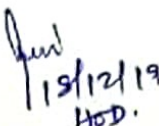
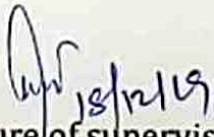


# Certificate

This is to certify that this Project work entitled "Betti Base and It's Application", submitted by Miss Debaleena Pal having Roll No- 1806030030 for the partial fulfilment of the requirements of Masters of Science in Chemistry degree from Tripura University, Suryamaninagar embodies the bonafide work done by her under my supervision.

  
18/12/19  
HOD.  
Department of Chemistry,  
Tripura University,  
Suryamaninagar-799134

  
Signature of supervisor

Name Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Suryamaninagar-799022  
Tripura (West).


Designation

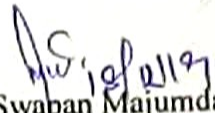
## CERTIFICATE

This is to certify that the project report entitled, "Occurrence, Synthesis and photo-physical studies of Coumarin Derivatives: A details Report" is a bonafide record of work done by Sri Palash Debnath, a student of M.Sc. in Chemistry, 3<sup>rd</sup> Semester (Registration no. 017071 of 2015-16) under my direct supervision during the year 2018 .This report was made for the partial fulfillment of M.Sc. in Chemistry under Tripura university and was not submitted for any other degree by him or anyone else.

Dated, Agartala

The 17<sup>th</sup>December, 2019

  
HOD  
18/12/19  
Department of Chemistry,  
Tripura University,  
Saryamaninagar-729134

  
(Dr. Swapan Majumdar)

HOD of Chemistry  
Department of Chemistry  
Tripura University  
Agartala, West Tripura

Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura (West).

## Certification

This is to certify that Mr. Nishan Das of M.Sc 3<sup>rd</sup> Sem Chemistry student successfully completed this project on the topic of “**Database of drugs containing seven membered nitrogen heterocycles**” prescribed by **Prof S.Majumdar** during Academic session (Jul-Dec)2019-20. A dissertation submitted in fulfillment of requirement of M.Sc 3<sup>rd</sup> semester project work.

Date

18-12-2019

*Prof*  
18/12/19  
HOD.

Department of Chemistry  
Tripura University,  
Suryamaninagar-729134

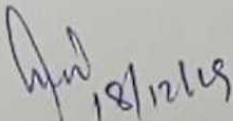
*Prof*  
18/12/19  
Examined By

Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Suryamaninagar-799022  
Tripura (West).

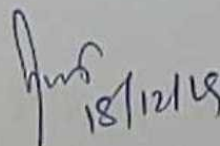
## CERTIFICATE

This is to certify that **Bikram Das**, a student of 3rd semester M.Sc. of the academic session 2018-2020 has carried out his project work titled “**Nonsteroidal anti-inflammatory drugs**” under the supervision of **Prof. Swapan Majumder** as a part of 3rd semester M.Sc. practical examination, 2019.

Department of Chemistry,  
Tripura University,  
Suryamaninagar-799134

  
18/12/19  
Supervisor

Prof. Swapan Majumder  
Department of Chemistry  
Tripura University  
Suryamaninagar-799022  
Tripura (West).

  
18/12/19  
HOD

Department of Chemistry  
Tripura University



### CERTIFICATE

This is to certify that the project report entitled, "**Literature Survey on Recent developments of amide bond forming reaction**" is a bonafide record of work done by **Sri Rajmalya Biswas**, a student of M.Sc. in Chemistry, 3<sup>rd</sup> Semester (Registration no. 012599 Of 2015-16) under my direct supervision during the year 2019. This report was made for the partial fulfilment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

*Swapan*  
18/12/19  
HOD

Department of Chemistry,  
Tripura University  
Saryamaninagar

Dated, Agartala

The 18<sup>th</sup> December, 2019

*Swapan*  
(Dr. Swapan Majumdar)

HOD of Chemistry  
Department of Chemistry  
Tripura University  
Agartala, West Tripura

Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura (West).

## CERTIFICATE

This is to certify that the project report entitled, "Protection and Deprotection of alcoholic(-OH) functional group" is a bonafide record of work done by Mr. Prasun Bhattacharjee, a student of M. Sc in chemistry, 3<sup>rd</sup> semester (Roll No. 1806030020, Registration no. 03700 of 2013-14) under my direct supervision during the year 2019. This report was made for the partial fulfillment of M. Sc in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

Dated,

18<sup>th</sup> December 2019

*Prof 18/12/19  
HOD*

Department of Chemistry,  
Tripura University,  
Suryamaninagar-799134

*Prof 18/12/19*

Prof. Swapan Majumder

Head of the department,

Department of Chemistry

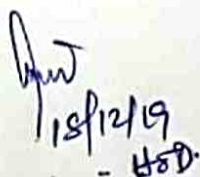
Tripura University


Prof. Swapan Majumder  
Department of Chemistry  
Tripura University  
Suryamaninagar-799022  
Tripura (West).

## CERTIFICATE

This is to certify that the project report entitled, "Online Study on the Synthesis, Characterization and Biological Activities of Zn(II) Mixed-Ligand Complex Derived from N,N-Disubstituted Dithiocarbamate and Benzoic Acid" is a bonafide record of work done by Mr. Siddhartha Chakraborty, a student of M.Sc. in chemistry, 3<sup>rd</sup> semester (Roll No. 1806030003, Registration no. 017092 of 2015-16) under my direct supervision during the year 2019. This report was made for the partial fulfillment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

Dated,  
18<sup>th</sup> December 2019

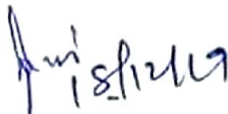
  
- HSD  
Department of Chemistry,  
Tripura University,  
Suryamaningpur-729134

  
Prof. M.K.Singh  
Professor,  
Department of Chemistry  
Tripura University

## Certificate

It is certify that ,Mr. Chiranjit Bhowmik, Student of M.Sc (3<sup>rd</sup> Semester) of This academic Session 2019-20 has carried out his project work entitled "**Online studies on Synthesis, characterization and biological activities of Cd(II) complexes with hydrazide ligands**" under the supervision of Prof. M. K singh.

