

The Chemistry E-Newsletter 2023



xyzEN



Department of Chemistry
Durgapur Government College
Durgapur-713214

In This Issue

MESSAGE FROM THE PRINCIPAL'S DESK

MESSAGE FROM THE HOD'S DESK

CONTENT WRITING ZONE

(This section includes content writing by students of the department)

POSTER and PHOTOGRAPHY ZONE

(This section includes posters created and photographs taken during experiments done by students)

EVENTS AND ACTIVITIES ZONE

(This section includes educational tours, student visit programs, quiz competitions, workshops, invited lectures, add-on courses, student seminars conducted by the department)

From the Principal's Desk



Dr. Debnath Palit

Dr. Debnath Palit

Dear Readers,

It is a matter of great pleasure to know that the Department of Chemistry has come up with the first edition of, OXY-ZEN, The Chemistry Newsletter 2023, which will serve as a promising window for the students to evolve their creativity, subject expertise, and portrayal of their thoughts with confidence. We aim to nurture young individuals to confidently and competently face the challenges of the intensifying competitive world beyond the campus walls and this newsletter will provide them wide exposure beyond the curricular activities.

I acknowledge the sincere teamwork of the students and faculty members of the Department of Chemistry, who took the initiative to contribute their stimulated thoughts and skills to the completion of this piece of interesting work.

Best wishes for the success of OXY-ZEN, The Chemistry Newsletter 2023.

From the HOD's Desk



Dr. Snigdha Chandra

Dr. Snigdha Chandra

Warm greetings to everyone!

The department of Chemistry presents the first edition of OXY-ZEN, the Chemistry Newsletter 2022.

Over the years the department of Chemistry has provided the students with opportunities to explore and grow. This newsletter reflects the efforts of the department of Chemistry towards creating an excellent academic environment with a team of distinguished faculty members and staff. The department always encourages the young minds to be humane and inspires them to achieve academic excellence, develop and apply their technical skills to solve real-world problems, and indulge in collaborative activities.

It is enthralling to see the compilations and creative works of our students, and the contributors are greatly applauded for the varied hues in their articles and artwork.

The department is thankful to the Principal, Durgapur Government College for his generous support towards all its academic activities.

I want to take this opportunity to express my heartfelt thanks to the faculty members, staff and students for the incredible amount of work they have put in to shape this very first edition of OXY-ZEN.

I believe that - "Ignited minds will turn dreams into reality", and I am confident that this newsletter will continue its journey forever.

All the best to everyone, and happy reading!

The Road Not to be Taken

-By Asmita Mondal
Ph.D. Scholar, Department of Chemistry,
Durgapur Government College



During school time, there is an expectation that the university will have more fun activities and a better syllabus. Omitting the subjects, you do not like to study sounds interesting though.

But the storyline kind of gets disrupted after a year or half of undergrad classes. Things do not go the way students have thought they should which leads to some major setbacks. One of them is futile expectations, like getting low grades. For a straight-A level student, confidence about certain things is innate but it becomes treacherous when you start to ignore certain things, and the over-confidence pulls backward. At times expectation turns into obsession and when it cannot be fulfilled, gives birth to “*Hopelessness*” which leads to the wastage of your innate talent.



All image Reference: Internet

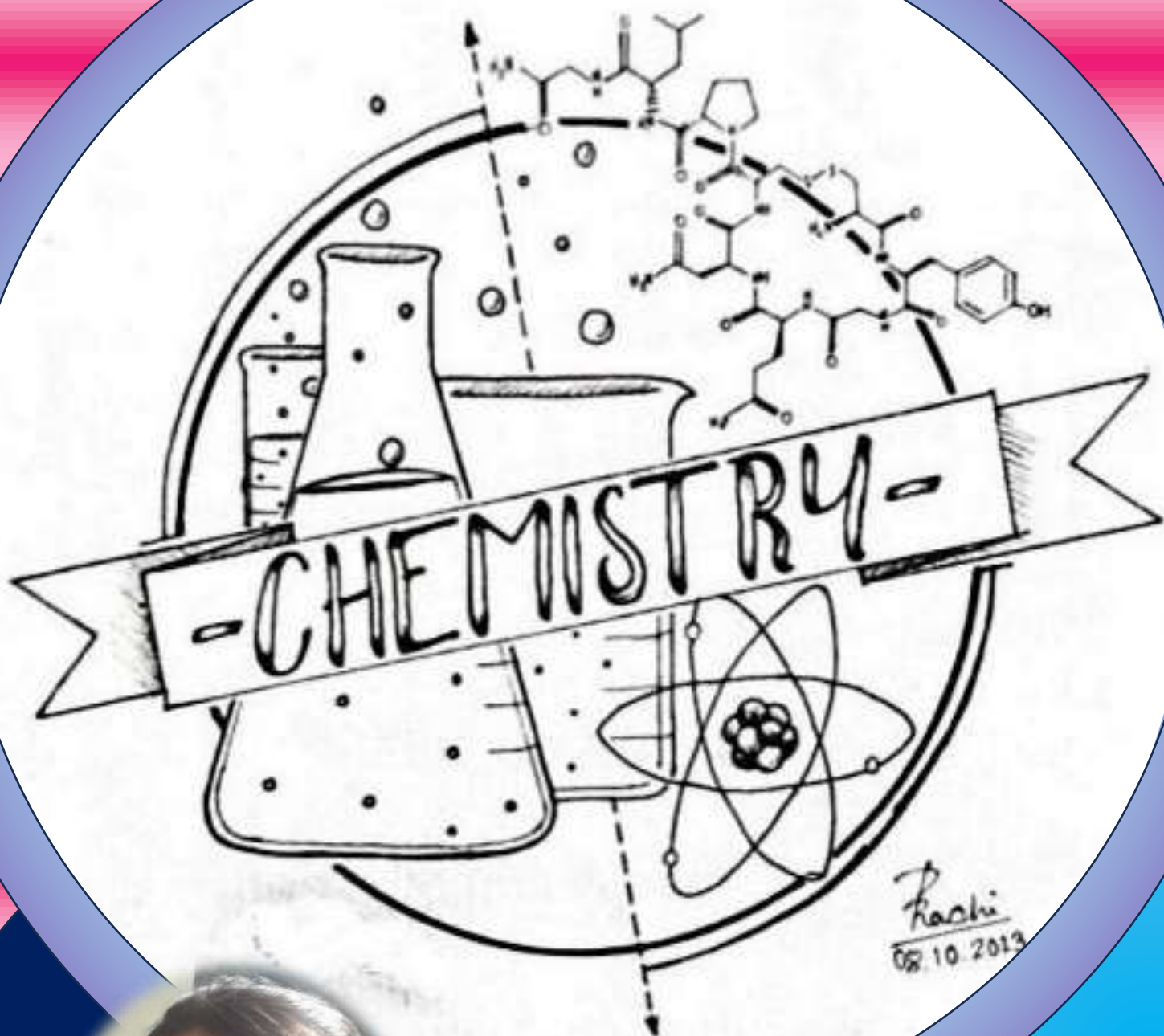
Another major setback is insecurity. Insecurity kills more dreams than any other setbacks. I have seen people with immense potential getting stuck in a loop. Not qualifying for an exam or not getting into the Institute you desired never closes all the doors that your life could present you. One just needs to keep on moving forward to unleash more surprises. Not everyone learns similarly – that should not be a barrier to success.



