@tezu.ernet.in  
website: www.tezu.ernet.in

It is to certify that, the following students of **Semester VI, Integrated M.Sc. in Physics**, have completed research projects as a part of the course **PI 300** in Spring Semester 2021. The works include the following components.

1. Performing research projects under the supervision of a faculty of the Department of Physics.
2. Recording of the understanding, procedure and results as a report.
3. Evaluation of the work on the basis of reports and oral presentations by the students.

Sl. No.	Roll No.	Name	Project Title	Supervisor
1	PHI18003	PRAG RANJAN DAS	Photocatalytic degradation of congo red dye from aqueous environment using tungsten disulphide nanosheets	D. Mahanta
2	PHI18004	BHASKAR JYOTI KALITA		
3	PHI18005	BHASWATI KALITA		
4	PHI18006	PRARTHANA PUZARI		
5	PHI18007	PRITOM KUMAR NATH	To design a photosensitive circuit using ldr & study the variation of resistance of the ldr with different light intensitie	R. Biswas
6	PHI18008	DHRITISHMAN HAZARIKA		
7	PHI18009	LAKSHYA PRATIM BORA		
8	PHI18010	JUGANTA JANAM GOGOI		
9	PHI18012	JOYSHREE HANDIQUE	Determination of coefficient of thermal expansion of copper wire using fiber optics sensors	P. Nath
10	PHI18013	HIMASHREE SAIKIA		
11	PHI18014	HORSITA KALITA		
12	PHI18015	MILAN CHETRY		
13	PHI18016	ARNAB JAN BAISHYA	Dip-coating technique for the development of PvdF thin film	P. Deb
14	PHI18017	HEMANTA KUMAR SAIKIA		
15	PHI18018	INDRA KUMAR SAHU		
16	PHI18019	SURAJIT RABHA	Monte-Carlo study of a Simple model of Corrosion of Waste Disposal Glass	R. Sarmah
17	PHI18020	DEBASISH DUTTA		
18	PHI18021	MRINAL JYOTI POWDEL		

  
Head,  
Dept. of Physics  
15.11.2021  
Prof. & Head  
Deptt. of Physics  
TEZPUR UNIVERSITY



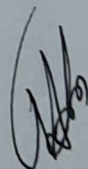
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Fax : 03712-267005, 267006  
e-mail- hod\_phy@tezu.ernet.in  
website: www.tezu.ernet.in

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1. Performing research projects under the supervision of a faculty of the Department of Physics
2. Recording the understanding, procedure and results as a report
3. Evaluation of the work on the basis of reports and oral presentations by the students.

Sl. No.	Roll No.	Name	Project Title	Supervisor
1	PHB18001	HIMANGSHU SAIKIA	Resistant dependent intensity variation of Light Emitting Diodes	R. Biswas
2	PHB18004	PADMINI PRIYANKA		
3	PHB18005	SIDDHANTA PHUKAN		
4	PHB18006	FAHIM AHMED		
5	PHB18007	SAMIC HUNG PONGYANG SUBBA	Demonstration Of a rechargeable aqueous Aluminum-metal battery with exfoliated graphite cathode	S.K. Das
6	PHB18008	GOURAV DAS		
7	PHB18009	TRISHNA RAY		
8	PHB18011	SHUBHAM JHA		

  
Head,  
Dept. of Physics

*15.11.2021*  
**Prof. & Head**  
**Deptt. of Physics**  
**TEZPUR UNIVERSITY**