This project work reported has been submitted as part of 3<sup>rd</sup> semester M.Sc practical assignment.

  
Department of Chemistry,  
Tripura University,  
Suryamanipur, 79134





# Certificate

It is certify that ,Mr.Gobindanama, Student of M.Sc (3<sup>rd</sup> Semester) of This academic Session 2019-20 has carried out his project work entitled "Online studies on Synthesis, characterization and biological activities of Ni(II) complexes with 1,1 Dithiolate" under the supervision of Prof.M.K Singh.

This project work reported has been submitted as part of 3<sup>rd</sup> semester M.Sc practical assignment.

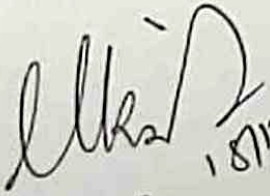
  
HOD  
Department of Chemistry,  
Tripura University,  
Suryamaningar-729134

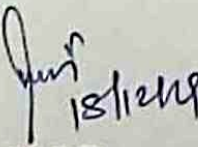
  
18/12/2019

# Certificate

It is to certify that ,Mr. Dipjoy Pal, Student of M.Sc (3<sup>rd</sup> Semester) of the academic Session 2019-20 has carried out his project work entitled "Online studies on Synthesis, characterization and biological activities of Co(II) complexes with Dithiocarbamate" under the supervision of Prof. M. K singh.

This project work reported has been submitted as part of 3<sup>rd</sup> semester M.Sc practical assignment.

  
18/11/2019  
**Supervisor**

  
**HOD**

**Department of Chemistry**  
**Tripura University**

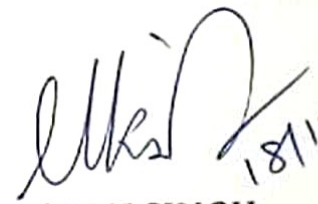
Department of Chemistry,  
Tripura University,  
Baryamaninagar-799134

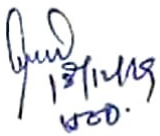
## CERTIFICATE

This is certify that ,Susmita Datta Student of M.Sc (3<sup>rd</sup> Semester) of academic Session 2018-20 has carried out her project work in titled "ONLINE STUDIES ON DIETHYLDITHIOCARBAMATE COMPLEX OF COPPER" under the supervision of Prof. MAHESH KUMAR SINGH.

This project work reported has been submitted as part of 3<sup>rd</sup> sem practical assignment.

Dated,  
18<sup>th</sup> December,2019

  
18/12/2019  
Prof. M.K.SINGH  
Department Of Chemistry  
Tripura University

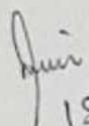
  
18/12/19  
2020  
Department of Chemistry  
Tripura University.  
Suryamaninagar,799134

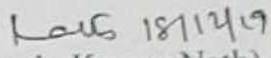
## CERTIFICATE

This is to certify that the project report entitled, "Literature review on Application of SEM and AFM " is a bonafide record of work done by Sri Jayanta Das, a student of M.Sc. in Chemistry, 3<sup>rd</sup> Semester (Registration no. 009068 of 2014-15 and Roll No. 18060018) under my supervision during the year 2019. This report was made for the partial fulfillment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

Dated, Agartala

The 18<sup>th</sup> December, 2019

  
18/12/19  
Prof. S. Majumdar  
Head, Dept of Chemistry  
Tripura University

  
(Prof. Ranendu Kumar Nath)

Department of Chemistry  
Tripura University  
(A Central University)  
Suryamaninagar-799022  
Agartala, West Tripura



# CERTIFICATE

Certify that, Smt. Rupasree Saha, Student of 3<sup>rd</sup> semester M.Sc. of the academic session 2018 - 2020 has carried out of this project work on titled “**Langmuir - Blodgett films**” under the supervisor of prof. R.K. Nath.

The project work reported has been submitted as part of 3<sup>rd</sup> semester M.Sc. Practical assignment.

Signature  
Supervisor 18/12/19

Department of Chemistry,  
Tripura University,  
Suryamaninagar-799134

Signature  
18/12/19  
HOD  
Prof S Majumdar  
Head, Dept of Chemistry  
Department of Chemistry  
Tripura University  
Suryamaninagar

## CERTIFICATE

This is to certify that the project report entitled, "Literature review on conducting polymer" is a bonafide record of work done by **Sri Sukanta Datta**, a student of M.Sc. in Chemistry, 3<sup>rd</sup> Semester (Registration no. 013406 of 2014-15) under my direct supervision during the year 2019. This report was made for the partial fulfillment of M.Sc. in Chemistry under Tripura university and was not submitted for any other degree by him or anyone else.

Dated, Agartala

The 18<sup>th</sup> December, 2019

*Nath 18/12/2019*  
(Prof. Ranendu Kumar Nath)

Department of Chemistry

Tripura University

Agartala, West Tripura

*S*  
*18/12/2019*  
Prof S Majumdar  
Head, Dept of Chemistry  
Tripura University  
S : 18/12/2019

DEPARTMENT OF CHEMISTRY

TRIPURA UNIVERSITY

(A Central University)

Suryamaninagar , 799022



Mobile: +9194365508446

Phone: 0381-2379076(O)

Fax: +91-381 2374802

Email:rkmath1995@gmail.com

Date: 18/12/2019

### TO WHOM IT MAY CONCERN

This is to certify that **Miss Smriti Roy** student of 3<sup>rd</sup> semester M.Sc. of the academic session 2018-2020 has carried out her project work in titled "**LAYER BY LAYER SELF ASSEMBLED TECHNIQUE**" under the supervision of **Prof. R.K.Nath**, Department of Chemistry, Tripura University. The project report has been submitted as part of 3<sup>rd</sup> semester M.Sc practical assignment.

*Prof. R.K.Nath*  
18/12/19  
WOD

Department of Chemistry,  
Tripura University,  
Suryamaninagar-799134

*Leuc 18/12/19*  
Prof. R.K.Nath  
Department of Chemistry  
Tripura University

## CERTIFICATE

Certify that, Sudipta paul Student of M.Sc. 3<sup>rd</sup> semester of the academic session 2018-2020 has carried out of literature survey in titled "Application of Langmuir-Blodgett films" under the supervisor of Prof. R.K. Nath. Department of chemistry, Tripura University.