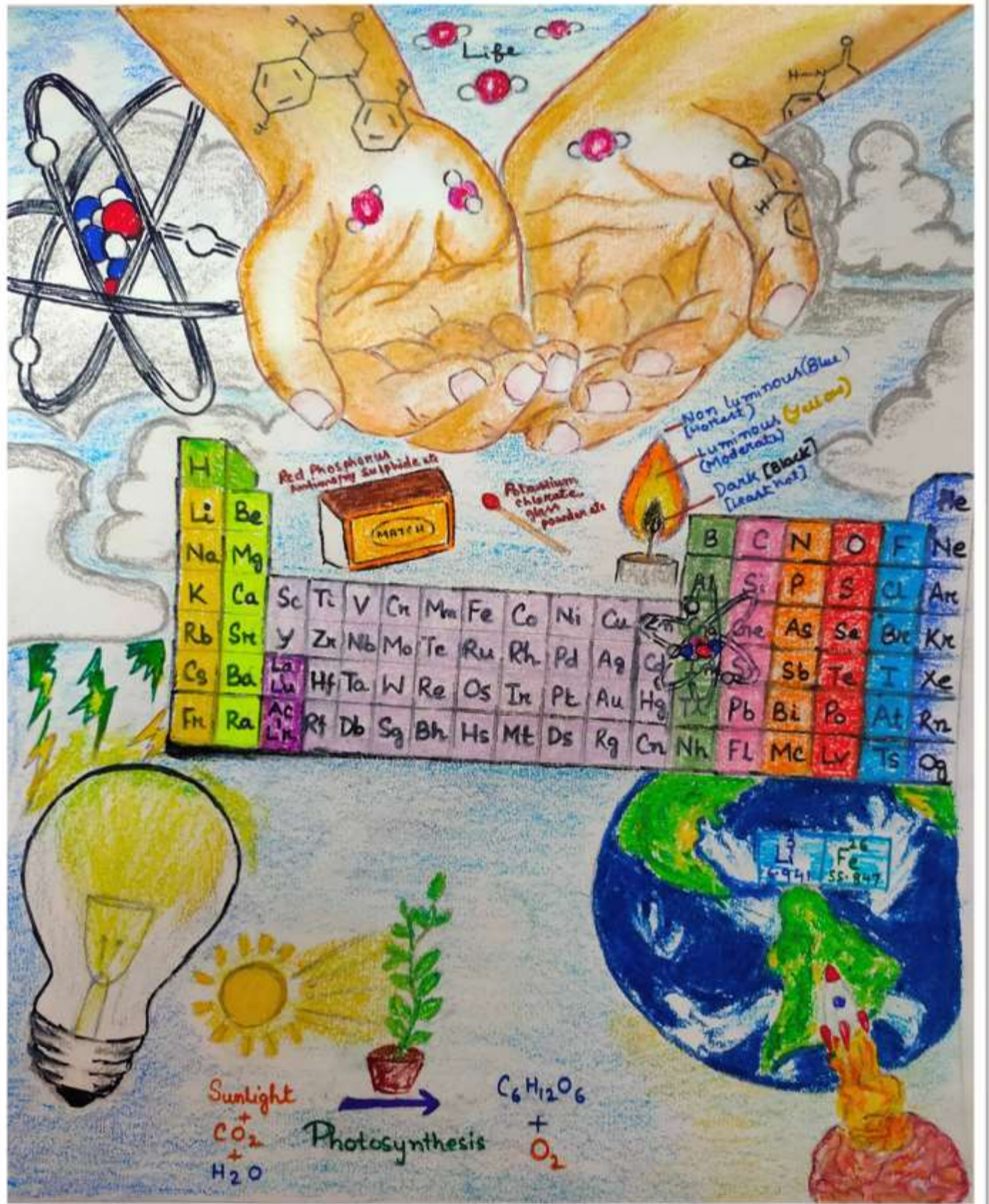
And third, is losing patience. Many of my friends used to get frustrated over the period that needed to be invested in our field of study to achieve a desirable job. But that is not true though. The traditional career pipeline used to take chemists from university to industry, but in recent times these boundaries have become more porous. The path between education, research, and work is no longer a one-way street. The interdisciplinary approach to study such as opting for B. Tech after B.Sc., M. Tech after M.sc or internships during M.Sc. to understand the atmosphere of research, changing streams to Computational or Bio-Physical fields, etc. could benefit all.

You might have read the poem by Robert Frost, “The Road Not Taken” which describes two roads, one that everyone takes and one that a few would dare to but only those who have the courage could pass them through. It does not matter which path you choose or have to take as each has its difficulties and rewards. Only after endurance, you can reach the destiny dedicated to you.

POSTER AND PHOTOGRAPHY ZONE



Art by: Prachi Bhattacharya
B.Sc, Chemistry Honors, Sem-II



Art by: Asmita Adak

B.Sc., Chemistry Honors, Semester-II





Art By: KUSHAL PRAMANIK
B.Sc. Chemistry Honours Semester-II



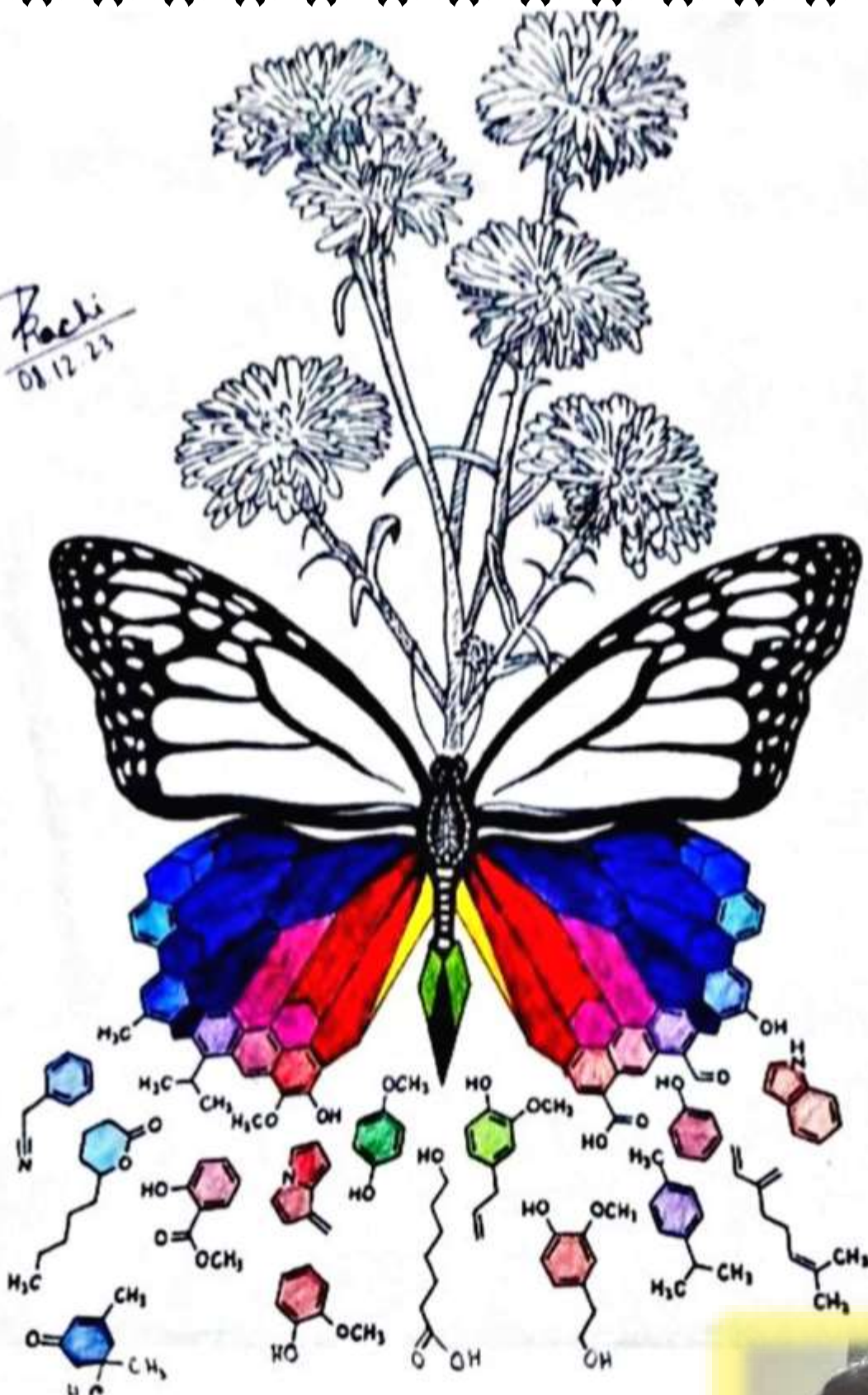
Picture taken during Sorenson's formal Titration

This method has been used for the estimation of free carboxyl group in amino acids. By this method one can determine the increase in carboxyl groups which accompanies the enzymatic hydrolysis of proteins.



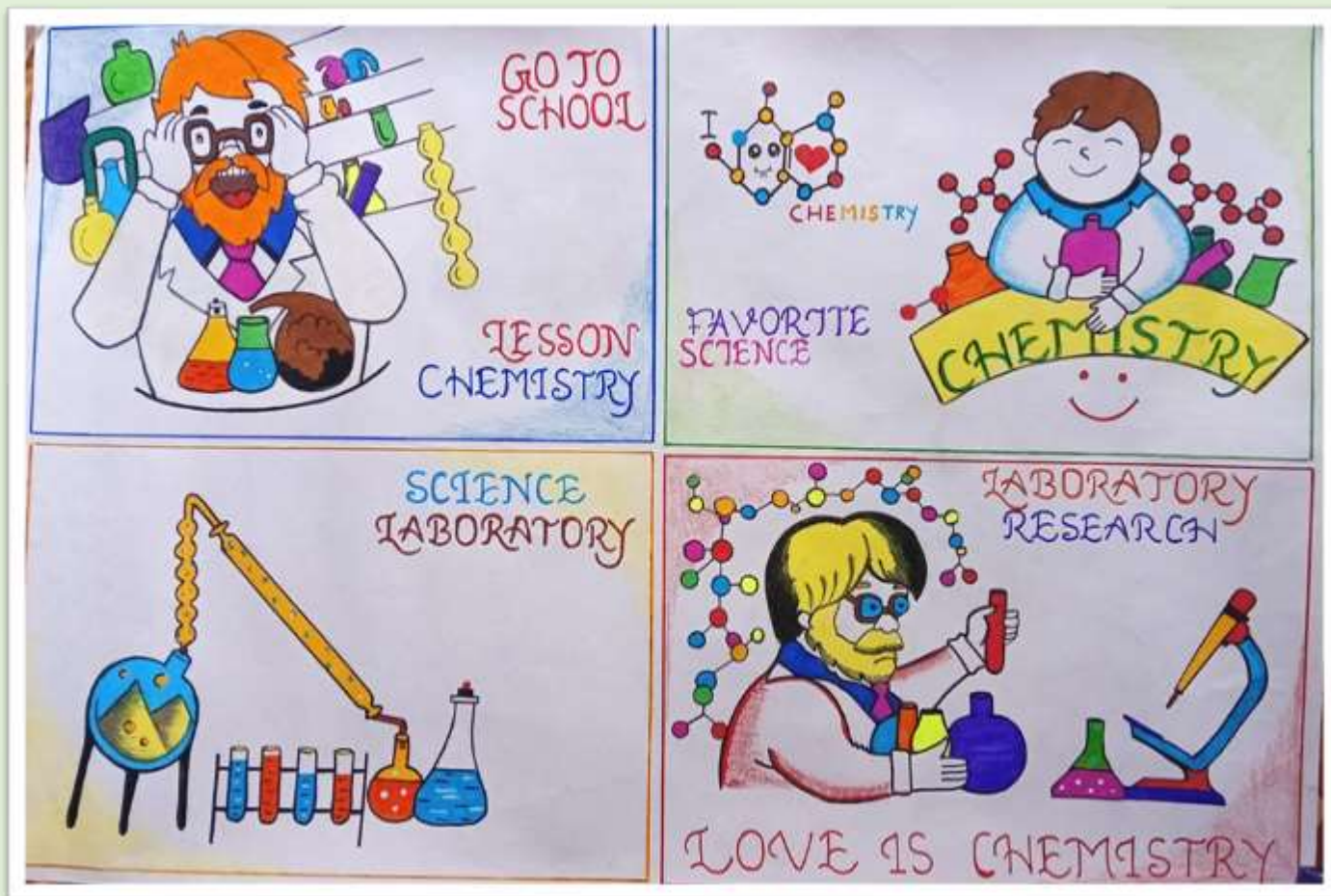
Photograph By: KUSHAL PRAMANIK
B.Sc. Chemistry Honours Semester-II

Prachi
08.12.23



Art by: Prachi Bhattacharya
B.Sc, Chemistry Honors, Semester-II





Photograph taken while performing the confirmatory test for Group III-B analysis (Qualitative Inorganic Salts Analysis).

Also used as the Cover Page Picture for this issue.



Art and Photograph By: RAJDIP PATRA
B.Sc. Chemistry Honours Semester-II



PROTECTION IS NECESSARY

LAB SAFETY



Wearing lab coat is necessary!!!

Wearing safety GLOVES



Wearing goggles

Protect own hands



Protect own eyes



Hands should be washed properly after lab activities

Accidents needed to be reported

Tasting any sample need to be avoided

Instruction given by the teacher required to be followed!!





EVENTS AND ACTIVITY ZONE



**Seminar cum workshop on
"Excited state intra-molecular proton transfer in Schiff base metal complexes:
Mechanistic aspects & Future prospects"
and
"A greener approach to organic synthesis and utilization of spectroscopic
techniques in mechanistic understanding"**

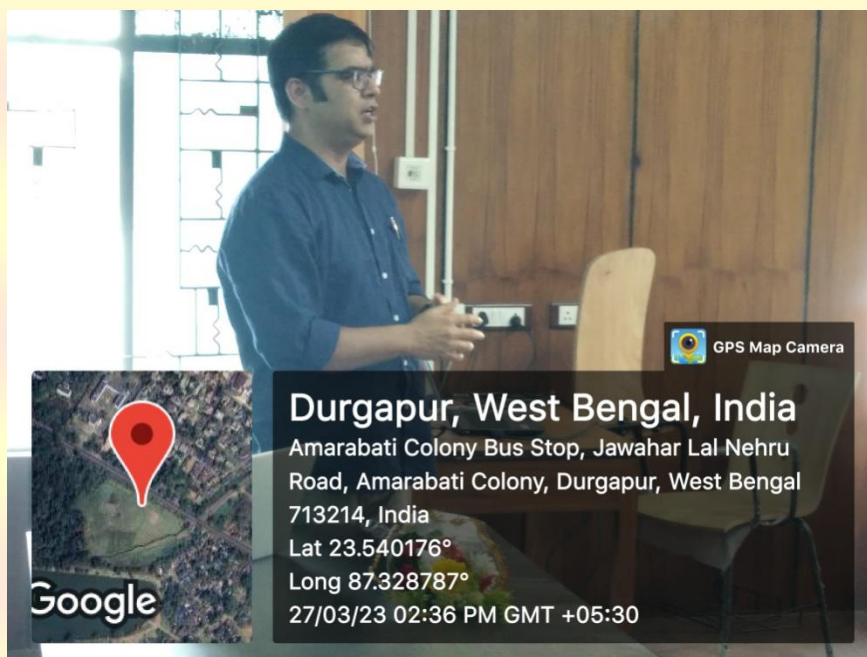


**Technical Session being delivered by Professor Pranesh Chaudhuri, Professor,
Visva Bharati**

**Seminar cum workshop on
"Excited state intra-molecular proton transfer in Schiff base metal complexes:
Mechanistic aspects & Future prospects"
and
"A greener approach to organic synthesis and utilization of spectroscopic
techniques in mechanistic understanding"**



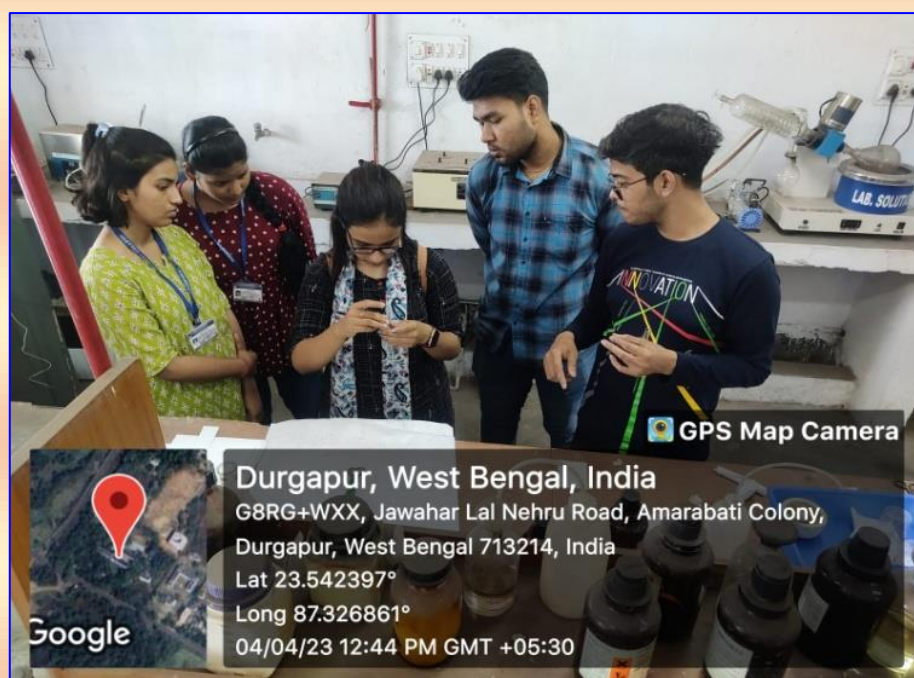
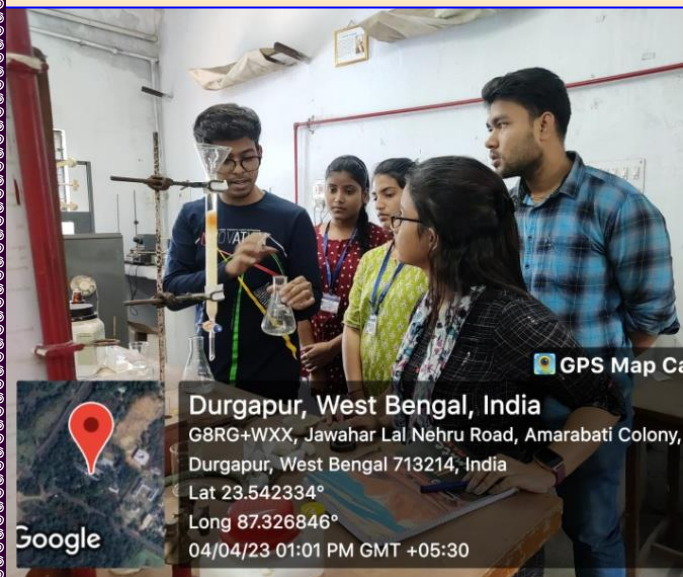
**Technical Session being delivered by Professor Pranesh Chaudhuri, Professor,
Visva Bharati**



**Technical Session being delivered by Dr. Paresh Nath Chatterjee, Associate
Professor, National Institute of Technology (NIT) Durgapur**

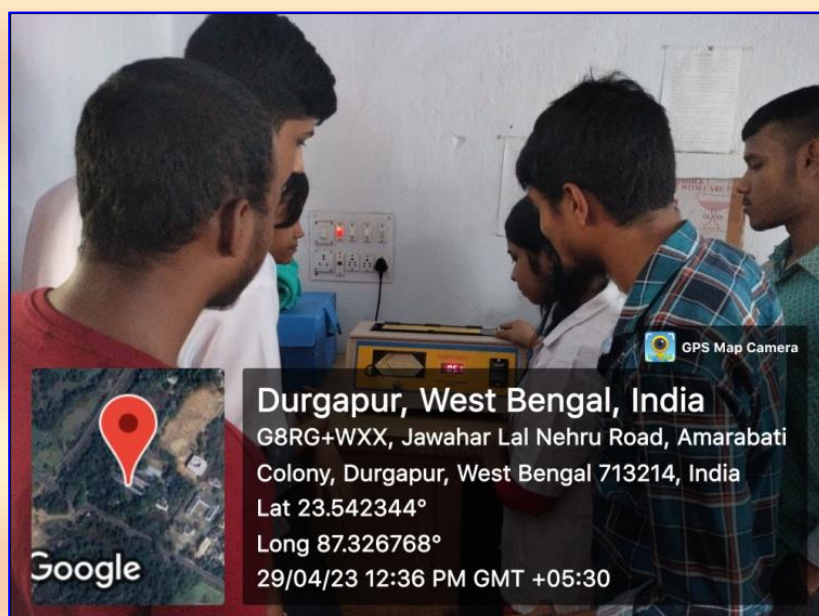
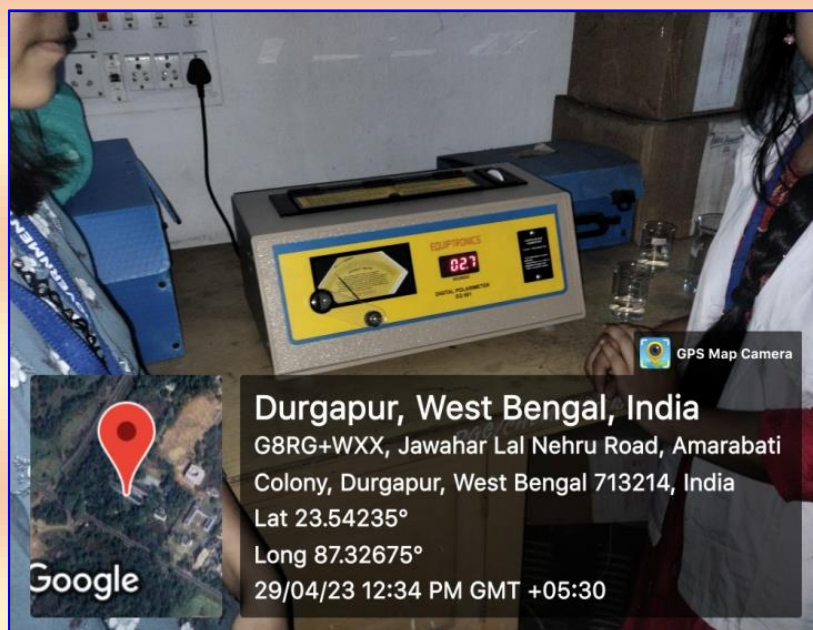
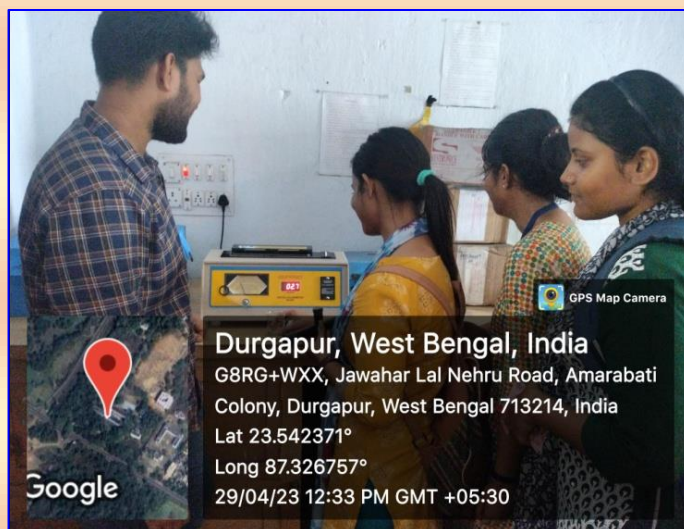
NEW EXPERIMENT ON "SEPARATION AND PURIFICATION OF BINARY ORGANIC MIXTURE (ANILINE AND ACETANILIDE) BY COLUMN CHROMATOGRAPHY" UNDER DBT STAR COLLEGE SCHEME

04/04/2023



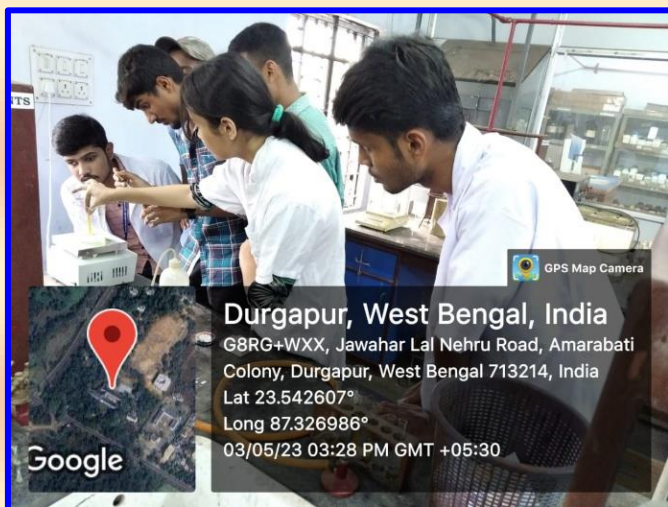
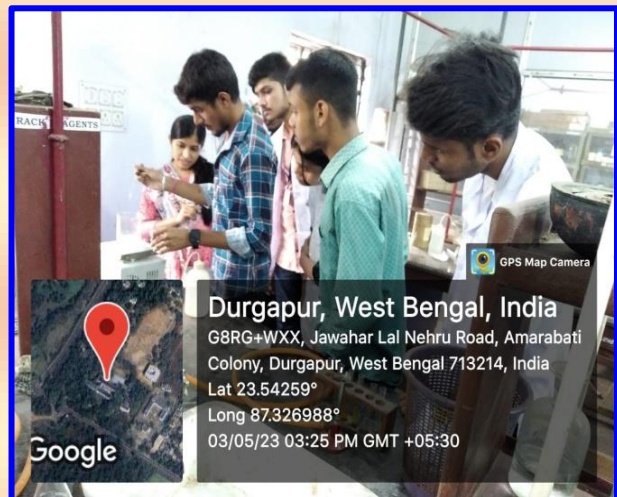
NEW EXPERIMENT/HANDS ON TRAINING EXPERIMENT " DETERMINATION OF SPECIFIC ROTATION OF SUCROSE BY POLARIMETER" UNDER DBT STAR COLLEGE SCHEME

29/04/2023

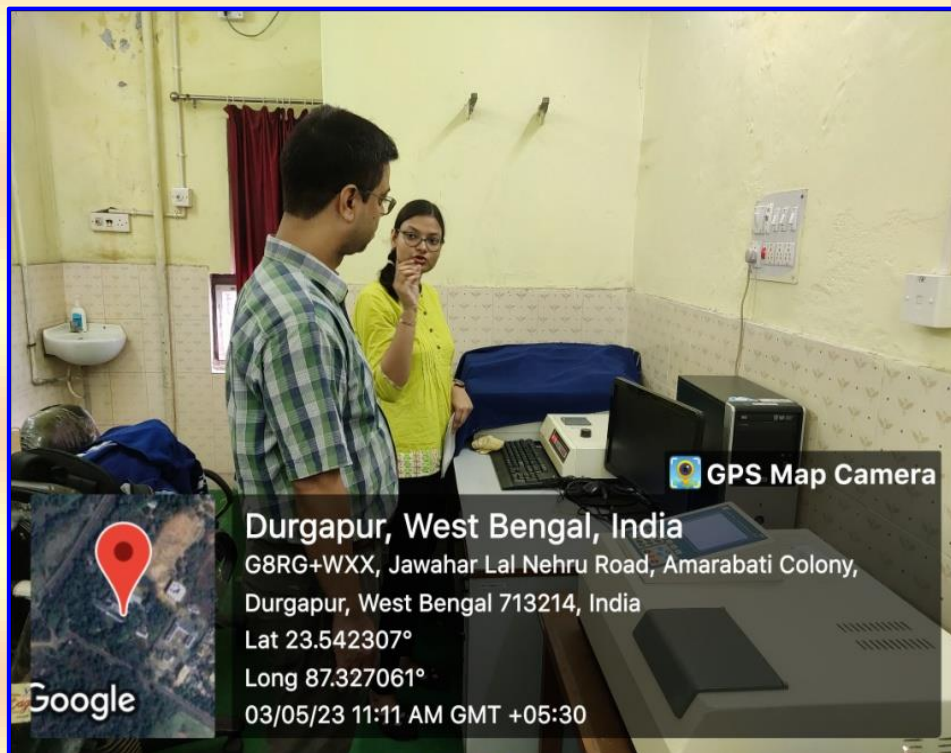


NEW EXPERIMENT ON PREPARATION OF NIO NANOPARTICLES BY COPRECIPITATION METHOD

03/05/2023

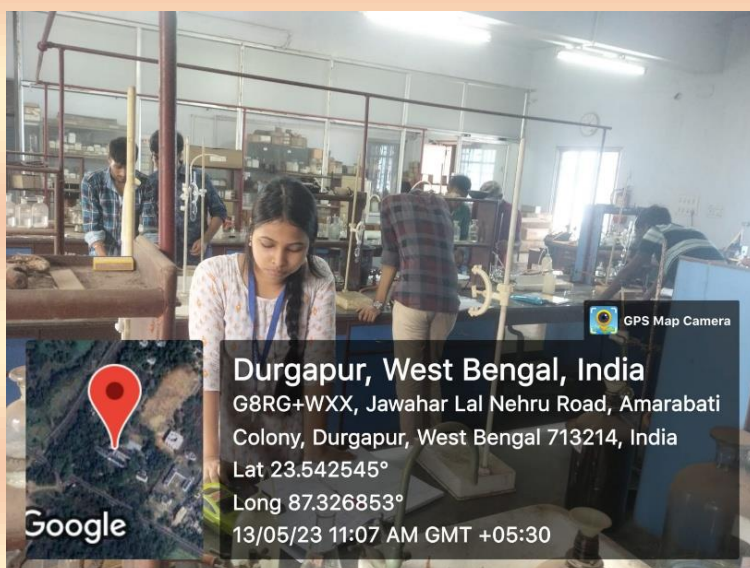


One Day Training Programme on “Calibration and Working Principle of UV-Visible Spectrophotometer” for the laboratory Staff of Department of Chemistry, Durgapur Government College (May 03, 2023) under DBT STAR COLLEGE SCHEME



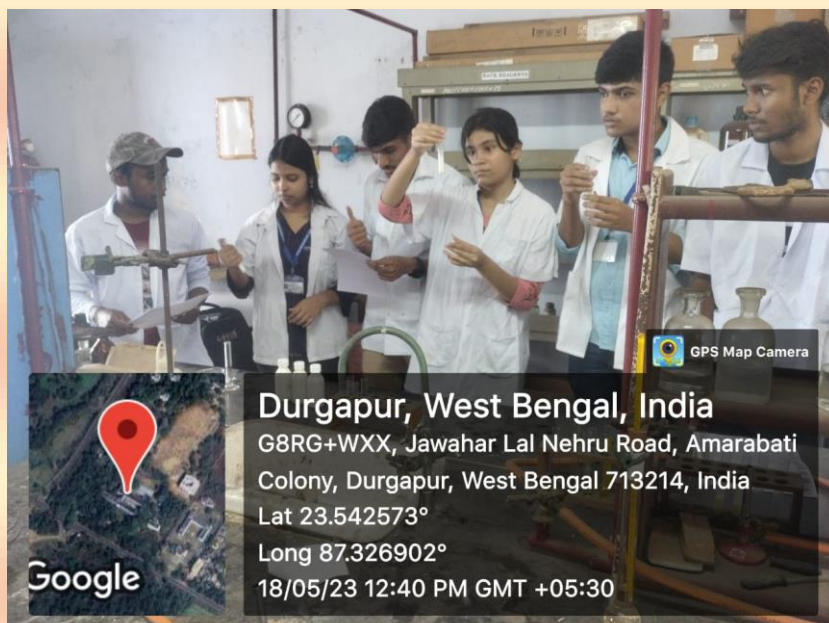
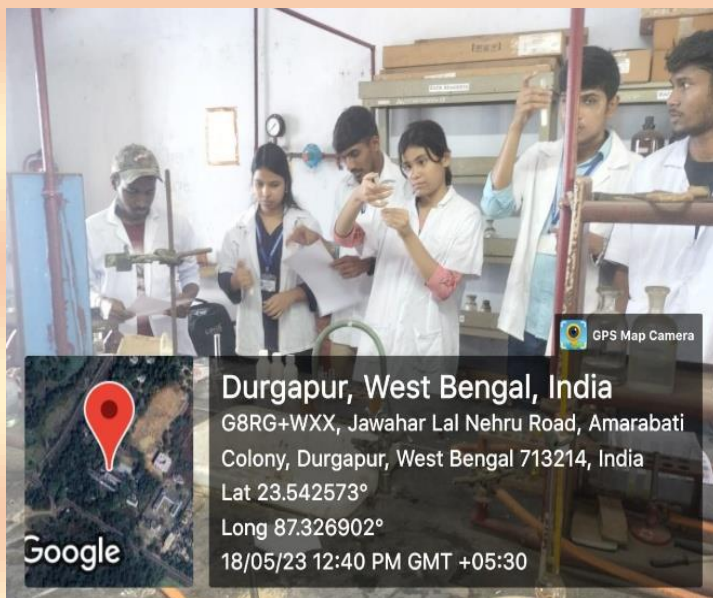
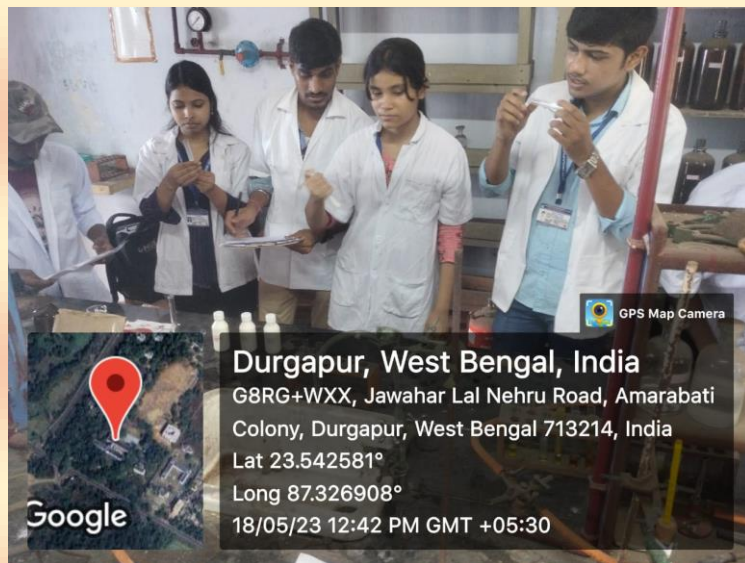
NEW EXPERIMENT ON USING STALAGMOMETER AND DETERMINATION OF SURFACE TENSION OF ACETIC ACID OF DIFFERENT CONCENTRATIONS

13/05/2023



NEW EXPERIMENT ON RAPID DETECTION OF ADULTERANTS: UREA, FORMALIN, DETERGENTS, AMMONIUM SULPHATE AND BORIC ACID IN MILK

18/05/2023



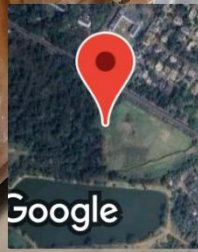
PROCESS OF NEUTRALIZATION



PROCESS OF DISTILLATION



GPS Map Camera



Durgapur, West Bengal, India

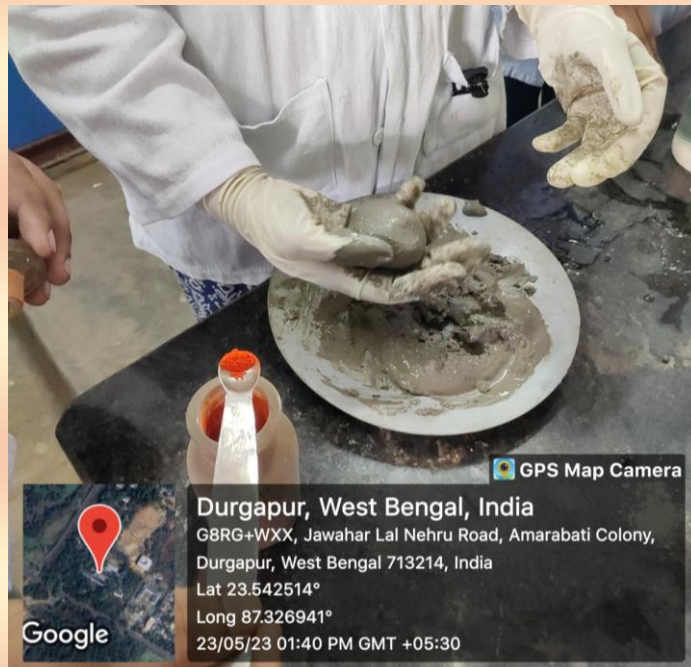
G8RH+F83, Amarabati Colony, Durgapur, West Bengal 713206,
India

Lat 23.54016°

Long 87.327856°

23/05/23 01:22 PM GMT +05:30

PROCESS OF ENCAPSULATION (LEAD DISPOSAL)



NEW EXPERIMENT/HANDS ON TRAINING EXPERIMENT " DETERMINATION OF SAPONIFICATION VALUE OF AN OIL" UNDER DBT STAR COLLEGE SCHEME

23/05/2023



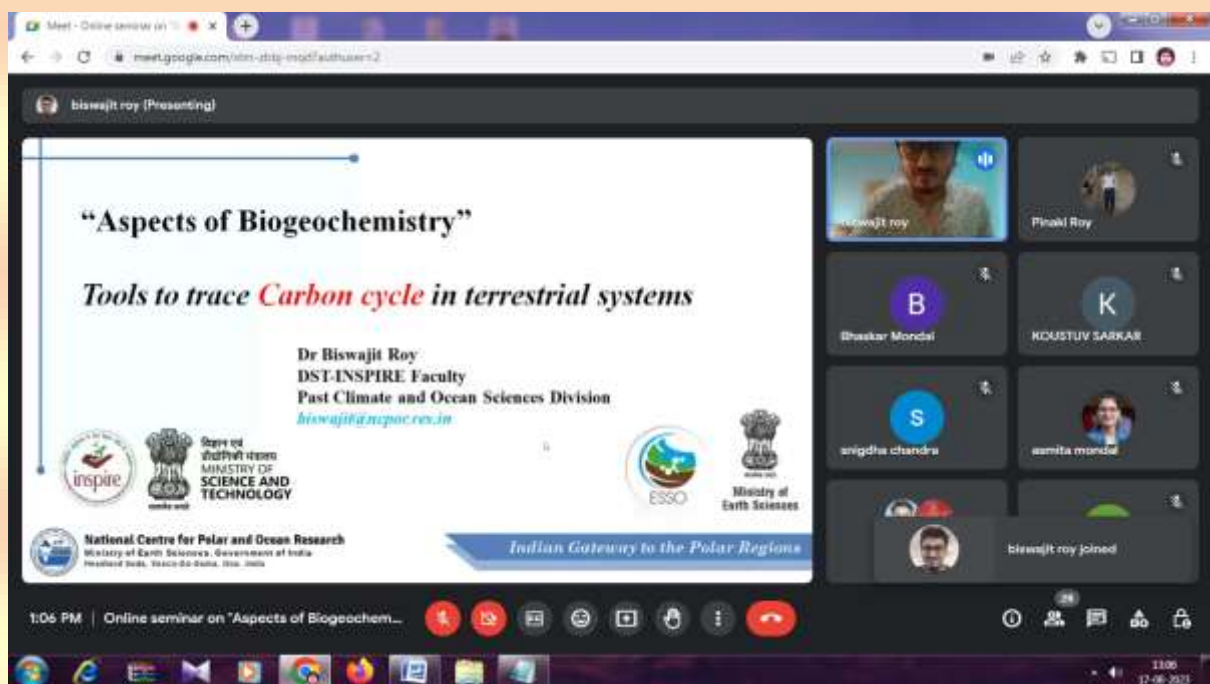
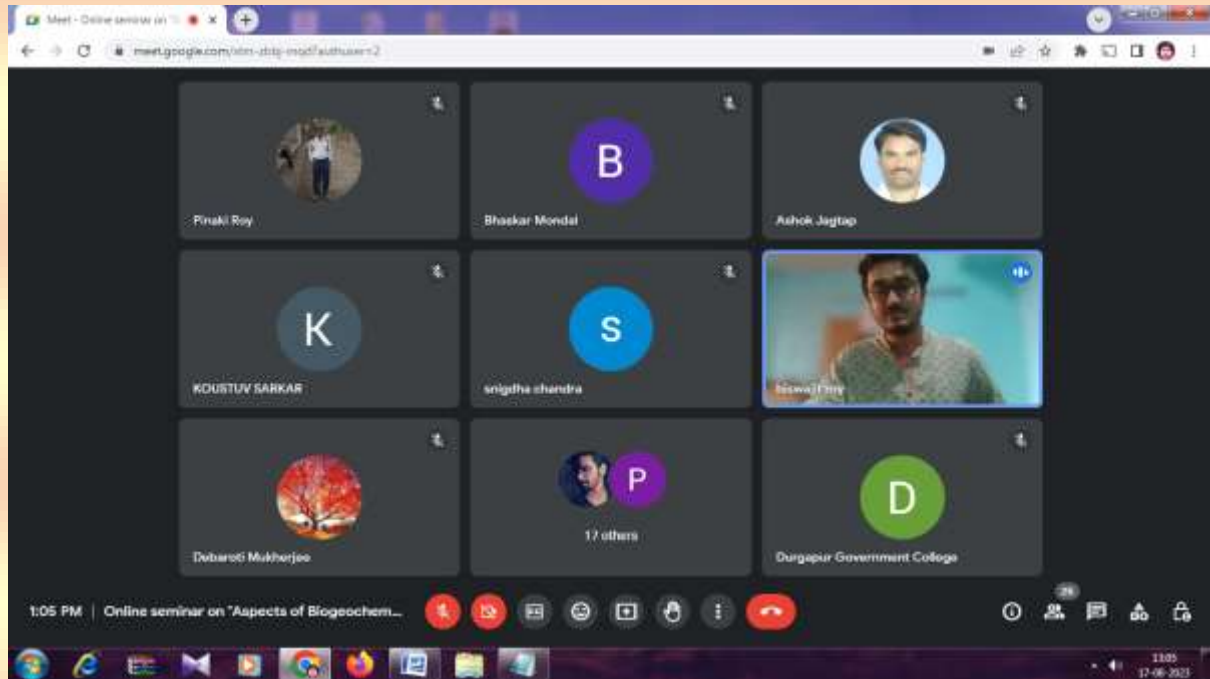
STUDENT OUTREACH ACTIVITIES IN DEPARTMENT OF CHEMISTRY UNDER DBT STAR COLLEGE SCHEME

03.08.2023



ONLINE SEMINAR ON “ASPECTS OF BIOGEOCHEMISTRY”: TOOLS TO TRACE CARBON CYCLE IN TERRESTRIAL SYSTEMS BY DR. BISWAJIT ROY

17.08.2023



Zoom Meeting | Online seminar on "Aspects of Biogeochem..." | 1:07 PM

The oldest know cycle

What is our body made of? Not to put too fine a point on it, atoms. Lots and lots of them. About 7,000,000,000,000,000,000,000,000,000,000 to be precise. Where did all of those atoms come from?

Most of the elements that make up our bodies—and those of every other living thing—were born in dying stars billions of years ago.

Indian Geoscientist to the Polar Regions

1:07 PM | Online seminar on "Aspects of Biogeochem..."

Zoom Meeting | Online seminar on "Aspects of Biogeochem..." | 1:10 PM

Truly an interdisciplinary world

Biogeochemical cycle on Mars could be cycling without any life involved.

The interdisciplinary field of Biogeochemistry

Vladimir Vernadsky, founder of biogeochemistry. "It's not the biosphere"

Indian Geoscientist to the Polar Regions

1:10 PM | Online seminar on "Aspects of Biogeochem..."

Zoom Meeting | Online seminar on "Aspects of Biogeochem..." | 1:21 PM

What biogenic signals does our river carries?

- Biogenic Carbon
- Petrogenic Carbon (Old Carbon)
- Pyrogenic Carbon(Fire derived)

300 to 900 teragrams (Tg) of carbon per year.

Major rivers: Sub-Tropical, Temperate, High latitude, Snow

River channels: Tropic forest, Savanna, Temperate forest, Temperate grassland

Basin forest: Pasture, Wetland, Grassland

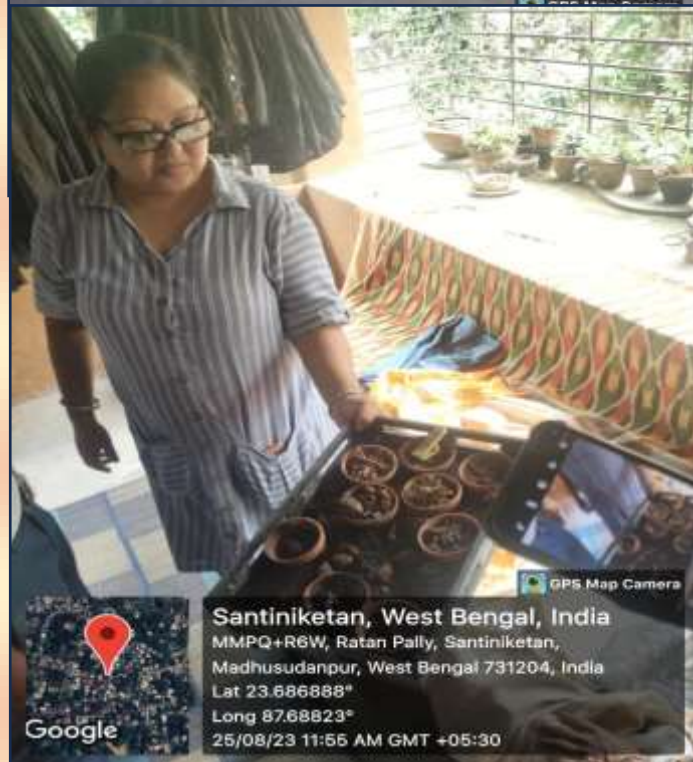
Galy et al., 2017

Indian Geoscientist to the Polar Regions

1:21 PM | Online seminar on "Aspects of Biogeochem..."

