



GOVERNMENT OF WEST BENGAL
DEPARTMENT OF CHEMISTRY
JHARGRAM RAJ COLLEGE
P.O.-JHARGRAM, DIST.-JHARGRAM
PIN - 721507
PHONE-03221-255022

CERTIFICATE

This is to certify that AVISHEK MAITY of M.Sc. 4th sem. Chemistry (Organic special) of this department has carried out the project work entitled "Palladium catalysed enantioselective alkylation & arylation by C-H bond activation for partial fulfillment of the M.Sc. 4th sem in chemistry, Jhargram Raj College, Jhargram, under my direct supervision.

Ansuman Bij

DR. ANSUMAN BEJ
(Project Supervisor)
Department of Chemistry
Jhargram Raj College
Jhargram

Ansuman Bij

DR. ANSUMAN BEJ
Head of the Dept. (H.O.D)
Department of Chemistry
Jhargram Raj College
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Head
Dept. of Chemistry (UG & PG)
Jhargram Raj College
Govt. of West Bengal
Jhargram 721507

Date: 16.08.2022

Head
Dept. of Chemistry (UG & PG)
Jhargram Raj College
Govt. of West Bengal
Jhargram 721507



DEPARTMENT OF CHEMISTRY
JHARGRAM RAJ COLLEGE
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JHARGRAM, WEST BENGAL, 721507
PHONE- 03221-255022

CERTIFICATE

This certify that *Gobinda Ghorai* of M.Sc. 4th semester of chemistry (*Organic Chemistry special*) of this department has carried out the project work entitled "**Synthesis of an intermediate compound of a photochromic molecule**" for partial fulfillment of M.Sc. 4th semester in chemistry, Jhargram Raj College, Jhargram, under my direct supervision.

Susovan Mandal
17/8/2022

Dr. Susovan Mandal,
Project Supervisor,
Department of Chemistry,
Jhargram Raj College

Assistant Professor (W.B.E.S.)
Department of Chemistry (UG & PG)
Jhargram Raj College
Govt. of West Bengal

Ansuman Bej
16/08/22

Dr. Ansuman Bej,
Head of the Department (H.O.D.),
Department of Chemistry,
Jhargram Raj College

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DEPARTMENT OF CHEMISTRY
JHARGRAM RAJ COLLEGE
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CERTIFICATE

This is to certify that SOUVIK BEJ of M.Sc. 4th Sem. Chemistry (Organic special) of this department has carried out the project work entitled "USE OF HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) AS AN ANALYTICAL TECHNIQUE TO IDENTIFY THE COMPONENTS IN A MIXTURE" for fulfillment of the degree of M.Sc. in Chemistry, Jhargram Raj College, Jhargram, under my direct supervision.

Bej
12/08/2022

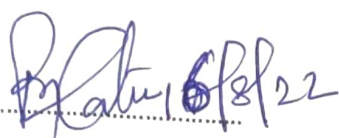
DR. ANSUMAN BEJ
Head of the Department
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Jhargram Raj College
Jhargram
Head
Dept. of Chemistry (UG & PG)
Jhargram Raj College
Govt. of West Bengal
Jhargram 721507

Dilip Rout 12.08.22

DR. DILIP ROUT
Project Supervisor
Department of Chemistry
Jhargram Raj College
Jhargram,
Dr. Dilip Rout
Assistant Professor, W.B.E.S.
Department of Chemistry
JHARGRAM RAJ COLLEGE
Jhargram-721507, West Bengal

CERTIFICATE

This is certify that UTPAL PATRA of M.Sc 4th semester Chemistry (organic Special) of this department has carried out the project work entitled "Palladium Catalysed Synthesis of Pyrrolo/Indolo Fused Coumarin from 4-Aminocoumarin Derivatives" for fulfillment of the M.Sc 4th semester in chemistry, Jhargram Raj College, Jhargram , under my direct supervision.