The literature survey has been submitted as part of 3<sup>rd</sup> semester M.Sc. Practical assignment.

Supervisor *R.K. Nath*  
18/12/19

Department of Chemistry,  
Tripura University,  
Surajmoinagar-799134

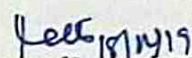
*S. Majumdar*  
18/12/19  
Prof. S. Majumdar  
Department of Chemistry  
Tripura University  
Surajmoinagar-799134

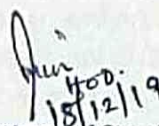


# Certificate

---

It is certified that the work contained in the thesis titled "*Literature review on transition metal oxide nano particle*" by "*Bikash Saha*" has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.


  
Signature of Supervisor

  
18/12/19  
Department of Chemistry,  
Tripura University,  
Suryamaninagar-729134


Prof Ranendu Kumar Nath  
Department of Chemistry  
Tripura University  
December 2019

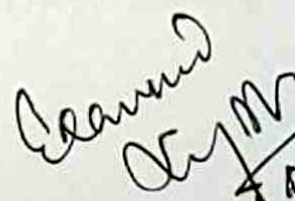
## CERTIFICATE

This is to certify that Argha Saha a student of 3<sup>rd</sup> semester M.Sc. of the academic session 2018-20 has carried out his project work titled "Mannich base complexes of Zn: synthesis, characterization & some application," under the supervision of Dr. R. N. Dutta Purkayastha as part of 3<sup>rd</sup> semester M.Sc. practical examination, 2019.

  
Supervisor  
18.12.19.

Department of Chemistry,  
Tripura University,  
Suryamaninagar-729134

  
HOD  
Department of Chemistry  
Tripura University

  
19/12/19.

## CERTIFICATE

This is to certify that **Avijit Deb**, a student of 3rd semester M.Sc. of the academic session 2018-2020 has carried out his project work titled "**Copper Nanoparticles: Synthetic Strategies, Properties and Application**" under the supervision of **Prof.R.N. Dutta Purkayastha** as a part of 3rd semester M.Sc. practical examination, 2019.

Department of Chemistry  
Tripura University,  
Suryamanikganj-729134


*Prof. R.N. Dutta Purkayastha*  
Supervisor/18/12/19

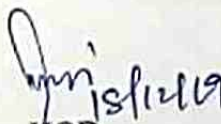
*Prof. R.N. Dutta Purkayastha*  
18/12/19  
HOD

Department of Chemistry  
Tripura University

## CERTIFICATE

This is to certify that "Rupan Das" a student of 3rd semester M. Sc of the academic session 2018-2020 has carried out her project work titled "Mannich Base Complexes of Copper: Synthesis, Characterisation and Some Application" under the supervision of Prof. R.N.Dutta Purkayastha as a part of 3rd semester M.Sc. practical examination, 2019.

  
Supervisor  
16/12/19

  
HOD

Department of Chemistry  
Tripura University

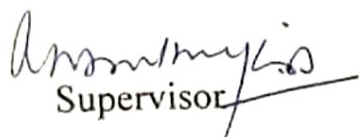
Department of Chemistry,  
Tripura University,  
Suryamaninagar-799134

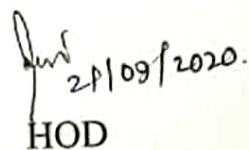


## CERTIFICATE

I certify that Kartik Biswas, student of 3<sup>rd</sup> semester M.Sc. of the academic session 2018-2020 has carried out his project work entitled "Vanadium Schiff base complexes: Synthesis, characteristics and application" under my supervision.

The project report has been submitted in partial fulfillment of the degree of Master of Science (M.Sc) in Chemistry of Tripura University.

  
Supervisor

  
21/09/2020.  
HOD

Department of Chemistry  
Tripura University

## CERTIFICATE

This is certify that ,Juthika Kashyap, Student of M.Sc (3<sup>rd</sup> Semester) of academic Session 2018-20 has carried out her project work in titled "STUDIES ON COPPER SCHIFF BASE COMPLEX: SYNTHESIS, CHARACTERIZATION AND APPLICATIONS " under the supervision of Prof. R.N.DUTA PURKAYASTHA

This project work reported has been submitted as part of 3<sup>rd</sup> sem practical assignment.

Dated,  
18<sup>th</sup> December, 2019

*Anmol* 18.12.19  
Prof. R.N.DUTTA PURKAYASTHA  
Department Of Chemistry  
Tripura University

*[Signature]*  
18/12/19  
Department of Chemistry,  
Tripura University,  
Suryamaninagar-729134

# CERTIFICATE

This is to certify that the content of this project entitled " Studies On Manganese Schiff Base Complex : Synthesis , Characterization and application" by SUSHMITA CHAKMA is the bonafide work of her submitted to Dr. R.N.D. Purkayastha.

*[Handwritten signature]*  
18/12/19  
R.N.D.

Department of Chemistry  
Tripura University  
Survaamnia

*[Handwritten signature]*  
15.12.19.

**CERTIFICATE**

This is to certify that the project report entitled, "A brief review on chemical constituents & biological activities of Dillenia species" is a bonafied record of work done by **Sri Partha Pratim Choudhury**, a student of M.sc in chemistry, 3<sup>rd</sup> Semester (Roll no:1806030005, Registration no. 017073 of 2015-16) under my direct supervision during the year 2019. This report was made for the partial fulfillment of M.sc in chemistry under Tripura university and was not submitted for any other degree by him or anyone else.