DEPARTMENTAL VISIT TO SHANTINIKETAN AND ORGANIC DYE SYNTHESIS FACTORY UNDER DBT STAR COLLEGE SCHEME

25.08.2023



RESEARCH LABORATORY VISIT TO CSIR-CENTRAL MECHANICAL ENGINEERING RESEARCH INSTITUTE (CMERI) UNDER THE DBT STAR COLLEGE SCHEME

08-09-2023



DEMONSTRATION OF THE KJELDHAL'S METHOD

15.09.2023



SEMINAR CUM WORKSHOP NANOTECHNOLOGY FOR SUSTAINABLE DEVELOPMENT: CLEAN ENERGY AND ENVIRONMENT



WORKSHOP OF LEARNING STEREOCHEMISTRY THROUGH SOFTWARE APPLICATIONS UNDER DBT STAR COLLEGE SCHEME

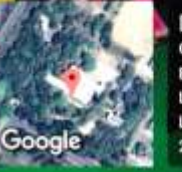
26-09-2023



Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal
Bengal 713214, India
Lat 23.542384°
Long 87.327124°
28/09/23 02:50 PM GMT



GPS Map Camera



Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal
Bengal 713214, India
Lat 23.542489°
Long 87.32681°
28/09/23 02:48 PM GMT

Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal
Bengal 713210, India
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28/09/23 03:08 PM GMT +05:30



GPS Map Camera

Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal 713210, India

NEW EXPERIMENT ON ION-EXCHANGE RESIN PRACTICAL

08.11.2023



STUDENT SEMINAR ON AMINO ACIDS AND PROTEINS

10.11.2023



Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur
Lat 23.542345°
Long 87.327085°
10/11/23 02:33 PM GMT +05:30

Google



DETERMINATION OF THE AMOUNT OF PHOSPHATE IN COLD-DRINKS USING SPECTRO-PHOTOMETRIC METHOD

24.11.2023



STUDENT SEMINAR ON HETEROCYCLIC CHEMISTRY

01.12.2023



STUDENT SEMINAR ON HYBRIDIZATION CHEMISTRY

08.12.2023



Durgapur, West Bengal, भारत
GBRG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal 713214, भारत
Lat 23.542407°
Long 87.327029°
08/12/23 01:11 PM GMT +05:30



ESTIMATION OF GLUCOSE IN THE COMMERCIAL PACK

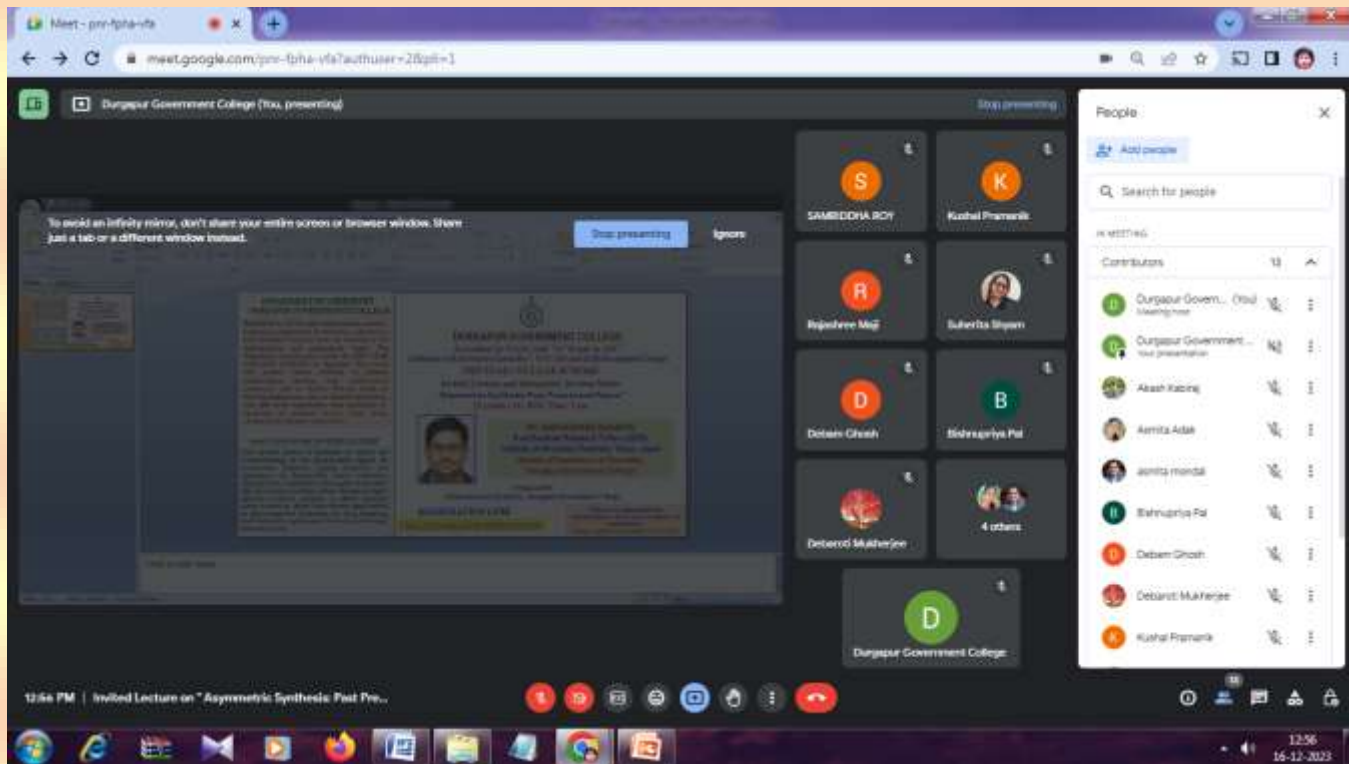
09.12.2023



INVITED LECTURE AND INTERACTIVE SESSION SERIES

“ASYMMETRIC SYNTHESIS: PAST, PRESENT AND FUTURE”

December 16, 2023; Time: 1 pm



Meet - prr-ljha-vfa

meet.google.com/prr-ljha-vfa?authuser=2&pli=1

SADHANENDU SAMANTA (Presenting)

Asymmetric Synthesis: Past, Present, and Future

Dr. Sadhanendu Samanta
JSPS Postdoctoral Fellow
IMC Birkbeck, Tokyo, Japan
Shibasaki Research Group

Date: 16th December 2023
Durgapur Govt. College, West Bengal, India



Kamala Adak has left the meeting

1:08 PM | Invited Lecture on "Asymmetric Synthesis: Past Pre...

13:08
16-12-2023

People

- Invitation
- SAMRIDDHA ROY
- Samar Mondal
- Santu Das
- Muliyilakshmi Biswas
- Snehasis Karmakar
- Sudhakar Kar
- Suhrita Ghosh
- Sujata Tewari
- SULOCHAN DAS MOHA...
- Swadhin Ghosh
- Trisha Mukherjee

Ringa Ghosh

Shubhadip Das

ringa.patra

Pradyumn Saha

SULOCHAN DAS M...

21 others

Durgapur Government College

Meet - prr-ljha-vfa

meet.google.com/prr-ljha-vfa?authuser=2&pli=1

SADHANENDU SAMANTA (Presenting)

Why have we read asymmetric synthesis?

Nature is chiral

(S)-Alanine (R)-Alanine (S)-Alanine

Even bacteria know their chirality. How?

Penicillium putida

with one enantiomer

(S)-Dopa or (S)-Dopa (R)-Dopa or (R)-Dopa

effective as antibiotic when isolated. *ibida*

Asymmetric synthesis

(S)-ibuprofen
4% enantiomeric excess of (S)-enantiomer

(R)-ibuprofen
1% ibuprofen drug molecule

(S)-ibuprofen
4% enantiomeric excess of (S)-enantiomer

(R)-ibuprofen
1% ibuprofen drug molecule

1:30 PM | Invited Lecture on "Asymmetric Synthesis: Past Pre...

13:10
16-12-2023

People

- Invitation
- SAMRIDDHA ROY
- Samar Mondal
- Santu Das
- Sneha Mishra
- Snehasis Karmakar
- Sudhakar Kar
- Suhrita Ghosh
- Sujata Tewari
- SULOCHAN DAS MOHA...
- Swadhin Ghosh
- Trisha Mukherjee

Ringa Ghosh

Jhan Mondal

ringa.patra

Pradyumn Saha

SULOCHAN DAS M...

22 others

Durgapur Government College

STUDENT SEMINAR ON STEREOCHEMISTRY

20.12.2023



LECTURE AND INTERACTIVE SESSION BY IIT PLACED ALUMNI: ARIJIT DEY AND URMILA GHOSH ON HOW WE PREPARED FOR JAM: SOME SPECIFIC TOPICS