Dr.Prasanta Patra

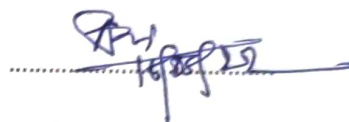
(project supervisor)

Department of Chemistry

Jhargram Raj College

DATE: 16.08.22

Assistant Professor (W.B.E.S.)
Department of Chemistry (UG & PG)
Jhargram Raj College
Govt. of West Bengal



Dr.AnsumanBej

HOD

Department of Chemistry

Jhargram Raj College

Head
Deptt. of Chemistry (UG & PG)
Jhargram Raj College
Govt. of West Bengal
Jhargram 721507

DEPARTMENT OF CHEMISTRY
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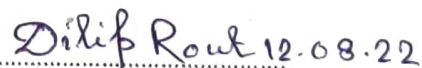
CERTIFICATE

This is to certify that MANAS BARIK of M.Sc. 4th Sem. Chemistry (Organic special) of this department has carried out the project work entitled "USE OF HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC) AS AN ANALYTICAL TECHNIQUE TO IDENTIFY THE COMPONENTS IN A MIXTURE" for fulfillment of the degree of M.Sc. in Chemistry, Jhargram Raj College, Jhargram, under my direct supervision.



DR. ANSUMAN BEJ
Head of the Department
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 12.08.22

DR. DILIP ROUT
Project Supervisor
Department of Chemistry
Jhargram Raj College
Jhargram

Dr. Dilip Rout
Assistant Professor, W.B.E.S.
Department of Chemistry
JHARGRAM RAJ COLLEGE
Jhargram-721507, West Bengal

CERTIFICATE

This is certify that Utshav Das of M.Sc 4th sem . Chemistry (organic Special) of this department has carried out the project work entitled "SYNTHESIS OF AN INTERMEDIATE COMPOUND OF A PHOTOCROMIC MOLECULE" for partial fulfillment of the M.Sc 4th sem in chemistry, Jhargram Raj College, Jhargram , under my direct supervision.

Susovan Mandal
17/8/2022

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Dr.Susovan Mandal

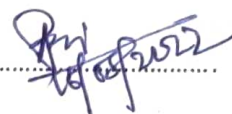
(project supervisor)

Department of Chemistry

Jhargram Raj College

DATE :

Assistant Professor (W.B.E.S.)
Department of Chemistry (UG & PG)
Jhargram Raj College
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Dr. Ansuman Bej

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CERTIFICATE

This certify that *Monish Das* of M.Sc. 4th semester of chemistry (*Organic Chemistry special*) of this department has carried out the project work entitled "**Synthesis of an Intermediate Compound of a Photochromic Molecule**" for partial fulfillment of M.Sc. 3rd semester in chemistry, Jhargram Raj College, Jhargram, under my direct supervision.

Susovan Mandal
17/8/2022

Dr. Susovan Mandal,
Project Supervisor,
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Jhargram Raj College

Assistant Professor (W.B.E.S.)
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Jhargram Raj College
Govt. of West Bengal

Ani
16/08/2022

Dr. Ansuman Bej,
Head of the Department (H.O.D),
Department of Chemistry,
Jhargram Raj College

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सत्यमेव जयते

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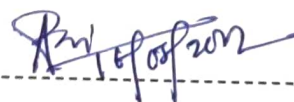
CERTIFICATE

This is to certify that **DEBATOSH SARKAR** of M.Sc. 4th Sem. Chemistry (Organic Chemistry) of this department has carried out the project work entitled "A Crystallographic Study on Series of New Co crystals derived from Pyrazinecarboxamide and various Carboxylic Acids Equipped with Additional Hydrogen Bonding sites" for partial fulfilment of the M.Sc. 4th Sem in Chemistry, Jhargram Raj College, Jhargram, under my direct supervision.

 17.8.22

DR. TAPAS KUMAR ADALDER
(Project Supervisor)
Department of Chemistry
Jhargram Raj College
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DR. ANSUMAN BEJ
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CERTIFICATE

This is to certify that **TITAS SETH** of M.Sc, 4th Sem. Chemistry (Organic Chemistry) of this department has carried out the project work entitled "Design and synthesis of Supramolecular capsular receptor : A crystal engineering approach" for partial fulfilment of the M.Sc. 4th Sem in Chemistry, Jhargram Raj College, Jhargram, under my direct supervision.