Dated, Agartala

The 18<sup>th</sup> December, 2019

*Handwritten signature*  
18/12/19  
K.T.D.  
Department of Chemistry,  
Tripura University,  
Suryamaninagar, 799134

*Handwritten signature*  
( Dr. Utpal Chandra De )

Associate Professor

Department of Chemistry

Tripura University

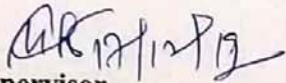
Agartala, west Tripura



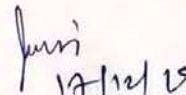
## CERTIFICATE

This is to certify that "**Barnali Das**" a student of 3<sup>rd</sup> semester M.Sc of the academic session 2019-2020 has carried out her project work titled "**Studies on Chrysin derivatives and its biological potentialities**" under the supervision of **Dr.Utpal Chandra De** as a part of 3<sup>rd</sup> semester M.Sc examination, 2019.

Department of Chemistry,  
Tripura University,  
Suryamaninagar-790114



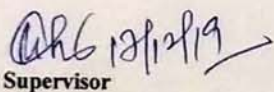
**Supervisor**  
**(DR. U. C. DE)**  
Associate Professor  
Deptt. of Chemistry  
Tripura University

  
17/12/19  
**HOD**

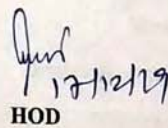
**Department of chemistry**  
**Tripura University**

CERTIFICATE

This is to certify that "Mandira Dhar" a student of 3<sup>rd</sup> Semester M. Sc of the academic session 2018-2020 has carried out her project work titled "Natural Product Conjugates and Their Biological Implications" under the supervision of Dr. Utpal Chandra De as a part of 3<sup>rd</sup> Semester M.Sc. practical examination, 2019.



Supervisor  
**(DR. U. C. DE)**  
Associate Professor  
Deptt. of Chemistry  
Tripura University



HOD  
Department Of Chemistry  
Tripura University

Department of Chemistry  
Tripura University,  
Suryamaninagar-729134

## CERTIFICATE

This is to certify that the project report entitled, "**Alpha Glucosidase Inhibitors as Antidiabetic Agent**" is a bonafide record of work done by Mr. Utpal Sarkar, a student of M. Sc in chemistry, 3<sup>rd</sup> semester (Roll No. 1806030028, Registration no. 017104 of 2015-16) under my direct supervision during the year 2019. This report was made for the partial fulfillment of M. Sc in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

Dated,  
17<sup>th</sup> December 2019

*Utpal*  
17/12/19  
1806030028  
Department of Chemistry,  
Tripura University,  
Suryamaningar-729134

*Utpal Chandra De*  
Dr. Utpal Chandra De  
Associate Professor,  
Department of Chemistry  
Tripura University



## CERTIFICATE

This is to certify that the Project – entitled ( A Brief Literature Survey on “CHEMISTRY OF FLUOROGENIC ORGANIC COMPOUNDS” , subject code : CHEM 904 C) has Submitted by Basudeb Chakraborty having Roll number : 1806030021 for the partial fulfillment of the requirements of Master of Science in Chemistry degree of Tripura University, Suryamani Nagar, Tripura, 3<sup>rd</sup> Semester embodies the bonafide work done by him under my supervision.

*Basudeb Chakraborty*  
17/12/19  
W.D.  
Department of Chemistry,  
Tripura University,  
Suryamaninagar-794134

Place : \_\_\_\_\_

*Dr. U. C. De*  
Signature of the Supervisor  
**(DR. U. C. DE)**  
Associate Professor  
Deptt. of Chemistry  
Tripura University

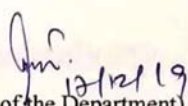
Date: \_\_\_\_\_



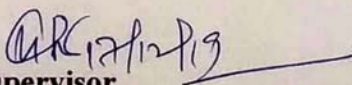
## CERTIFICATE

This is to certify that the project report entitled. "**Quinone derivatives and its biological potentialities**" is a bonafide record of work done by Miss **Nabanita Chakraborty**, a student of M.Sc in chemistry, 3<sup>rd</sup> semester (Registration no. 008790 of 2015-16) under my direct supervision during the year 2019. This report was made for the partial fulfillment of M.Sc in Chemistry under Tripura University and was not submitted for any other degree by her or anyone else.

Dated, Agartala  
18<sup>th</sup> December 2019

  
(Head of the Department)  
Department of Chemistry  
Tripura University  
Agartala, West Tripura

Department of Chemistry,  
Tripura University,  
Suryamaninagar-799134

  
**Supervisor**  
(DR. U. C. DE)  
Associate Professor  
Deptt. of Chemistry  
Tripura University

CERTIFICATE

This is to certify that the project report entitled, "**Esterification reaction by protic ionic liquid**" is a bonafide record of work done by **Sri Rajmalya Biswas**, a student of M.Sc. in Chemistry, 4<sup>th</sup> Semester (Registration no. 012599 Of 2015-16) under my direct supervision during the year 2019-20. This report was made for the partial fulfilment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

*Swapan*  
21/09/2020

Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
The 1<sup>st</sup> June, 2020

*Swapan*  
21/09/2020

(Dr. Swapan Majumdar)

HOD of Chemistry  
Department of Chemistry  
Tripura University

Agartala, West Tripura

## CERTIFICATE

This is to certify that the project report entitled, "The synthesis of 4-methyl-7-hydroxycoumarin" is a bonafide record of work done by **Sri Palash Debnath**, a student of M.Sc. in Chemistry, 4<sup>th</sup> Semester (Registration no. 017071 of 2015-16) under my direct supervision during the year 2020. This report was made for the partial fulfilment of M.Sc. in Chemistry under Tripura university and was not submitted for any other degree by him or anyone else.

*Sw*  
21/08/2020

Dated, Agartala

The 19<sup>th</sup> September 2020  
Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura (West)

*Sw*  
21/09/2020

(Dr. Swapan Majumdar)

HOD of Chemistry  
Department of Chemistry  
Tripura University  
Agartala, West Tripura



CERTIFICATE

This is to certify that the project report entitled, "**Isolation techniques of piperine from black pepper collected from different samples**" is a bonafide record of work done by **Sri Nishan Das**, a student of M.Sc. in Chemistry, 4<sup>th</sup> Semester (Roll No. **1806030025**) under my direct supervision during the year 2019-20. This report was made for the partial fulfilment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

*Swapan*  
21/09/2020

Dated, Agartala

The 11<sup>th</sup> June, 2020  
Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura (West)

*Swapan*  
21/09/2020

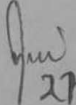
(Dr. Swapan Majumder)

HOD of Chemistry  
Department of Chemistry  
Prof. S. Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura University  
Agartala, West Tripura




## CERTIFICATE

This is to certify that the project report entitled, "Isolation of Caffeine from Tea Leaves" is a bonafide record of work done by **Prasun Bhattacharjee**, a student of M.Sc. in Chemistry, 4<sup>th</sup> Semester (Registration no. 03700 of 2013-14) under my direct supervision during the year 2018-2020. This report was made for the partial fulfillment of M.Sc. in Chemistry under Tripura university and was not submitted for any other degree by him or anyone else.

  
21/09/2020  
Dated, Agartala


The 15<sup>th</sup> June, 2020  
Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura (West)

  
21/09/2020  
(Dr. Swapan Majumdar)

HOD of Chemistry  
Prof. S. Majumdar  
Department of Chemistry,  
Head, Dept of Chemistry,  
Tripura University  
Saryamaninagar, 799022  
Agartala, West Tripura

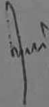
## CERTIFICATE

This is to certify that the project report entitled, "**Extraction of nicotine from tobacco sources**" is a bonafide record of work done by **Sri Bikram Das**, a student of M.Sc. in Chemistry, 4<sup>th</sup> Semester (Registration no. 008729 of 2015-16) under my direct supervision during the year 2019-20. This report was made for the partial fulfilment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

  
17/09/2020  
Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura (West).


Dated, Agartala

The 11<sup>th</sup> June, 2020

  
17/09/2020  
(Dr. Swapan Majumdar)  
HOD of Chemistry  
Head, Dept of Chemistry  
Department of Chemistry  
Saryamaninagar-799022  
Tripura University  
Agartala, West Tripura


## CERTIFICATE

This is to certify that the project report entitled "Studies on the Synthesis and Characterization of Coumarin and Some Other Heterocycle Derived Compound" is a bonafide record of work done by Miss. Debaleena Pal, a student of M.Sc. in Chemistry, 4<sup>th</sup> Semester (Registration no. 017030 of 2015) under my direct supervision during the year 2019-20. This report is made for the partial fulfilment of M.Sc. in Chemistry under Tripura University and is not submitted for any other degree by her or anyone else.

  
21/09/2020  
Prof. Swapan Majumdar  
Department of Chemistry  
Tripura University  
Saryamaninagar-799022  
Tripura (West)

Dated

15<sup>th</sup> June, 2020

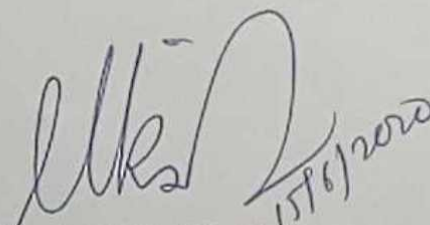
  
21/09/2020  
(Dr. Swapan Majumdar)  
H.O.D Prof S Majumdar  
Head, Dept of Chemistr,  
Department of Chemistry  
S. Saryamaninagar, Tripura,  
Tripura University  
Suryamaninagar,  
West Tripura

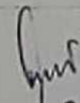
## CERTIFICATE

This is to Certify that Sri Gobinda Nama, ROLL NO:-1806030027  
YEAR:- 2018-2020, student of M.Sc. 4th semester Chemistry of the  
academic session 2018-2020 of Tripura University (A Central  
University), Suryamaninagar has carried out her project work entitled  
"Synthesis and characterization of mixed ligand complexes of Copper"  
under the Supervision Of Prof.M.K.Singh.

The project work is being submitted by Gobinda Nama as a partial  
fulfillment of her M.Sc. Degree in Chemistry.

Dated : 15<sup>th</sup> June, 2020.

  
(Prof. M.K. Singh)  
Department Of Chemistry  
Tripura University

  
21/09/2020  
Prof S Majumdar  
Head, Dept of Chemistry,  
Tripura University  
Suryamaninagar, 799022

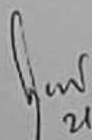


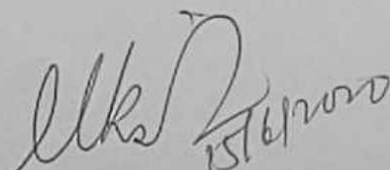
## CERTIFICATE

This is certified that Sri Dipjoy Pal, ROLL NO: 1806030016, a student of M.Sc. 4th semester Chemistry of the academic session 2018-2020 of Tripura University (A Central University), Suryamaninagar has carried out his project work entitled "Synthesis and characterization of mixed ligand complexes of Cobalt" under my supervision. The project work is being submitted by Dipjoy Pal as a partial fulfilment of his M.Sc. Degree in Chemistry.

I wish him every success in life.

Date: 15-06-2020

  
21/09/2020  
Prof. S. Majumdar  
Head, Dept of Chemistry  
Tripura University  
Suryamaninagar, 799022

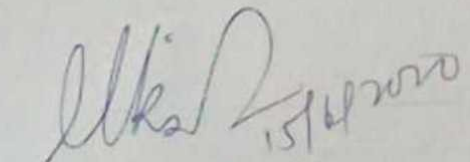
  
(Prof. M.K. Singh)  
Department Of Chemistry  
Tripura University

# CERTIFICATE

This is Certified that, Sri Chiranjit Bhowmik, Roll No-1806030026  
Reg. No – 012579 of 2015 student of M.Sc. 4<sup>th</sup> semester of academic  
session 2018-2020 of Tripura University (A Central University)

Suryamaninagar, has carried out his project work entitled "Synthesis and  
characterization of Cd(II) complex with 1,2- diaminopropane and 1,1-  
dicyanoethylene- 2,2-dithiolate" under my supervision. The project work is  
being submitted by Chiranjit Bhowmik as a partial fulfillment of his M.Sc.  
degree in chemistry.

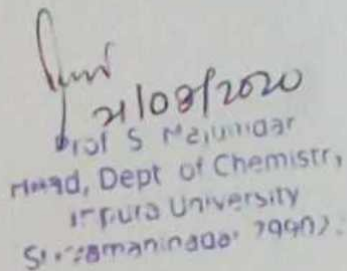
I wish him every success in life.



(Prof. M.K. Singh)

DEPARTMENT OF CHEMISTRY  
TRIPURA UNIVERSITY

Date: 15/06/2020

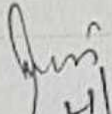


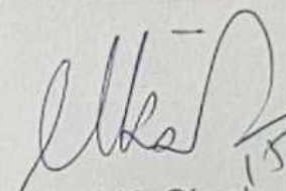
21/08/2020  
Prof. S. Majumdar  
Head, Dept. of Chemistry,  
Tripura University  
Suryamaninagar, 799012.

## CERTIFICATE

This is to certify that the project report entitled, "Synthesis and characterization of Ni(II) complex with 1,2-diaminopropane and 1-cyano-1-carboethoxyethylene-2,2-dithiolate" is a bonafide record of work done by Mr. Siddhartha Chakraborty, a student of M.Sc. in chemistry, 4th semester, academic session 2018-2020 (Roll No. 1806030003, Registration no. 017092 of 2015-16) under my supervision during the year 2020. This report was made for the partial fulfillment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

Dated,  
15th June, 2020

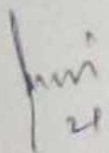
  
4/09/2020  
Prof S Majumdar  
Head, Dept of Chemistry  
Tripura University  
Sriharmanagar 799022

  
15/06/2020  
Prof. M.K. Singh  
Professor,  
Department of Chemistry  
Tripura University

# CERTIFICATE

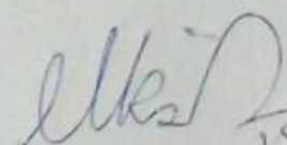
This is to certify that Smt. Susmita Datta, ROLL NO. 1806030011, a student of M.Sc. 4th semester Chemistry of the academic session 2018-2020 of Tripura University (A Central University), Suryamaninagar has carried out her project work entitled "Synthesis and characterization of mixed ligand complexes of Copper" under my Supervision.

The project work is being submitted by Susmita Datta as a partial fulfillment of her M.Sc. Degree in Chemistry

  
21/09/2020

Prof. S. Majumdar  
Head, Dept. of Chemistry  
Tripura University  
Suryamaninagar- 799022

Dated : 15th June, 2020

  
15/6/2020

(Prof. M.K. Singh)

Department Of Chemistry  
Tripura University



**TRIPURA UNIVERSITY**  
(A CENTRAL UNIVERSITY)



**Department of Chemistry**

Certified that Rupasree Saha, the student of M.Sc 4<sup>th</sup> Semester, Session 2020 of Chemistry (Physical special group) of the Tripura University (A Central University), Suryamaninagar, has carried out her project work entitled


**"Miscibility study and aggregate formation in Langmuir-Blodgett Films of Bathophenanthroline mixed with Stearic acid"** under my supervision in my laboratory. The Project work is been submitted by Rupasree Saha as a partial fulfilment of her M.Sc degree in Chemistry.

I Wish her every success in life.

  
(Prof. R. K. Nath)

Department of Chemistry

Tripura University

  
23/09/2020  
Prof. S. Majumdar  
Head, Dept of Chemistry  
Tripura University  
Suryamaninagar 79902

(A central University)  
2015

Reg.No. 009068

Submitted on:

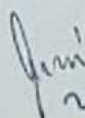
Certificate

*Certify that, Sri Jayanta Das ; student of 4<sup>th</sup> semester M.Sc. of the academic session 2018 - 2020 has carried out his project in titled "LAYER BY LAYER SELF ASSEMBLED TECHNIQUE" under the supervisor of Prof. R.K. Nath, Department of Chemistry, Tripura University.*

*The project work reported has been submitted as part of online course of 4<sup>th</sup> semester of M.Sc. programme.*



Dr. Ranendu Kumar Nath  
Professor,  
Department of Chemistry,  
Tripura University,  
Suryamaninagar - 799022.



21/09/2020  
Prof. S. Majumdar  
Head, Dept of Chemistry  
Tripura University  
Suryamaninagar - 799022

## CERTIFICATE

Certified that Sri Sukanta Datta, student of M.Sc. 4th semester of the academic session 2018-20 of Tripura University (A Central University), Suryamaninagar has carried out his project work entitled "Metal oxide-assisted chemical synthesis of poly( $\alpha$ -naphthylamine) and characterization" under my supervision. The project work is being submitted by Sri Sukanta Datta as a partial fulfillment of his M.Sc. Degree in Chemistry. I wish his every success in life.




(Prof. R.K. Nath)

(Department of

Chemistry)

Tripura University

Date: 15.06.2020

  
21/09/2020  
Prof. S. Majumdar  
Head, Dept. of Chemistry  
Tripura University  
Suryamaninagar, 799022

DEPARTMENT OF CHEMISTRY

TRIPURA UNIVERSITY

(A Central University)

Suryamaninagar, 799022



Mobile: +9194365508446

Phone: 0381-2379076(0)

Fax: +91-381 2374602

Email: rknath1995@gmail.com

TO WHOM IT MAY CONCERN

This is to certify that **Miss Sudipta Paul** student of 4<sup>th</sup> semester M.Sc. of the academic session 2018-2020 has carried out her project work in titled "APPLICATION OF LANGMUIR-BLODGETT FILM" under the supervision of **Prof. R.K. Nath** Department of Chemistry, Tripura University. The project report has been submitted as part of 4<sup>th</sup> semester M.Sc practical assignment.

*Sun*  
21/09/2020  
Prof. S. Majumdar  
11-10-20, Dept. of Chemistry  
Tripura University  
Suryamaninagar, 799022

*R.K.N.*  
Prof. R.K. Nath


Department of chemistry

Tripura University

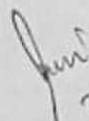


## Certificate

It is certified that the work contained in the project report titled "*Literature review on transition metal oxide nano particle*" by "*Bikash Saha*" has been carried out under my supervision and that this work has not been submitted elsewhere for a degree.

  
Signature of Supervisor

Prof Ranendu Kumar  
Nath Department of  
Chemistry Tripura  
University

  
21/09/2020  
Prof S Majumdar  
Head, Dept of Chemistry  
Tripura University  
Agartala-799022

DEPARTMENT OF CHEMISTRY

TRIPURA UNIVERSITY

(A Central University)

Suryamaninagar, 799022



Mobile: +9194365500446

Phone: 0301-2379076(0)

Fax: +91-381 2374002

Email: rknath1995@gmail.com

### TO WHOM IT MAY CONCERN

This is to certify that **Miss Smriti Roy** student of 4<sup>th</sup> semester M.Sc. of the academic session 2010-2020 has carried out her project work in titled "**SPECTROSCOPIC CHARACTERIZATION OF METHYLENE BLUE ON E. COLI K30 CAPSULAR POLYSACCHARIDE USING LAYER-BY-LAYER SELF-ASSEMBLED TECHNIQUE**" under the supervision of **Prof. R.K.Nath**, Department of Chemistry, Tripura University. The project report has been submitted as part of 4<sup>th</sup> semester M.Sc practical assignment.

*Prof. S. Majumdar*  
21/09/2020  
Prof. S. Majumdar  
Head, Dept of Chemistry  
Tripura University  
Suryamaninagar, 799022

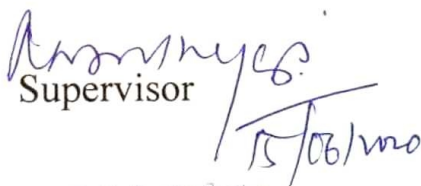
*R.K. Nath*  
Prof R.K. Nath

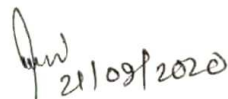
Department of chemistry  
Tripura University

## CERTIFICATE

I certify that Kartik Biswas, student of 4<sup>th</sup> semester M.Sc. of the academic session 2018-2020 has carried out his project work entitled "Synthesis of Zinc (II) complexes with triethanolamine (TEA) and carboxylic acids (salicylic & cinnamic acid)" under my supervision.

The project report has been submitted in partial fulfillment of the degree of Master of Science (M.Sc) in Chemistry of Tripura University.

  
Supervisor  
15/06/2020  
Prof. R.N. Dutta Purkay,  
Department of Chemistry,  
Tripura University,  
Suryamaninagar-799022  
West Tripura.

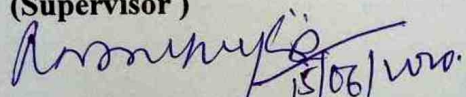
  
21/09/2020  
HOD

Department of Chemistry  
Tripura University

**CERTIFICATE**

This is certify that **Juthika Kashyap**, Student of M.Sc. (4<sup>th</sup> semester) of academic Session 2018-20 has carried out her project work in titled "*Colorimetric Sensing properties of Tin by Schiff Base ligand derivative*" under the supervision of **Prof. R.N.Dutta Purkayastha**

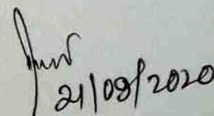
(Supervisor)

  
15/06/2020

**Prof. R.N.Dutta Purkayastha**

**15<sup>th</sup> June, 2020**

Prof. R.N. Dutta Purkayastha  
Department of Chemistry  
Tripura University  
Suryamaninagar-799022  
West Tripura.

  
21/09/2020

**HOD**

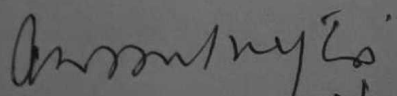
Department of Chemistry  
Tripura University



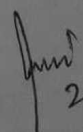
## CERTIFICATE

I certify that Sushmita Chakma, student of 4<sup>th</sup> semester M.Sc. of the academic session 2018-2020 has carried out his project work entitled "Synthesis, characterization and dye adsorption study of Copper carboxylates containing-donor molecules as ancillary ligands" under my supervision.

The project report has been submitted in partial fulfillment of the degree of master of science (M.Sc) in Chemistry of Tripura University.

  
Supervisor 15/06/2020

Prof. R.N. Datta Datta  
Department of Chemistry  
Tripura University  
Suryamaninagar-789022  
West Tripura

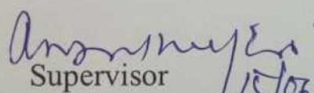
  
21/09/2020

HOD

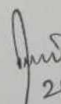
Department of Chemistry  
Tripura University

## CERTIFICATE

This is to certify that " Rupan Das " a student of 4th semester M. Sc of the academic session 2018-2020 has carried out his project work titled "Schiff Base Complexes of Molybdenum: Synthesis , Characterisation and Some Application " under the supervision of Prof. R.N.Dutta Purkayastha as a part of 4th semester M.Sc. Chemistry Project Paper-II, 2020 .

  
Supervisor / 15/06/2020

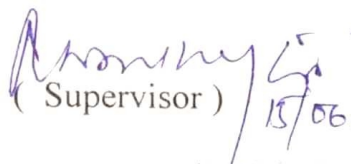
Prof. R.N. Dutta Purkayastha  
Department of Chemistry  
Tripura University  
Suryamaninagar-799022  
West Tripura.

  
21/09/2020  
HOD


Department of Chemistry  
Tripura University

## CERTIFICATE

This is to certify that the project report entitled, "**Synthesis and spectroscopic characterization of oxovanadium(IV) complexes containing N donor with Schiff base ligands.**" is a bonafide record of work done by **Sri Avijit Deb**, a student of M.Sc. in Chemistry, 4<sup>th</sup> Semester (Registration no. 016957 of 2015-16) under my direct supervision during the year 2019. This report was made for the partial fulfilment of M.Sc. in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

  
(Supervisor) 15/06/2020

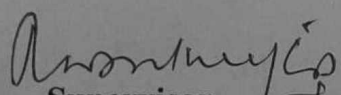
Prof. R. N. Gupta Ph.D., Ph.D.  
Department of Chemistry  
Tripura University  
Suryamanjagar-799022  
West Tripura

  
21/09/2020  
HOD of Chemistry

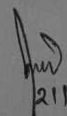
Department of Chemistry  
Tripura University

## CERTIFICATE

This is to certify that **Argha Saha** a student of 4<sup>th</sup> semester M.Sc. of the academic session 2018-20 has carried out his project work titled: "**Synthesis and characterization of Zn(II) Schiff base complex**" under the supervision of **Prof. R. N. Dutta Purkayastha** as part of 4<sup>th</sup> semester M.Sc. project work, 2020.

  
Supervisor / 15/08/2020

Prof. R.N. Dutta Purkayastha  
Department of Chemistry  
Tripura University  
Suryamaninagar-799022  
West Tripura.

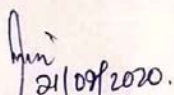
  
21/09/2020  
HOD

Department of Chemistry  
Tripura University



CERTIFICATE

This is to certify that the project report entitled, "A brief review on chemical constituents & biological activities of *Dillenia* species & Isolation and characterization of chemical constituents from *Dillenia pentagyna*" is a bonafied record of work done by Sri Partha Pratim Choudhury, a student of M.sc in chemistry, 4<sup>th</sup> Semester (Roll no:1806030005, Registration no. 017073 of 2015-16) under my direct supervision during the year 2019. This report was made for the partial fulfillment of M.sc in chemistry under Tripura university and was not submitted for any other degree by him or anyone else.

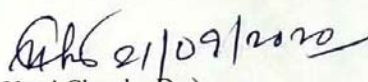
  
21/09/2020.  
HOD

Department of Chemistry

Tripura University

Dated, Agartala

The 3rd June, 2020

  
21/09/2020  
( Dr. Utpal Chandra De )

Associate Professor

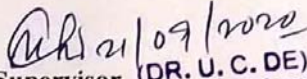
Department of Chemistry

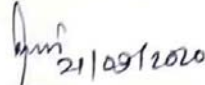
Tripura University

Agartala, West Tripura

### CERTIFICATE

This is to certify that "Barnali Das" a student of 4<sup>th</sup> semester M.Sc of the academic session 2020-2021 has carried out her project work titled "Studies on Chrysin derivatives and its biological potentialities" under the supervision of Dr. Utpal Chandra De as a part of 4<sup>th</sup> semester M.Sc examination, 2020.

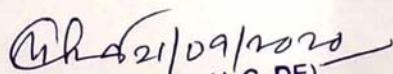
  
Supervisor (DR. U. C. DE)  
Associate Professor  
Deptt. of Chemistry  
Tripura University

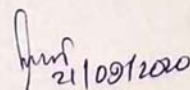
  
HOD

Department of chemistry  
Tripura University

## CERTIFICATE

This is to certify that "**Sri Mandira Dhar**" a student of 4<sup>th</sup> Semester M.Sc. of the academic session 2018-2020 has carried out her project work titled "**Estimation Of Total Phenolic Contents From Different Citrus Fruits Using Folin-Ciocalteu Reagent**" under the supervision of **Dr. Utpal Chandra De** as a part of 4<sup>th</sup> Semester M.Sc. practical examination, 2020.

  
**Supervisor (DR. U. C. DE)**  
Associate Professor  
Deptt. of Chemistry  
Tripura University

  
**HOD**

**Department Of Chemistry**


**Tripura University**

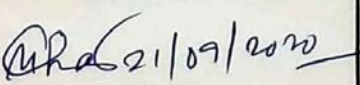


## CERTIFICATE

This is to certify that the project report entitled, "SYNTHESIS AND CHARACTERISATION OF ALPHA-GLUCOSIDASE INHIBITION STUDIES OF SOME COUMARIN DERIVATIVES" is a bonafide record of work done by Mr. Utpal Sarkar, a student of M. Sc in chemistry, 4<sup>th</sup> semester (Roll No. 1806030028, Registration no. 017104 of 2015-16) under my direct supervision during the year 2020. This report was made for the partial fulfillment of M. Sc in Chemistry under Tripura University and was not submitted for any other degree by him or anyone else.

Dated,

  
21/09/2020  
Prof S Majumdar  
Head, Dept of Chemistry  
Tripura University  
St. Jambhadrachand 799012

  
21/09/2020  
Dr. Utpal Chandra De

Associate Professor,  
Department of Chemistry  
Tripura University



## CERTIFICATE

This is to certify that the Project – entitled ( “Synthesis & Characterisation of Fluorescence studies of some Coumarin Derivatives” , subject- CHEMISTRY, Paper code : CHEM 1004 C) has Submitted by **Basudeb Chakraborty** having Roll number : 1806030021 for the partial fulfillment of the requirements of **Master of Science in Chemistry degree of Tripura University**, Suryamani Nagar, Tripura, 4<sup>th</sup> Semester embodies the bonafide work done by him under my supervision.

*Prof*  
21/09/2020  
Prof. S. Majumdar  
Head, Dept of Chemistry  
Tripura University  
Suryamani Nagar, Tripura

Place :


*DR. U. C. DE* 21/09/2020  
Signature of the Supervisor  
(DR. U. C. DE)  
Associate Professor  
Deptt. of Chemistry  
Tripura University

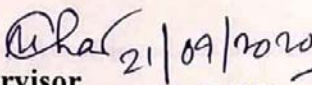
Date: \_\_\_\_\_

## CERTIFICATE

This is to certify that the project report entitled. "**Synthesis of new chrysin Derivative as antioxidant agent**" is a bonafide record of work done by **Miss Nabanita Chakraborty**, a student of M.Sc in chemistry, 4th semester (Registration no. 008790 of 2015-16) under my direct supervision during the year 2020. This report was made for the partial fulfillment of M.Sc in Chemistry under Tripura University and was not submitted for any other degree by her or anyone else.

Dated, Agartala  
21<sup>st</sup> September 2020

  
21/09/2020  
(Head of the Department)  
Department of Chemistry  
Tripura University  
Agartala, West Tripura

  
21/09/2020  
Supervisor  
(DR. U. C. DE)  
Associate Professor  
Deptt. of Chemistry  
Tripura University