17.8.22

DR. TAPAS KUMAR ADALDER
(Project Supervisor)
Department of Chemistry
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DR. ANSUMAN BEJ
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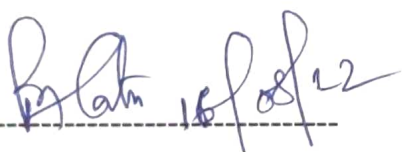
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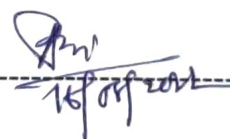
CERTIFICATE

This certify that **Gobinda Metya** of M.Sc. 4th semester of chemistry (*Organic Chemistry special*) of this department has carried out the project work entitled "**Synthesis Of Pyrrole Fused Coumarin Derivatives From 4-Amino Coumarin**" for partial fulfillment of M.Sc. 4th semester in chemistry, Jhargram Raj College, Jhargram, under my direct supervision.



Dr. Prasanta Patra
Project Supervisor
Department Of Chemistry
Jhargram Raj College

Assistant Professor (S.S.)
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Dr. Ansuman Bej
Head Of The Department
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Jhargram - 721507

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

It is great privilege for me to express my deep respect and gratitude to **Dr. Tarun Mistri** and **Smt. Sanchayita Adikari**, Assistant Professor of Chemistry of Jhargram Raj College, Jhargram, without whose encouraging guidance, constructive suggestion and critical comments the present project work could not have been carried out.

I am also thankful to all other faculty members of my dept. for their encouragement and inspiration.

I am also thankful to all my classmates of the dept., for their kind support and co-operation. I would like to thank the non-teaching staff members of our dept., for their constant co-operation. I am also thankful to Vidyasagar University for instrumental help.

Date: 17.08.2022

Puspendu Das
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DEPARTMENT OF CHEMISTRY
JHARGRAM RAJ COLLEGE
JHARGRAM



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CERTIFICATE

This is to certify that Ritwika Sahoo of M.Sc. 4th sem. Chemistry (Inorganic special) of this department has carried out the project work entitled 'A Sensitive Molecular Switch For Cu²⁺ Ion Recognition' for partial fulfillment of the M.Sc. 4th sem(session --2022). In chemistry, Jhargram Raj College, Jhargram, under our direct supervision.

Date:

Tarun Mistri 17/08/22

Dr. **TARUN MISTRI**
Project Supervisor
Department of Chemistry
Jhargram Raj College
Jhargram

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CERTIFICATE

This is to certify that Moumita Mandal of M.Sc. 4th sem (2022). Chemistry (Inorganic special) of this department has carried out the project work entitled '**A Sensitive Molecular Switch for Cu²⁺ Ion Recognition**' for partial fulfillment of the M.Sc. 4th sem. In chemistry, Jhargram Raj College, Jhargram, under our direct supervision.

Tarun Mistri 17/08/22

Dr. TARUN MISTR
Project Supervisor
Department of Chemistry
Jhargram Raj College
Jhargram

Date:



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CERTIFICATE

This is to certify that Priya Mandal of M.Sc. 4th sem (2022). Chemistry (Inorganic special) of this department has carried out the project work entitled 'A Sensitive Molecular Switch for Cu²⁺ Ion Recognition' for partial fulfillment of the M.Sc. 4th sem(Session-2022). In chemistry, Jhargram Raj College, Jhargram, under our direct supervision.

Date:


17/08/22
Dr. TARUNMISTRI
Project Supervisor
Department of Chemistry
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Jhargram



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CERTIFICATE

This is to certify that CHIRANJIB KAR of M.Sc. 4th sem. Chemistry (Inorganic special) of this department has carried out the project work entitled '**A Sensitive Molecular Switch For Cu²⁺ Ion Recognition**' for partial fulfillment of the M.Sc. 4th sem. In chemistry, Jhargram Raj College, Jhargram, under our direct supervision.

Date: 17/08/22

Tarun Mistri 17/08/22

Dr. TARUN MISTRI
Project Supervisor
Department of Chemistry
Jhargram Raj College
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CERTIFICATE

This is to certify that Nibedita Pal of M.Sc. 4th sem. Chemistry (Inorganic special) of this department has carried out the project work entitled '**A Sensitive Molecular Switch For Cu²⁺ Ion Recognition**' for partial fulfillment of the M.Sc. 4th sem (session-2022). In chemistry, Jhargram Raj College, Jhargram, under our direct supervision.

Dr. Tarun Mistri 17/08/22

Dr. **TARUN MISTRI**

Project Supervisor

Department of Chemistry

Jhargram Raj College

Jhargram

Date: