



DURGAPUR GOVERNMENT COLLEGE

(Accredited by NAAC with "A" grade in 2017)

Affiliated to Kazi Nazrul University, Asansol
Jawaharlal Nehru Avenue, Durgapur, Dist: Paschim Bardhaman
PIN: 713214, West Bengal
www.durgapurgovtcollege.ac.in

ANNUAL PROGRESS REPORT (Year-2)

**DBT STAR COLLEGE SCHEME
(29-09-2023 TO 28-09-2024)**

Submitted to
**DEPARTMENT OF BIOTECHNOLOGY
MINISTRY OF SCIENCE & TECHNOLOGY
CGO COMPLEX, LODI ROAD
NEW DELHI-110003**



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DEPARTMENT OF BIOTECHNOLOGY

PROFORMA FOR SUBMISSION OF ANNUAL PROGRESS REPORT SUPPORTED UNDER STAR COLLEGE SCHEME

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2 Name of Coordinator, designation, Address, Phone No. Dr. Nivedita Acharjee
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3 Assessment Duration **29/09/2023 to 28/09/2024**
Duration in years: 1 year
4 Details of Departments Supported

Sl No.	Name of Department	Courses (B.Sc./M.Sc./PG Diploma, certificate etc. offered)	Regular Faculty Members Total = 41	
			With Ph.D.	Without Ph.D.
1	Botany	B.Sc.	5	1
2	Chemistry	B.Sc., M.Sc., Ph.D.	5	3
3	Geology	B.Sc., M.Sc., Ph.D.	7	2
4	Mathematics	B.Sc.	2	3
5	Physics	B.Sc.	5	1
6	Zoology	B.Sc.	6	1

5.	Number & Date of Advisory committee meeting	<i>One, the advisory committee meeting was held on 21-08-2024. The status of their work was presented in the meeting. Overall Recommendation: The committee was very appreciative of the activities conducted and rated them as "A+".</i>
6	Qualitative improvements due to DBT support. Please highlight 5 salient points (within 500 words). 1. The DBT Star College Scheme support has enabled to amalgamate the expertise of departments providing interdisciplinary dimension to the teaching and learning process through student projects, new experiments and hands on training and also to use ICT tools extensively, which is one of the objectives of the modern education system. These are not included in the university course curriculum, but are quite essential to enhance the practical, entrepreneurial, computational and presentation skills of students. For example, bioactivity study through the computational chemistry, water collection through field visits followed by analysis by students of both biological, chemical and mathematical sciences,	

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- several software workshops conducted for data handling and representation, hands on training on basic electrical equipment and instrumentation of scientific equipment etc. Interestingly, students of mathematical sciences have received hands on training on laboratory equipment of other departments and students of biological, physical chemical and geological sciences have received data handling and mathematical software training, enabling the mutual exchange of ideas among the students and faculty members. Students of physical and chemical sciences learnt vegetation mapping and vermicomposting, geological students learnt the significance of ecology and machine learning etc. In the next year, more and more interdisciplinary activities have been planned under the scheme.
2. The DBT Star College Scheme support has enabled the participating departments to procure new equipments so that multiple copies of the equipment can be provided to the students for practical classes. The new equipment, chemicals and consumables purchased for the undergraduate laboratories have enabled to conduct new experiments and hands on experiments giving them the opportunity to explore scientific understanding through experiential learning. The new experiments and hands on experiments conducted under the scheme as per the proposal have enhanced the learning skills of students to make them more equipped for higher education opportunities. Through presentation of student projects during winter school training courses, the presentation and communication skills of students have considerably improved along with their subject understanding.
 3. The grant has enabled conducting several seminars, workshops and invited lectures by guest speakers and facilitated the interaction of undergraduate students with scientists, eminent professors and research experts. This has promoted their research fundamentals and also motivated them towards the future scope of scientific studies. The support has also enabled conducting workshop for faculty members and non-teaching staff enabling them to learn skills for application in academic and administrative activities. The celebration of National Science Day, World Malaria Day, National Space Day and poster presentations by students has motivated the scientific understanding of the students.
 4. The grant has enabled conducting industrial training, field visits and visits to research laboratories which could not be conducted previously due to lack of funding. Students got exposure to advanced instrumentation processes and demonstration of the working

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	<p>principle of the instruments, modern research facilities available in institutes and industry practices. Faculty members have also participated in events and presented their research work with proper acknowledgement to the DBT star college scheme support.</p> <p>5. The grant has enabled conducting several outreach activities for schools and colleges. These outreach activities have promoted the subject understanding, motivation and scientific study of the students and faculty members of different institutes. More outreach activities are also planned under the scheme.</p>
7	<p>Any Novel aspect introduced or planning to introduce during the year</p> <p>The novel aspects introduced under the scheme for the period under report were interdisciplinary activities:</p> <p>1. Location Specific Approach; Student project including field visit and workshop on analysis of ground water collected from 9 local sites of Durgapur: The project was conducted by locating the polluted ground water sample collection sites through remote sensing and then collection of water samples from the wells and tubewells located in different places of Durgapur such as Gopalmath, Mayabazar, Kalpataru Mela Maidan, Shyampur Bazar, Biharpur, Narayanpur and Nodiha followed by laboratory testing to assess the drinking water quality.</p> <p>2. Science Setu Lectures: Durgapur Government College collaborated with the National Institute for Biomedical Genomics to organize the Science Setu Lecture series with a eminent scientists, which considerably enhanced expert interactions with undergraduate students and enhanced their subject understanding and research fundamentals and motivated them towards advanced scientific studies and research.</p> <p>3. Workshop on Seed Ball plantation: Workshop on "Seed Ball Plantation" was organized under the scheme. Students collected left over seeds of fruits and prepared seed balls by encasing seed in a mixture of half portion of soil with half portion of organic manure. This practice of throwing seed balls for plantation is a low cost and effective means of fast plantation and protects seeds from drying out, blowing away or getting eaten by birds and animals. This event encouraged and motivated students to devise innovative environment friendly plantation practices.</p>

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4. Workshop on Bioactivity of organic compounds by Computational Studies (Chemistry, Botany, Zoology): Students used computational chemistry software to draw the structures of biologically active compounds, they prepared the mol files and fed them into the Pass online software site to obtain the biological properties of the compounds. This workshop equipped students towards the basics of computational chemistry and computational biology. They then analyzed the biological activity of the selected compound and presented their prepared projects through power-point presentations, which were uploaded in Youtube.

5. Hands on training on "Basic Electrical Equipment and Home Appliances" was organized by Durgapur Government College, in collaboration with Government Industrial Training Institute. Mr. Ramesh Rakshit, recipient of the National Teacher Award of Ministry of Skill Development and Entrepreneurship, Government of India, for the year 2023 and all instructors of the Government Industrial Training Institute, Durgapur, trained 16 undergraduate students of Durgapur Government College on the working principle, mode of operation, instrumentation details, repairing and safe handling of basic electrical equipments in scientific laboratories.

6. Workshops and New Experiments for students following Earn while learn concept: Workshops on "Happy Mushroom Gardening", "Prawn Culture", "Milk Testing" were organized during the year fostering the concept of "Earning while Learning" focussed on the skill enhancement of students.

7. Outreach activity on Telescope making and star gazing for local schools: Hands on training on Telescope making and star gazing programme was organized by the institution 150 students and 26 teachers of 21 schools of Durgapur actively participated in the event on July 11, 2024 and 120 students from 10 schools attended the event on July 12, 2024 at Patha Bhavana, Santiniketan. This innovative event is the first of its kind to be organized by a higher education institution and received overwhelming appreciation from school students and teachers. This event proved to be helpful in enhancing the scientific understanding of school students and motivated them to pursue science in their higher studies.

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8. Workshop on Data analysis: Students of all departments were given the basic hands on training on different statistical tools, which will be quite significant for their respective subject area.

9. Local field study for on spot identification of unique flora: Students were also taken for field visit to Malan Dighi Forest, where they found and analyzed some unique plant species as a part of experiential learning.

10. New experiment on "GPS data input into QGIS: Students came to understand the technology behind location-based services enhance their fieldwork and data collection capabilities. They became capable in importing GPS DATA file into the QGIS platform and making overlay with Open Street Map by which they came to know their respective locations within the Map.

Some of the novel aspects planned to be introduced in the upcoming year:

• **Industrial contamination of ground water in local areas of Durgapur:** As an extension of the water analysis project, experiment will be conducted on ground water exploration and determination of heavy metal in the ground water of Durgapur industrial area, which is an effective location specific approach.

• Faculty development programme on "**Artificial Intelligence and Machine Learning**"

• Workshop and Hands on Training on "**Robotics**" for undergraduate students

• Workshop on "**How to write research papers**" and "**How to prepare project presentations**", followed by competition among students for oral/poster presentation on student projects, and preparing scientific model

• Two Day workshop on "**Statistical methodology for biological sciences**" organized by Departments of Botany, Zoology and Mathematics

• Exploring the scientific understanding on *Indian Traditional Knowledge System in Tribal and local Community*

• Workshop and student project on the practices of "**Chemical and Biological Waste Disposal**"

• Workshop on "**Fundamentals of 3D QSAR modeling in drug discovery**" for undergraduate students

• Organization of scientific lectures by eminent resource persons in local language and uploading for students and faculty members in accordance with the suggestions received in the Advisory Committee Meeting

• Organizing expert interaction of eminent scientists of institutes of national eminence with students and faculty members through invited lecture series, workshops and seminars

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8	<p>Lessons learnt / difficulties faced/suggestions if any, in implementation of the programme and utilization of DBT grant. (Max 3 points within 300 words).</p> <p>Lessons learnt</p> <ul style="list-style-type: none">• Students were very much interested in learning the topics by the use of ICT tools and software. So, use of ICT tools and software studies were given more emphasis while teaching, planning the training courses and workshops to make the teaching process more interesting and student-friendly.• Interdisciplinary learning by amalgamation of the expertise of different departments has led to exchange of ideas for better scientific understanding of the students in all events. So, the interdisciplinary learning dimension will be given more emphasis during the entire tenure• Students learnt best by doing. So, more emphasis was given on hands on training of equipment, practical classes and new experiments and accordingly more such workshops and training courses will also be organized for students to enhance their experiential learning which will include workshops on calibration and handling of equipment purchased from the DBT grant. <p>Difficulties</p> <ul style="list-style-type: none">• The end semester examinations scheduled by the university are held for each semester separately. The teaching days were reduced due to the same. So, while implementing the scheme, some activities took more time for completion than expected due to the shortage of teaching days.• Separate routine and timing had to be scheduled for interdisciplinary activities, research laboratory visits and other events without hampering their regular college routine. So, while implementing the planned activities took more time for completion, this decreased the number of planned activities.
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9. Key Performance Indicators

Sl	Indicator	2023	2024	Remarks
1	No. of students admitted	BOTANY (For 4 YEAR Honours with research and 3 YEAR Undergraduate Courses) Total=28	BOTANY (4 YEAR honours with research and 3 YEAR undergraduate courses) Total= 39	
		M = 11	F = 17	
		S ST GEN OBC SC ST GEN OBC	M = 11 F = 28	
		3 0 5 3 5 1 10 1	3 1 4 3 6 0 21 1	
		CHEMISTRY (For 4 YEAR Honours with research and 3 YEAR Undergraduate Courses) Total = 28	CHEMISTRY (4 YEAR honours with research and 3 YEAR undergraduate courses) Total= 30	
		M = 15	F = 13	
		S ST GEN OBC SC ST GEN OBC	M = 10 F = 20	
		1 0 12 2 3 0 9 1	2 0 6 2 1 1 17 1	
		GEOLOGY (For 4 YEAR Honours with research Course) Total = 28	GEOLOGY (4 YEAR honours with research and 3 YEAR undergraduate courses) Total= 21	
		M = 21	F = 7	
		S ST GEN OBC SC ST GEN OBC	M = 11 F = 10	
		5 0 10 6 2 0 5 0	6 0 4 1 1 0 7 2	
		MATHEMATICS (For 4 YEAR Honours with research and 3 YEAR Undergraduate Courses) Total = 37	MATHEMATICS (4 YEAR honours with research and 3 YEAR undergraduate courses) Total= 33	
		M = 21	F = 16	
		S ST GEN OBC SC ST GEN OBC	M = 16 F = 17	
		5 1 12 3 3 1 11 1	2 0 10 4 3 0 11 3	
PHYSICS (For 4 YEAR Honours with research and 3 YEAR Undergraduate Courses) Total=23	PHYSICS (4 YEAR honours with research and 3 YEAR undergraduate courses) Total= 23			
M = 17	F = 6			
S ST GEN OBC SC ST GEN OBC	M = 20 F = 3			
1 2 13 1 1 0 5 0	2 0 16 2 0 0 2 1			
ZOOLOGY (For 4 YEAR Honours with research and 3 YEAR Undergraduate Courses) Total=49	ZOOLOGY (4 YEAR honours with research and 3 YEAR undergraduate courses) Total= 55			
M = 19	F = 30			
S ST GEN OBC SC ST GEN OBC	M = 18 F = 37			
6 1 6 6 6 2 18 4	4 1 11 2 8 3 21 5			

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2	No. of students (%) Students admitted / passing out (pass %)	2020-2023 (Batch) (Pass % calculated with respect to the registered students in first year) Total No. of Students Registered: 98 Total No. of Students Passed: 97	2021-2024 (Batch) (Pass % calculated with respect to the registered students in first year) Total No. of Students Registered: 44 Total No. of Students Passed: 44	Both the batches graduated with 3 year Honours and Program courses. The students passed out in 2024 were admitted in 2021, which was during the pandemic condition.
3	Drop-out rates	2020-2023 (Batch) (Calculated with respect to the registered students in first year) Drop out: 0 students	2021-2024 (Batch) (Calculated with respect to the registered students in first year) Drop out: 0 students	
4	No. of students opting for MSc	2020-2023 (Batch) : 39	2021-2024 (Batch) : 31 (Calculated with respect to the documents received from students for progression to higher studies, PG admission is in process in different universities/institutes)	
5	Average marks	2020-2023 (Batch) Botany: 8.45 (CGPA) Chemistry: 8.64 (CGPA) Geology 8.74 (CGPA) Mathematics: 8.92 (CGPA) Physics 8.32 (CGPA) Zoology 9.30 (CGPA)	2021-2024 (Batch) Botany: 8.49 (CGPA) Chemistry: 8.61 (CGPA) Geology 8.76 (CGPA) Mathematics: 8.82 (CGPA) Physics 8.51 (CGPA) Zoology 9.28 (CGPA)	
6	No. of hands-on experiments being conducted	Student Projects: 16 Hands of Training Experiments: 9	Student Projects: 23 Hands of Training Experiments: 7 [Details in Annexure I]	
7	No. of new experiments introduced	New Experiments Introduced: 16	New Experiments Introduced: 23 [Details in Annexure I]	
8	Publications (scopus indexed) /patents, if any.	32 (Participating Departments) of Faculty Members indexed in SCOPUS and Web of Science	38 (Participating Departments) of Faculty Members indexed in SCOPUS and Web of Science	
9	Training received by faculty	6 Training Programmes (For Faculty Members and Staff)	Training Programmes: 11 (For Faculty Members and Staff) [Details in Annexure VI]	

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10	Exhibitions / seminars/ training courses conducted	Workshops: 15 Seminar cum Workshops: 5 Training Courses: 6 Seminar/Conference: 6	Workshops: 17 Training Courses: 1 (8 Days Training Course Workshop) Seminar/Conference: 2 Poster Presentation: 1 [Details in Annexure III]	
		Research Laboratory Visits: 6 Industrial Training/Visits: 2 Field Training: 6	Research Laboratory Visits: 3 Industrial Visits: 2 Field Training: 7 [Details in Annexure V]	
11	Books/ journals subscribed from grants	The institution received grants from State Government for purchase of books. So, books were not availed for this financial year from the DBT STAR COLLEGE SCHEME grant. The recurring grant was utilized for purchase of chemicals, consumables for new experiments, student projects, organization of training programmes, workshops, seminars, invited lectures, outreach activities, mentoring activities, visit to research labs, industrial visits, etc	The institution received grants from RUSA fund for subscription of journals and from State Government for purchase of books. So, books were not availed for this financial year from the DBT STAR COLLEGE SCHEME grant. The recurring grant was utilized for purchase of chemicals, consumables for new experiments, student projects, organization of training programmes, workshops, seminars, invited lectures, outreach activities, mentoring activities, visit to research labs, industrial visits, etc	
12	Outreach activities (Popular lectures)	Geology and Chemistry: 01 Zoology: 03 Botany, Mathematics and Physics: 01	All departments: 01 Physics, Chemistry and Mathematics: 02 Zoology: 02 Geology: 01 [Details in Annexure VII]	
13	Colleges mentored to apply for DBT Star College grants	Faculty enrichment and Mentoring for DBT STAR COLLEGE SCHEME conducted on 15-03-2023	Colleges Mentored: 01 (Katwa College) [Details in Annexure VIII]	
14	Invited lectures	Total No: 07	Invited Lectures: 21 [Details in Annexure III] Science Setu lecture Series: Total 7 lectures [Details in Annexure IV]	

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10. Self Evaluation

Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Botany	<ul style="list-style-type: none"> • Successful implementation of practical experiments prescribed in curriculum. • Additional experiments will be designed considering the scope of the theoretical topics covered in the university curriculum. • Students will be trained to handle equipment and analyze data under the guidance of in house and visiting faculty. • Student projects will be designed to cover the ample research opportunities of the rich biodiversity present in the college campus and the pollution related and other issues of the industrial town of Durgapur and adjoining areas. • Vegetation mapping and planning with the GIS project of Geology Department, Hands on training on biological-chemical interface software with Chemistry Department, Biophysical and bio statistical studies with Physics and Mathematics Departments and biodiversity documentation, construction of species distribution maps with Zoology Department are some of the interdisciplinary outcomes. • Theoretical Outcome: Classical Botany, Biological Evolution, Biochemistry, Biodiversity, Food Science, Genomics, Bioinformatics, Signal transduction, Introduction to Cell Structure and Function, Membranes and Cell Transport, Principles of Cell Metabolism, Basic metabolic processes, Cell Cycles, Biostatistics, Patterns of Inheritance, DNA Structure and Chromosomes, Protein Synthesis & Gene Regulation, Viruses & Genetic Manipulation, Nursery and horticulture; Practical Outcome: Microscopic techniques, Spectroscopic Techniques, Plant identification, Qualitative and quantitative tests in biochemistry, Horticulture, Chromatography, Protein Purification & SDS-PAGE electrophoresis, DNA isolation & recombinant DNA techniques, Plant tissue culture • Seminar/workshop participation and training programmes for laboratory staff are also intended in the proposed scheme. 	<p>All objectives have been achieved to 100%.</p> <p>More activities under each objective have been planned during the next year to improve the quality of performance under the scheme.</p>	<p>The end semester examinations scheduled by the university are held for each semester separately. The teaching days were reduced due to the same. So, while implementing the scheme, some activities took more time for completion than expected due to the shortage of teaching days.</p>

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Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Chemistry	<ul style="list-style-type: none"> • Successful implementation of practical experiments prescribed in curriculum • The scheme aims to make students more research oriented, industry ready and will develop entrepreneurial skills. • The scheme aims up-gradation of knowledge on novel scientific concepts, computational chemistry, chemical-biological interface software use, IT skills, new teaching aids, interdisciplinary research areas etc and to provide training on good laboratory practices, general maintenance of laboratory articles, preparation of reagents, laboratory safety rules, disposal of laboratory waste etc. • The scheme will focus trainings on the software on biological-chemical interface • Trainings on greener synthesis, safe waste disposal & recycling, safety measures and health hazards, data interpretation and analysis • The theoretical outcomes will be bioinorganic chemistry, biochemistry, biophysical chemistry, industrial chemistry, green chemistry, surface chemistry, organometallic chemistry, environmental chemistry, supramolecular chemistry, solid-state chemistry, quantum mechanics, analytical chemistry, pharmaceutical chemistry, fuel chemistry, natural product chemistry, while the practical outcomes will be spectroscopic and separation techniques, organic synthesis, analysis of different ores, water analysis, soil analysis, preparation of complex salts and use of computational chemistry 	<p>All objectives have been achieved to 100%.</p> <p>More activities under each objective have been planned during the next year to improve the quality of performance under the scheme.</p>	<p>The end semester examinations scheduled by the university are held for each semester separately. The teaching days were reduced due to the same. So, while implementing the scheme, some activities took more time for completion than expected due to the shortage of teaching days.</p>

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Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Geology	<ul style="list-style-type: none"> • Successful implementation of practical experiments prescribed in curriculum • Inception of interdisciplinary studies involving students of different departments • Application based studies incorporating multidisciplinary approach for enhancing the employability of students and providing further opportunities for higher education and research. • Reduce gap in the theoretical and practical knowledge by introducing various hands-on training program for the students of home department as well as other departments by promoting laboratory based and field based learning methodologies. • Theoretical Outcome: 1. Coal exploration predates coal mining and it needs study of Petrology, Coal Geology, Structural Geology, Geophysics and Geoinformatics. 2. During mining one should have knowledge of Mining Methodology, Engineering Geology, Beneficiation Techniques, Environmental Geology and Geoinformatics. 3. Studies of Palaeoecology, Geochemistry, Hydrogeology will be helpful for understanding of mining related pollution and subsequent environmental management through application of Geoinformatics. • Practical Outcome: i) Geological mapping (ii) drilling and logging, (iii) drill core sampling and rock sampling, (v) sampling of coal for proximate analysis and SEM study, (vi) Study of geohazards –related to coal mining and mitigation;(vii) drainage pattern study, recognizing drainage basin, ground water flow pattern,ground water pollution, recognizing pollutant source and mitigation techniques, (vii) application of Remote Sensing techniques and GIS tools in recognizing and mapping of geomorphological features, regional structural deformation, drainage pattern and lithological variation. 	<p>All objectives have been achieved to 100%, More activities under each objective have been planned during the next year to improve the quality of performance under the scheme.</p>	<p>The end semester examinations scheduled by the university are held for each semester separately. The teaching days were reduced due to the same. So, while implementing the scheme, some activities took more time for completion than expected due to the shortage of teaching days.</p>

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Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Mathematics	<ul style="list-style-type: none"> • Successful implementation of the prescribed university curriculum and ensure mathematical skill enhancement of students through summer training, visits to advanced laboratories and expert interactions. • Experiments which cannot be performed due to lack of software are intended under the proposed scheme as mentioned in the respective section. • The theoretical outcomes can be stated as (1)Understanding volume and surface of revolution (2) Polynomials of higher degree and the derivative graph (3) Sketching of curves and conics (4) Convergence of sequences (5)Family of curves representing solutions of second order differential equation (6)Integral surfaces of a given first order PDE with initial data (7)Student exposure to neighbouring academic institutions and industries of repute (8)Application of programming language C. • The practical outcomes can be stated as (1)Plotting of different types of curves (2)Representing the volume and surface of revolution (3)Graphical representation of convergence of sequences (4)Application of programming language C in various fields (5)MatLab, LATEX & Mathematica. 	All objectives have been achieved to 100%, More activities under each objective have been planned during the next year to improve the quality of performance under the scheme.	The end semester examinations scheduled by the university are held for each semester separately. The teaching days were reduced due to the same. So, while implementing the scheme, some activities took more time for completion than expected due to the shortage of teaching days.

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J.N. AVENUE, DURGAPUR 713214

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Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Physics	<p>The objective of the present proposal for DBT star college scheme is to equip students with valuable cognitive abilities and skills so that they become competent in meeting diverse challenges of professional careers in a developing and knowledge-based society. Being a part of the DBT Star College Scheme, the students will be able to develop specific skills and knowledge as well as hands-on experience on the following: the theoretical outcomes are Understanding ecology in the framework of coupled oscillators, Dynamics of Weather and Climate System, Hands-on training for the preparation and characterization of nanomaterials, Nonlinear phenomena in Engineering, Medical and Biological Sciences, Student exposure to neighbouring research laboratories and industries, Circuit designing using logic gates and multiplexer, Direct application of computer programming knowledge, Nanomaterials and its Application., Integrable Systems and Solitons, Bifurcation Theory, Nonlinear Optics, Dynamics of Conservative Systems, Hamiltonian and Quantum Chaos, Chaos in dynamical system and its applications in physical and biological sciences and telecommunications, Nonlinearity in Plasma and Magneto Hydrodynamics, Chemical Dynamics and Kinetics, Nonlinear phenomena in Social Science and Management, Nanomaterials and Nanocomposites, while the practical outcomes are Conversion of 4-bit Adder-Subtractor output for direct result, Designing of Arithmetic Circuits using 4:1 Multiplexers, Synthesis of metal nanoparticles by chemical route, Synthesis of nanoparticles, Hands on Training on Latex, Mat Lab, & mathematica software and Telescope making.</p>	<p>All objectives have been achieved to 100%, More activities under each objective have been planned during the next year to improve the quality of performance under the scheme.</p>	<p>The end semester examinations scheduled by the university are held for each semester separately. The teaching days were reduced due to the same. So, while implementing the scheme, some activities took more time for completion than expected due to the shortage of teaching days.</p>

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Department	*Objective (as stated in proposal)	% achieved	Reasons for underachievement / If achieved, state in quantitative metrics
Zoology	<p>Successful implementation of all experiments included in the course curriculum, The proposed scheme aims to enhance experimental exposure, hands-on training, expert interaction, industrial training and open-ended new experiments for students with equal emphasis on theoretical concept understanding.</p> <p>The theoretical outcomes are Basic Understanding of Biochemical Processes, Fundamentals of Immunological System, Working principle of Biochemical Analyzer, Spectrophotometer, Know-how of Lab safety protocol, Wildlife biology field study concepts, while the practical ones are Documentation of Biodiversity, Construction of species distribution maps, Application of open-source software like QGIS, Understanding of the techniques of Chromatography, Protein Purification & SDS-PAGE Electrophoresis, DNA isolation, Enzyme kinetics, ELISA technique, Ouchterlony's double immuno-diffusion method, Pearl Culture technique, Insect collection & preservation technique, Wildlife biology field study techniques, Wildlife photography. Hands on training will be on Bioinstrumentation, Spectrophotometer, Colorimeter, basic field-based techniques on Wildlife Biology: Population Census Techniques, Quadrant sampling, Use of software relating to geospatial data collection and construction of species distribution maps, The proposed scheme also aims to organize activities for faculty and workshop for laboratory staff and outreach activities.</p>	<p>All objectives have been achieved to 100%,</p> <p>More activities under each objective have been planned during the next year to improve the quality of performance under the scheme.</p>	<p>The end semester examinations scheduled by the university are held for each semester separately. The teaching days were reduced due to the same. So, while implementing the scheme, some activities took more time for completion than expected due to the shortage of teaching days.</p>

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11. ZBSA Status:

Not Opened Under Process Opened but not mapped on PFMS Account is functional

12. Sanctioned Budget details: (2023-2024)

Total Sanctioned Budget	Total Released Budget	Expenditure	Balance as on 31-03-2024	Remarks (if any)
Grants for creation of Capital Assets (non-recurring)	Rs. 28,69,234.00	Rs. 27,89,545.00 (Balance Amount Refunded to Bharatkosh in January 2024)	0.00	The Non Recurring grant was received in September 2023 and the Recurring Grant Limit was received in August 2023. The Balance Amount of Non-Recurring refunded to BharatKosh in January 2024 and UC, SOE and Asset Acquired Certificate Submitted in April 2024.
Grants in aid General (Recurring) (Total)	Rs. 10,50,000.00	Rs. 10,50,000.00	0.00	

The recurring grant of Rs. 21.00 Lakhs has been sanctioned dated 13-05-2024 and presently under the process of utilization. The UC and SOE will be submitted for the financial year 2024-2025 in due course.

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Annexure-I

Student Projects, New Experiments, Hands on Training/Experiments undertaken after receiving DBT support during the year (29-09-2023 to 28-09-2024)

[Purchase of equipment, chemicals, consumables, computer, printer, software, contingency items, field study required for these experiments/projects were availed from DBT support]

No.	Organizing Department	Title of the Experiment/Project	Department/Course/Semester of participating students	Outcome of the Experiment/Project
1	Botany, Chemistry, Physic	Student Project on "Extraction and Applications of Essential Oil from botanical sources"	UG Semester- I Botany Honours, UG Semester- III Botany Honours, UG Semester-I Chemistry Honours,	Students initiated the program starting with basics understanding about essential oils and its different chemical structure. the main aim is to extract the essential oil from natural resource like rose petal, lemon grass, lemon peel etc with the help of soxhlet apparatus. finally after extraction the students will analyze the essential oil on basis of chemical and odour composition, synthesis of nano particles and finally product development with proper certification
2	Botany, Zoology	New experiment : "Gram Staining of Bacteria"	UG Semester-I (Botany Honours & UG, Zoology Honours & UG, Chemistry Honours & UG) UG Semester-IV (Botany Honours & Program, Zoology Program) UG Semester VI (Botany Honours)	Both Gram positive Gram negative bacteria were used to educate the participants about the different staining method and to identify different bacteria base on the shape and staining under light microscope
3	Botany, Chemistry, Zoology	New experiment "Use of Thin Layer Chromatography for Lipid Separation"	UG Semester-I (Botany Honours & UG, Chemistry Honours & UG) UG Semester-III (Botany Honours & UG, Chemistry Honours & UG)	Students learnt the technique of separation of extraction of lipid from mustard seed and also separation of different lipid class by Thin Layer Chromatography and also learnt the basic aspects of thin layer chromatography
4	Botany and Zoology	Hands on Training on Horticultural Practices at Barjora Horticulture Farm	UG Students of Semester-II, IV of Chemistry, Botany and Zoology	To educate students about organic farming leading to sustainable agriculture Students got the demonstration of the process of nursery build up and several other aspects of organic farming
5	Zoology and Botany	Hands on training Programme on "Prawn Culture " under earning while learning initiatives	Honours and UG Semester-II, IV Zoology & Botany Students	Along with studies, this program aims to develop the latent talent of the students. The workshop was organized on manual prawn farming for income.
6	Zoology	New experiment "Species Composition Analysis"	UG Semester-III, Semester-I and Semester-V Zoology Honours	Students learnt the concept of species composition in an ecosystem and the significance of ecosystems with greater diversity being more productive

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
7	Zoology	Student Project and Seminar on "Study of different types of birds and their effects on agriculture"	UG Honours students of Zoology Department	Students received training on different types of birds, to outline their classification and their effects on agriculture
8	Zoology	New Experiment on Embryological studies of Chick Embryo (24h, 48h, 72 h)	UG Semester V and Semester-III Honours students	Students performed detailed study and analysis of the Embryological studies of Chick Embryo
9	Chemistry	Student project on Studying The Bioactivity Of Amoxicillin And Omeprazole Through Computation	Debam Ghosh (Chemistry Honours)	<ul style="list-style-type: none"> • Students learnt to draw chemical structures using Chem Draw Software • Students learnt to prepare mol files using the software • Students learnt to do literature survey using the National Library of Medicines • Students learnt to register and feed structures in the Pass Online Site and predict the bioactivity of chemical compounds through computation Students learnt the basics of
10	Chemistry	Student project on Studying The Bioactivity Of Glucose And Fructose Through Computation	Debjeet Show (Botany Honours)	
11	Chemistry	Student project on Studying The Bioactivity Of Aspartame And Auxin Through Computation	Dhrubajyoti Akhuli (Chemistry Honours)	
12	Chemistry	Student project on Studying The Bioactivity Of Alpha Pinene And Sarin Through Computation	Kiran Rajbhar (Chemistry Honours)	
13	Chemistry	Student project on Studying The Bioactivity Of Geraniol And Avobenzone Through Computation	Kushal Pramanik (Chemistry Honours)	
14	Chemistry	Student project on Studying The Bioactivity Of Sodium Benzoate And Citalopram Through Computation	Prachi Bhattacharya (Chemistry Honours)	

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
15	Chemistry	Student project on Studying The Bioactivity of Sodium Ibuprofen And Oleic Acid Through Computation	Priyabrata Saha (Chemistry Honours)	<ul style="list-style-type: none"> • Students learnt to draw chemical structures using Chem Draw Software • Students learnt to prepare mol files using the software • Students learnt to do literature survey using the National Library of Medicines • Students learnt to register and feed structures in the Pass Online Site and predict the bioactivity of chemical compounds through computation Students learnt the basics of computational studies
16	Chemistry	Student project on Studying the Bioactivity of Rosmarinic Acid And Chrysin Through Computation	Rajashri Maji (Chemistry Honours)	
17	Chemistry	Student project on Studying The Bioactivity Of Isoamyl Acetate And Mefloquine Through Computation	Sanat Mandi (Chemistry Honours)	
18	Chemistry	Student project on Studying The Bioactivity Of Methyl Salicylate And Carotenoids Through Computation	Subhajit Kar (Chemistry Honours)	
19	Chemistry	Student project on Studying The Bioactivity Of Cannabidiol And Chloroquine Through Computation	Susovan Das (Chemistry Honours)	
20	Chemistry	Student project on Studying The Bioactivity Of "Epicatechin" And "Salicylic Acid" Through Computation	Tania Shyam (Chemistry Honours)	

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
21	Chemistry	Student project on Studying The Bioactivity Of Citric Acid And Succinic Acid Through Computation	Utsha Hazra (Chemistry Honours)	
22	Chemistry	New Experiment on "Estimation of Glycine using Sorensen formol titration"	UG Semester-IV Chemistry Honours Students	Students learnt the process of estimation of amino acids using sorensen formol titration
23	Chemistry	New Experiment on "Determination of the amount of phosphate in cold drinks using spectrophotometric method"	UG Semester-IV Chemistry Honours Students; UG Semester-I Chemistry Students	Students learnt to determine the amount of phosphate in cold drinks by using the UV-Visible spectrophotometric method.
24	Chemistry	New Experiment on "Estimation of Glucose in Commercial Pack"	UG Semester-II Chemistry Honours Students	Students estimated the amount of glucose present in Glucon D purchased from market and recorded their findings in practical notebook
25	Chemistry	Hands on Training on "Application of Thin Layer Chromatography (TLC) for separation of compounds"	UG Chemistry Honours, Mathematics Honours, Zoology Honours, Geology Honours Students	Students learnt to prepare give spots using TLC plates and sheets and measure the R_f values. Mixture of benzoin and benzil were studied for used in hexane, dichloromethane and acetone.
26	Chemistry	New Experiment "Estimation of Vitamin C in fruits and vegetables"	UG Chemistry Honours, Mathematics Honours	Students estimated the amount of Vitamin C present through iodometric estimation in locally available fruits and vegetables
27	Chemistry	New Experiment " Isolation of Essential oil (eucalyptus oil) by Steam Distillation Method"	UG Semester-IV Chemistry Honours students	Students learnt the process of isolation of essential oil using steam distillation set up apparatus.
28	Chemistry	New Experiment on Milk Testing Preparation of Sample of Milk for testing Determination of Cane Sugar in Milk; Detection of Starch in Milk; Detection of Ammonium Compounds in Milk	UG Semester-II and UG Semester-IV Chemistry Honours Students	Students learnt the procedure of milk testing for the milk samples available in market following the government guidelines mentioned in manual of Food Safety and Standards Authority of India (FSSAI), Ministry of Health and Family Welfare Government of India
29	Chemistry, Geology and Mathematics	Student Project on "Industrial Pollutant Concentration Assessment in Ground Water"	UG Semester-II and UG Semester-IV Chemistry Honours, Geology Honours and Mathematics Honours	Students measured different parameters of ground water samples such as BOD, pH, alkalinity, COD etc collected from 9 sites of Durgapur using titrimetric analysis and also by using water analyzer. The next part of the student project is under process for determination of the microbial population, iron and heavy metals.

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
30	Geology	Student Project on "Interpretation of palaeoflow direction from orientation of vertebrate bones in a bone bed: An experimental revelation"	UG Semester-VI Semester Geology Honours	Students used vertebrate bones in artificially generated water simulating a river and determined the pattern of direction generated for different bone shape and sizes. By analyzing and distribution of bones student learnt how the bones were deposited in a bone bed, and actual mechanism responsible for their transport. Successful determination of palaeoflow direction had been used to reconstruct ancient landscape, river system etc.
31	Geology	Student Project on "Geochemical comparison basalts of Satpura Gondwana basin and Deccan, Siberian and Rajmahal Trap"	UG Semester-VI Semester Geology Honours	Student studied basaltic rock samples from Satpura Gondwana basin and compared it with data available through literature survey on basaltic rocks from Deccan, Siberian and Rajmahal Trap. The basalts from the Satpura Gondwana Basin exhibited unique geochemical characteristics that differentiate them from those of the Deccan, Siberian, and Rajmahal Traps. Variations in major and trace element compositions, as well as rare earth element (REE) patterns, indicate differing magma sources and degrees of partial melting. Isotopic analyses (Sr-Nd-Pb) revealed that the mantle sources of the Satpura Gondwana basalts were likely more heterogeneous compared to the relatively homogenous mantle plume sources of the Deccan and Siberian Traps.
32	Geology	Student Project on "Interpretation of palaeohydraulic conditions from published morphometric data of experimentally generated current ripple: a critical appraisal"	UG Semester-VI Semester Geology Honours	The project critically appraised published morphometric data of experimentally generated current ripples to interpret palaeohydraulic conditions. Key outcomes are: The study revealed that morphometric relationships between ripple dimensions (e.g., wavelength, height) and flow conditions can be reliable indicators of past hydraulic environments when carefully applied. The appraisal highlighted that while morphometric data can provide valuable insights into flow velocity, depth, and sediment transport, their accuracy is dependent on the quality and scale of the experimental data. The project emphasized the need for standardized experimental methods and data collection techniques to improve the robustness of palaeohydraulic reconstructions.

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
33	Geology	Student Project on "Corona formation around monazite during high grade reworking of coarse grained charnockite: a case study from northern Eastern Ghats Belt.	UG Semester-VI Semester Geology Honours	<p>The study revealed widespread formation of monazite coronas around pre-existing monazite grains in coarse-grained charnockites, indicating complex high-grade metamorphic reworking. Textural relations and mineral chemistry suggest multiple stages of metamorphism, including an initial high-pressure granulite-facies event followed by isobaric cooling and subsequent retrogression.</p> <p>The observed corona formations provide evidence of polyphase tectonothermal activity in the Northern Eastern Ghats Belt, supporting a model of prolonged and complex orogenic evolution. The results have significant implications for understanding the tectonothermal history of the Eastern Ghats Belt, highlighting the role of repeated tectonic reactivation in shaping the crustal evolution of this ancient orogenic belt.</p>
34	Geology	Student Project on "Metamorphic reaction and melt composition during incipient melting of hornblende in mafic granulite: a case study from northern Eastern Ghats Belt"	UG Semester-VI Semester Geology Honours	<p>The outcome highlights the project's contribution to understanding the incipient melting processes, melt composition, and geodynamic evolution of the Northern Eastern Ghats Belt, shedding light on the complex orogenic history of this ancient crustal domain. Hornblende breakdown reactions were identified, yielding melt, plagioclase, and orthopyroxene, indicating initial stages of partial melting in mafic granulites.</p> <p>Microanalytical data reveal melt compositions rich in SiO₂, Al₂O₃, and alkalis, with variable amounts of FeO and MgO, indicating derivation from a hydrated mafic source. P-T Conditions: Thermobarometry and pseudosection modeling constrain incipient melting conditions to 850-920°C and 8-10 kbar, corresponding to upper amphibolite to lower granulite facies.</p>

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
35	Geology	Student Project on "Environmental conditions and its influence on biosphere: a case study in and around Durgapur with special emphasis on air quality index".	UG Semester-VI Semester Geology Honours	Student came to learn assessing levels of particulate matter (PM2.5 and PM10), NO2, and SO2 and compare them with national standards, indicating poor air quality. Industrial activities, vehicular emissions, and biomass burning contribute significantly to air pollution. Vegetation studies indicate stress and damage to plant species due to air pollution. Human health risks include respiratory issues, cardiovascular diseases, and cancer.
36	Geology	New experiment "Introduction to the fossil record of Triassic terrestrial vertebrate life forms"	UG Semester-II & IV (Geology)	Students learnt about Triassic vertebrate life forms which are crucial for advancing our understanding of vertebrate evolution, biodiversity patterns, and environmental adaptations. It contributes to the broader field of palaeontology and helps us make connections between past life forms and the world we live in today.
37	Geology	New experiment "Uses of GPS"	UG Semester-II & IV (Geology)	Students learnt GPS operation, developed practical skills in navigation and mapping Understand the technology behind location-based services - Enhance their fieldwork and data collection capabilities which will expand their career opportunities in various industries - Research and Data Collection: GPS is used in various research fields, such as ecology, biology, and Geology to collect data and track movements.
38	Geology	New experiment "GPS data input into QGIS"	UG Semester- III & V (Geology)	Students came to understand the technology behind location-based services enhance their fieldwork and data collection capabilities - They became capable in importing GPS DATA file into the QGIS platform and making overlay with Open Street Map by which they came to know their respective locations within the Map.

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
39	Geology & Physics	New experiment "Groundwater Exploration"	UG Semester- III & V (Geology & Physics)	Students got the opportunity to take data for Groundwater Exploration Using Resistivity Meter through Schlumberger Method. The study demonstrates the effectiveness of the Schlumberger method in: - Improving groundwater resource management - Enhancing drilling operation success rates - Understanding subsurface geology and hydrogeological processes They came to know how a field investigation can be proceeded using the Schlumberger method successfully identified potential aquifers and water-bearing zones.
40	Geology	Hands on Experiment "Rock Thin Section Preparation"	UG Geology Honours	Students learnt to prepare rock thin section using rock cutter and petrothin. They also learnt safety measures to be adopted while cutting the rock samples. They also learnt the techniques of mounting the samples on glass slides and polishing of samples
41	Geology	Hands on Experiment on "Stereonet & Stereoplot"	UG Geology Honours Students	Students learnt how to use stereonets and stereoplots which is essential for geologists and structural geologists as these tools provide a powerful means of visualizing and analyzing geological structures in three dimensions, aiding in structural analysis, fault and fracture characterization, tectonic studies, and geological mapping
42	Mathematics , Chemistry and Physics	Hands on training on "Open Source Hardware and Software: The Raspberry Pi"	UG Mathematics, Chemistry and Physics Honours; All semesters	The Raspberry Pi is a very cheap computer that runs Linux, but it also provides a set of GPIO (general purpose input/output) pins, and allows the user to control electronic components for physical computing and many other applications. Students received the fundamental overview of the same.
43	Mathematics	Hands on Training on "Data Analysis"	UG Semester-I & III Mathematics Honours	Students were able to learn some basics about data analysis using Microsoft Excel.

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No.	Organizing Department	Title of the Experiment/Project	Department/Course/ Semester of participating students	Outcome of the Experiment/Project
44	Physics	New experiment: Determination of Planck's constant using photo-electric effect	Semester VI Physics Honours students	From this experiment the students learnt the theory of quantum mechanics and got hands-on experience.
45	Physics	New experiment: To find an unknown capacitance using De' Sauty's AC bridge	Semester VI Physics Honours students	This experiment aims to compare the capacitance values of two given capacitors in an AC Wheatstone bridge circuit. So eventually if one of the capacitance values is known, then this circuit enables to find the capacitance of the other.
46	Physics	New experiment To study the Photo-electric Effect: photo current versus intensity	Semester IV and VI Physics Honours students	Students had their hands-on experience how photo current changes with change of intensity. They verified the theoretical expression of Quantum Mechanics.
47	Physics	New experiment: To study and verify Resonance in series LCR circuit and measurement of resonance frequency	Semester IV and VI Physics Honours students	From this experiment the students learnt the theory of series LCR circuit and got hands-on experience.
48	Physics	New experiment: To verify the Malus Law for Plane Polarized light	Semester IV and VI Physics, Chemistry, Botany, Zoology Honours students	One aims to verify the stated law by studying the variation of the intensities of transmitted light through an analyser with different angles between the optic axes of the polariser and analyser.
49	Physics	New experiment: Preparation of ZnO nanoparticles by co-precipitation method	Semester IV and VI Physics, Chemistry, Botany, Zoology Honours students	This gave ideas to the students about recent trends of research activities, specially one preparation method in the field of nanoparticles.
50	Physics	New Experiment: "Preparation of silver nanoparticles from Azadirachta indica (Neem) leaves"	Semester I, III and V of Physics, Chemistry, Botany Major students	Students learned the role of Neem leaves as reducing agents to prepare silver nano particle from silver nitrate solution.
51	Physics	Students' project on "Study of Black Hole"	Semester III, V Physics Honours Students	Students learned the basic ideas behind the formation of the black hole and the theoretical understanding through General Theory of Relativity.
52	Physics	Students' project on "Electrostatics as a boundary value problem"	Semester V Physics Honours Students	Students learned the mathematical techniques to handle Poisson equation for spherical polar coordinate. They could match their calculation with the theory of image connected through uniqueness theorem.

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Annexure-II

Mapping of the Practical Experiments included in Course Curriculum with the equipment/chemicals purchased from DBT support (29-09-2023 to 28-09-2024)

[Purchase of equipment, chemicals, consumables, computer, printer, software from DBT support]

Sl No.	Dept	Course/ Semester	Name of the Practical Experiment	Status of the conduction of the practical/ experiment pre support	Equipment/ Chemical/Consumable/ Computer/printer/Softw are purchased from DBT support	Status after receiving the DBT support
1	Botany	UG Honours/ Semester-VI	Plasmid isolation	Not able to be done by departmental student due to lack of equipment and chemicals/consumables.	Bacterial strain with plasmid, Antibiotics	Individual students can perform the experiments
2	Botany	UG Honours/ Semester-VI	DNA separation by electrophoresis		DNA gel electrophoresis unit, DNA ladder, loading dye, EtBr	
3	Botany	UG Honours/ Semester-VI	Restriction mapping of DNA		Restriction mapping kit	
4	Botany	UG Honours/ Semester-VI	Seed germination in sterile condition		MS media, LAF	
5	Botany	UG Honours/ Semester-VI	Callus induction		Plant growth regulators	
6	Botany	UG Honours/ Semester-I	Carbohydrate estimation by Molisch test		Alpha Naphthol	
1	Chemistry	UG Honours/ Semester-IV	Conductometric titrations of an acid or a base (acid may be monobasic/dibasic, and similarly for the base)	Done by students in groups (poor equipment : student ratio)	Digital Conductivity Meter with Conductivity Cell (0.1);	Improvement in Equipment: student ratio due to purchase of multiple copies of the equipment
2	Chemistry	UG Honours/ Semester-VI	Kinetics of saponification of ester by conductometric method	Done by students in groups (poor equipment : student ratio)		
3	Chemistry	UG Honours/ Semester-VI	Conductometric verification of Ostwald dilution law	Done by students in groups (poor equipment : student ratio)		
4	Chemistry	UG Honours/ Semester-IV	Potentiometric titrations of an acid or a base (acid may be monobasic/dibasic, and similarly for the base)	Done by students in groups (poor equipment : student ratio)	Digital Potentiometer	Improvement in Equipment: student ratio due to purchase of multiple copies of the equipment

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Sl No.	Dept	Course/ Semester	Name of the Practical Experiment	Status of the conduction of the practical/ experiment pre support	Equipment/ Chemical/Consumable/ Computer/printer/Soft are purchased from DBT support	Status after receiving the DBT support
5	Chemistry	UG Honours/Se mester-VI	Ion-exchanger: Cation content of a sample by cation exchanger	Demonstrated only due to lack of equipment	Ion Exchange Region and Ion Exchange Column	Experiment can now be performed by students
6	Chemistry	UG Honours/Se mester-VI	Colorimetric determination of pKin of methyl red	Done by students in groups (poor equipment : student ratio)	Digital Colorimeter Total Quantity	Improvement in Equipment: student ratio due to purchase of multiple copies of the equipment
7	Chemistry	UG Honours/Se mester-V	Rearrangement reaction : Benzil-benzilic acid rearrangement	Done by students in groups (poor equipment : student ratio)	Oil free Vacuum pump, Melting point Apparatus, Boiling point apparatus, Temperature controlled water bath, Heating Mantle	Improvement in equipment: student ratio due to purchase of equipment
8	Chemistry	UG Honours/Se mester-IV	Identification with general reaction and tests of the liquid organic samples	Identification of liquid samples in done in groups since distillation and boiling point determination is done in groups due to poor equipment: student ratio]		
9	Chemistry	UG Honours/Se mester-III	Qualitative analysis of inorganic compounds	Poor equipment : student ratio		
1	Geology	UG Honours/Se mester-V	Georeferencing, Digitisation, Digital Image Processing using QGIS software	Done by students in groups (poor equipment : student ratio)	HP Desktop	Improvement in Equipment: student ratio due to purchase of multiple copies of the equipment
2	Geology	UG Honours/Se mester-VI	Study of ore minerals under microscope	Done by students in groups (poor equipment : student ratio)	Ore 0 microscope	
3	Geology	UG Honours/Se mester-III, V	Optical Mineralogy, Study of rock thin section under microscope	Done by students in groups (poor equipment : student ratio)	Petrological Microscope	
4	Geology	UG Honours/Se mester-V	Georeferencing using GPS	Done by students in groups (poor equipment : student ratio)	GPS	

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1	Physics	UG Honours & Program (Semester- VI)	Synthesis of Semiconductor nanoparticles (Preparation of ZnO nanoparticles by chemical co-precipitation method).	Demonstrated only due to lack of multiple copies of the equipment	Chemicals, Consumables, Oil free vacuum pump	Experiment can now be performed by students
2	Physics	UG Honours (Semester- III & V)	Preparation of NiO nanoparticles by Sol-Gel method.		Magnetic Stirrer with hot plate and digital speed indicator	
3	Physics	UG Honours (Semester III)	Determination of coefficient of linear expansion with travelling microscope/Telescope	Demonstrated only due to lack of equipment	Set-up of Coefficient of linear expansion with travelling microscope/Telescope	Experiment can now be performed by students
4	Physics	UG Honours (Semester V)	Measurement of Planck's constant using black body radiation and photo detector-	Equipment Student ratio was poor	Set up for the Experiment	Equipment Student ratio has been improved
5	Physics	UG Honours (Semester V)	Photo-electric effect: photo current versus intensity and wavelength of light; maximum energy of photo-electrons versus frequency of light	Equipment Student ratio was poor	Set up for the Experiment	Equipment Student ratio has been improved
6	Physics	UG Honours (Semester V)	To determine work function of material of filament of directly heated vacuum diode	Equipment Student ratio was poor	Set-up for determination of work function of material of filament of directly heated vacuum diode	Equipment Student ratio has been improved
7	Physics	UG Honours (Semester V)	Diffraction Grating-	Equipment Student ratio was poor	Set-up of Diffraction Grating-	Equipment Student ratio has been improved
8	Physics	UG Honours (Semester III)	To study response curve of a Series LCR circuit and determine its (a) Resonant frequency, (b) Impedance at resonance, (c) Quality factor Q, and (d) Band width	Equipment Student ratio was poor	Set up for the Experiment	Equipment Student ratio has been improved
9	Physics	UG Honours (Sem I & II)	Three motion travelling microscope	Equipment Student ratio was poor	Three motion travelling microscope	Equipment Student ratio has been improved

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10	Physics	UG Honours (Semester I & II)	ICT enabled classes	Classes using ICT tools could not be taken	Smart Board	ICT enabled teaching process
11	Physics	UG Honours (Semester V)	High Intensity Discharge Tube with Compatible voltage source and stand	Equipment Student ratio was poor	High Intensity Discharge Tube with Compatible voltage source and stand	Equipment Student ratio has been improved
12	Physics	UG Honours (Semester I to VI)	To determine the velocity of light	Demonstrated only due to lack of equipment	Microwave oven to determine the velocity of light	Equipment Student ratio has been improved
13	Physics	UG Honours (Semester V& VI)	Electronic experiments to measure voltage, current, frequency, etc.	Equipment Student ratio was poor	CRO (Analog dual trace 4 channel-60MHz Bandwidth with probes) - Systronics	Equipment Student ratio has been improved
14	Physics	UG Honours (Semester III & IV)of Physics, Chem & Math	To compare capacitances using De'Sauty's bridge	Demonstrated only due to lack of equipment	De'Sauty's bridge	New experiment performed
15	Physics	UG Honours (Semester I to VI)	Computational Classes prescribed in curriculum	Poor Computer: student ratio	Desktop Computer	Computer: student ratio improved
16	Physics	UG Honours (Semester III to VI)	Charge Discharge Key	Equipment Student ratio was poor	Charge Discharge Key	Equipment Student ratio improved
17	Physics	UG Honours (Semester I)	Determination of coefficient of linear expansion with travelling microscope/Telescope	Equipment Student ratio was poor	Set up for determination of coefficient of linear expansion with travelling microscope/Telescope	Equipment Student ratio improved
1	Zoology	UG SEMETER-I (HONOURS) (LOCF)	Ecology: To measure microclimatic variables viz., temperature, humidity and light conditions in a microhabitat	Done by students in groups(poor equipment student ratio	Chemicals and Consumables, Glass instruments	Improvement in real time practical aptitude due to purchase of consumables
2	Zoology	UG SEMESTER -I (HONOURS) I(LOCF)	Ecology: Constructing distribution map of species of a genus through GPS by estimating the coordinates	Done by students in groups(poor equipment : student ratio)	Arc-GIS SOFTWARE	Experiment can now be performed by students

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3	Zoology	UG SEMESTER II (HONOURS) (LOCF)	Cytology And Histology: Experiment: Isolation (Ethanol ppt) and estimation (Diphenylamine reaction) of DNA (blood/liver tissue).	Done by students in groups(poor equipment student ratio)	Vortex cyclomixer, Chemicals and Consumables	Experiment can now be performed by students
4	Zoology	UG SEMETER IV (LOCF)	Developmental Biology & Evolution Study of development of chick embryo through incubated chick eggs at 24, 48, 72 & 96 h.	Demonstrated only due to lack of equipment	Incubator, Chemicals and Consumables	Experiment can now be performed by students
5	Zoology	UG SEMETER IV(LOCF	Molecular Biology Isolation of genomic DNA by ethanol precipitation method.	Demonstrated only due to lack of chemicals	Chemicals and Consumables	Experiment can now be performed by students
6	Zoology	UG SEMETER IV IV(LOCF)	Bio techniques: Identification of amino acids in the mixture using paper Chromatography.	Demonstrated only due to lack of chemicals	Chromatographic Tank with Lid, Chemicals and Consumables	Experiment can now be performed by students
7.	Zoology	UG SEMETER IV IV(LOCF)	Microbiology, Parasitology & Immunology Demonstration of antigen-antibody interaction in gel.	Demonstrated only due to lack of chemicals	Chemicals and Consumables	Experiment can now be performed by students

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Annexure-III

*Seminars /Workshops/ Invited lectures organized during the year (29-09-2023 to 28-09-2024)
[Purchase of equipment, computer, printer, software, chemicals, consumables, contingency items, travel,
remuneration to resource persons from DBT support]*

No.	Date of the event	Organizing Department	Name of the Event	Resource Persons/In House Faculty members	No. of participants	Outcome
1	26-09-2024	Zoology, Botany and Chemistry	Invited Lecture and Interactive Session on "Structural Biology of Neuro-degeneration"	Dr. Krishnananda Chattopadhyay, Chief Scientist & Head, Structural Biology & Bioinformatics Division, CSIR-Indian Institute of Chemical Biology, Kolkata	53	The eminent resource person explained the basics of structural biology with interdisciplinary dimension in student friendly way
2	11-09-2024 to 18-09-2024	Zoology	Training Workshop on "Basic Techniques in Molecular Biology"	Dr. Sumana Dutta, Assistant Professor, Department of Zoology, Durgapur Government College, Dr. Sangbrita Saha Chatteraj, Assistant Professor, Department of Zoology, Durgapur Government College, Dr. Somnath Dhali, Assistant Professor, Department of Zoology, Durgapur Government College, Dr. Kuntal Bhattacharya, Assistant Professor, Department of Zoology, Durgapur Government College	37	Hands-on training was conducted on the following topics in the workshop <ul style="list-style-type: none"> ➤ How to extract DNA from animal and Plant tissue. ➤ How to extract protein from animal and Plant tissue. ➤ Practical experimentation from casting agarose gels and loading samples into the gels to visualize DNA fragments using UV - light ➤ DNA Quantification using spectrophotometer ➤ Students also learnt about cloning, PCR, SDS-PAGE, and Western blotting <p>Students also prepared their respective reports on the workshop.</p>

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No.	Date of the event	Organizing Department	Name of the Event	Resource Persons/In House Faculty members	No. of participants	Outcome
3	19-09-2024; 20-09-2024; 23-09-2024 and 24-09-2024	All participating departments	Training Workshop on Basic Home Appliances and "Instrumentation Process and Control of Different Scientific Equipment	Shri Alik Prakash, Skri Mihir Kumar Sarkar, Shri Ananta Nandi and Shri Ansuman Saha from Government Industrial Training Institute, Durgapur	26	Students received hands on training to operate different electrical equipment along with the demonstration of the instrumentation and the basic principles of operation of these appliances and scientific equipments and electrical circuits.
4	18-09-2024	Geology	Invited Lecture and interactive session "The relation between mantle dynamics and plate tectonics"	Dr. Jyotirmoy Paul, Marie Curie postdoctoral fellow, Oslo, Norway	29	Students got a comprehensive overview of the intricate relationship between mantle dynamics and plate tectonics. Mantle Convection as the Driving Force: The lecture emphasized how convection currents in the Earth's mantle are the primary driving force behind plate movements, including spreading, subduction, and collision.
5	13-09-2024	Botany, Zoology and Chemistry	Invited lecture and Interactive Session on "Sir Upendranath Brahmachari & Leishmania research in India"	Dr. Syamal Roy Emeritus Professor, Indian Institute of Chemical Biology, Kolkata	95	The resource person provided an overview on the evolution of Leishmania research in India in a student friendly way for undergraduate students.
6	21-08-2024	All participating departments	Invited lecture and interactive session on "Emerging and Re-emerging Viral Diseases: Host Immunity and Therapeutic Interventions"	Professor Anirban Basu, Scientist, National Brain Research Institute, Manesar, Haryana	92	Students received valuable insights on the viral diseases and the therapeutic interventions. Students actively interacted with the resource person and asked several questions related to the topic during the interactive session.

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7	20-08-2024	Geology & Physics	Invited Lecture "Constraining lunar crustal composition and hydration through imaging spectroscopy"	Satadru Bhattacharya, Planetary Science Division, ISRO, Ahmedabad	35	Students have got the chance to interact with the eminent scientist as well as our alumnus to resolve their queries relating Moon Mission and about the geological aspects Lunar Crustal Composition.
8	17-08-2024	Chemistry	Workshop on "Calibration and Set up of pH meter, Potentiometer, Conductivity Meter, Water analyzer and Visible Spectrophotometer for UG students"	Shri Krishnendu Roy, Systronics India Limited, Dr. Nivedita Acharjee, Assistant Professor, Department of Chemistry, Durgapur Government College and Asmita Mondal, UGC Research Scholar, Department of Chemistry, Durgapur Government College	10	Students learnt the process of calibration of different instruments and their working principle, namely the pH meter, spectrophotometer, Water Analyzer, Potentiometer and Conductivity meter.
9	10-08-2024	Botany, Chemistry, Zoology	Workshop on "Augmentation of Scientific aptitude through bioinnovation and entrepreneurship"	Dr. Arup Kumar Mitra, Associate Professor Postgraduate And Research Department of Microbiology St. Xavier's College, Kolkata and research scholars working under Dr. Mitra.	62	Students received the overview of Marvel of Global PGP in paddy production, organic tea production, Solutions for Lead-Free Agriculture and Entrepreneurial Exercises in Biological Sciences. Students received hands on training session on the NPK determination of soil.
10	08-08-2024	Botany	Workshop on "happy mushroom gardening"	Mr. Anujit Das, Earth Star Mushroom	48	This is an initiative under earn while you learn where participants got an understanding about low cost mushroom farming and techniques where they have actually grown their mushroom

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11	26-07-2024	Chemistry	Invited Lecture and Interactive Session (Through Online Mode) "Chemical Toxicology with special emphasis on Heavy Metal Toxicity"	Dr. SANKAR CHANDRA MOI, Professor, Department of Chemistry, National Institute of Technology, Durgapur	17	Students received understanding of the fundamental aspects of chemical toxicology to undergraduate students. The adverse aspects of heavy metal pollution, especially the inorganic form of arsenic were discussed in this invited lecture and interactive session.
12	22-07-2024	Mathematics	Invited lecture on "Introduction to graph coloring and applications"	Dr. Samir Shukla, Assistant Professor of Mathematics, IIT Mandi	25	In this lecture, students learned about graph colouring and its applications used in mathematical modelling and to analyse various types of networks, including social networks, communication networks, transport networks, and electrical circuits.
13	18-07-2024 and 19-07-2024	All participating departments	Training Workshop on "Basic Electrical Equipment and Home Appliances"	Shri Ramesh Rakshit, Instructor, Government Industrial Training Institute, Durgapur, National Awardee Teacher 2023 from West Bengal; Awarded by Ministry of Skill Development and Entrepreneurship, Government of India and All instructors of Government Industrial Training Institute, Durgapur	26	Students received hands on training to operate different electrical equipment along with the demonstration of the instrumentation and the basic principles of operation of these appliances and scientific equipments and electrical circuits.
14	10-07-2024	Botany, Zoology	"Hands on Training Programme on Prawn Culture"	Dr. M. Pravin Kumar Biome biologicals Private Limited	29	This is an initiative under earn while you learn where participants got an understanding about the techniques of prawn culture.

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15	16-02-2024	Physics, Chemistry, Mathematics	Invited online talk on "Magnetic Refrigeration: future prospects and Challenges"	Dr. Anis Biswas, Staff Scientist, Ames National Laboratory, Iowa State University, USA.	30	Students learned on preliminary idea on magnetic refrigeration as alternative promising route of cooling and its future prospects for daily life implementations.
16	09-7-2024 (Theory/Tutorial) and 19-7-2024 (Hand on session)	Physics and Mathematics	2-Day workshop on "Scientific computation with C for beginners"	Dr. Somnath Bhattacharya, Dept of Physics, and Dr. Amiya Biswas, Dept of Mathematics, and Dr. Anjan Raychowdhury, Dept of Economics, Durgapur Govt College	22	Participants learned powerful computational techniques for investigating a scientific problem through generating a code in C. They are now equipped to explore his scientific problems through numerical techniques.
17	04-07-2024	Physics, Chemistry, Mathematics,	Invited online talk on "An Introduction to the world of Nanomaterials"	Dr. Diptonil Banerjee, Associate Professor, Department of Physics, Teerthankar Mahaveer University, Moradabad,	35	Students learned on basic ideas of nano-scale materials and related to structural and electrical properties.
18	18-06-2024	Chemistry, Geology and Mathematics	Workshop on the Use of Water Analyzer	Mr. Krishnendu Roy from Systronics India Limited and Miss Asmita Mondal, Research Scholar (UGC), Department of Chemistry, Durgapur Government College	62	Students learnt to operate the water analyzer and
19	13-06-2024	Geology & Chemistry	Invited Lecture "Aspects of Sedimentology"	Prof. (Dr.) Subir Sarkar, Department of Geological Sciences, Jadavpur University, Kolkata	24	Students learnt the basics of research areas related to the sedimentology, basin analysis and have got the chance to interact with the scientist to resolve their quires relating different facets of Sedimentology.
20	13-06-2024	Geology & Zoology	Invited Lecture "Aspects of Metamorphic Petrology"	Prof. (Dr.) Pulak Sengupta, Department of Geological Sciences, Jadavpur University, Kolkata	24	Students have got the chance to interact with the eminent scientist and Bhatnagar Awardee to resolve their quires relating different facets of Metamorphic Petrology

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21	04-06-2024	Botany, Chemistry, Zoology	Workshop on "Biological Waste Disposal"	Dr. Eliza Chakraborty Professor of Biotechnology Department of Biotechnology, Meerut Institute of Engineering and Technology & HOD of DST-FIST Center, MIET	82	This workshop demonstrated different techniques suitable for disposal of biological waste generated in the laboratories.
22	29-05-2024	Botany and Zoology	Seminar on "Addressing Ecological Concerns in and around the city of Durgapur : Fundamental aspects of some research prospects"	Dr. Debnath Palit, Principal, Durgapur Government College	95	The resource person provided detailed overview of the research prospects related to green belt development, water and soil quality analysis of the pitlakes and other related solutions for ecological concerns in and around Durgapur city
23	29.05.2024	Mathematics	Invited lecture on "Limit of Functions"	Dr. Arijit Ganguly, Assistant Professor of mathematics, IIT Kanpur	25	Students learnt about the limit of functions, which is a fundamental concept in calculus and analysis concerning the behavior of that function near a particular point which may or may not be in the domain of the function.
24	25-05-2024	Geology, Zoology & Mathematics	Invited Lecture "Diversification patterns of Phanerozoic Marine Invertebrates"	Dr. Subhronil Mondal, Department of Earth Sciences, IISER, Kolkata	50	Students have got the exposure to the methods used to study marine invertebrate diversity, including fieldwork, laboratory techniques, and data analysis.
25	24-05-2024	Geology & Zoology	Invited Lecture "Foraminifera as Sea Level Indicators"	Dr. Rajani Panchang, Dept. of Environmental Sciences, Savitribhai Phule Pune University	41	Students learnt how variations in foraminiferal species and their abundance can indicate historical changes in sea level and how these changes can be correlated with global climate events.

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26	24-05-2024	All participating Departments	Invited Lecture on "Intellectual Property Rights in Indian Scenario"	Dr. Anju T R, Assistant Professor and Head, Department of Biotechnology Coordinator, DBT STAR COLLEGE SCHEME Newman College, Thodupzha- 685 585, Kerala, India	49	Students learnt about the various prospects of IPR such as filing patents, biodiversity register, Geographical Indication (GI) research publications etc.
27	23-05-2024	Physics, Chemistry,	Invited online lecture and Interactive Session on "A Journey into Quantum Land"	Prof. Anirban Pathak, Professor and Head, Department of Physics, Materials Science and Engineering, Jaypee Institute of Information Technology, Noida.	32	Students learned on basic ideas of Quantum Mechanics and its application to fabricate small scale materials.
28	22-05-2024	Geology, Zoology & Botany	Invited Lecture "Application of Foraminifera in Palaeoenvironmental & Palaeoclimatic Analysis" Organized by: Department of Geology, Zoology & Botany	Dr. Urbashi Sarkar, Dept. of Earth Sciences, Assam University, Silchar	31	Students learnt how foraminifera can be used as indicators of past environmental conditions, including salinity, temperature and sea level changes
29	20-05-2024	Chemistry	Invited lecture on "Visualizing DNA in action: A Multidisciplinary research methodology Approach"	Dr. Padmaja Prasad Mishra, Associate Professor, Division: Chemical Sciences, Saha Institute of Nuclear Physics, Kolkata	35	This invited lecture imparted the understanding of the fundamental aspects of the research methodology applied in the field of DNA Dynamics, DNA repair and Protein-DNA interaction studies. The invited lecture introduced and motivated students about the significance of interdisciplinary research practices in solving scientific problems.

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30	09-05-2024	Botany	Workshop on "PCR AND TECHNIQUES IN DESIGNING PRIMER FOR UG STUDENTS "	Dr. Prosanta Saha (In house), Assistant Professor, Department of Botany, Durgapur Government College	34	In this workshop, students learnt about the working principle, components and variants of PCR, retrieve DNA sequence from online databases and the process of designing primers to amplify a target DNA sequence
31	07-05-2024	Botany	Invited lecture (online Mode) "Modern Techniques of Molecular Biology and Plant Biotechnology for UG Students"	Dr. Zahed Hossain Professor of Botany, Department of Botany, University of Kalyani	48	The resource person provided the overview of the basic techniques in molecular biology and biotechnology especially for UG students to grow their interests for advanced techniques in such laboratories.
32	04.05.2024	Mathematics	Invited Lecture on "Differential Equations"	Dr. Arnab Chakraborty, ISI Kolkata	30	Students learnt about some unconventional approaches that leads to differential equations. The students also learnt about the erroneous ideas that curricular teaching of differential equations often contain.
33	08-04-2024	Zoology	Student Workshop on "Hemoglobin estimation from Human blood Sample	Dr. Sumana Dutta, Assistant Professor, Department of Zoology, Durgapur Government College, Dr. Kuntal Bhattacharya, Assistant Professor, Department of Zoology, Durgapur Government College, Dr. Alakananda Mazumder, State Aided College Teacher, Department of Zoology, Durgapur Government College	4	Students learned to estimate hemoglobin concentration from blood samples using the Sahli (Sahli-Adams) Hemoglobinometer (Hemometer).
34	27-03-2024 and 28-03-2024	Chemistry, Botany and Zoology	Workshop on "Bioactivity through Computation"	Dr. Nivedita Acharjee, Assistant Professor in Chemistry, Dr. Sandipan Ray, Assistant Professor in Botany, and research scholars, Department of Chemistry, Durgapur Government College	26	Students used chem draw software to draw the structures of biologically active compounds selected by them, they prepared the mol files and fed them into the Pass online software site to obtain the biologically relevant properties of the compounds.

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35	16-03-2024 and 17-03-2024	Geology	Workshop on "Statistical Methods & Computer Applications in Natural Sciences"	Dr. M.K. Devrajan Senior Mineral Exploration Consultant	22	It equipped students with data analysis skills, statistical literacy, computer programming, research skills, critical thinking, interdisciplinary knowledge, and practical applications in fields like ecology, biology, and environmental science. This course enhances their understanding of statistical concepts and software.
36	14-03-2024	Physics and Mathematics	One day workshop on "Star gazing programme"	1. Faculty members of Dept of Physics and Mathematics, Durgapur Govt. 2. Mr. Nikhilesh Pal, technical helper,	50	The entire UG students enthusiastically participated in the night sky-watch program. We managed to locate the two moons of Jupiter, the moon and several other stars in the sky with the help of the 10-inch telescope of physics department.
37	14-03-2024 and 15-03-2024	Geology	Workshop on "Application of remote sensing techniques for mineral exploration"	Shanta Panja, Centre for Studies in Resources Engineering, IIT, Bombay	29	Students learnt about Remote sensing techniques have ushered in a paradigm shift in mineral sciences by augmenting exploration efficiency, facilitating precise mineral identification and mapping, and enabling environmental monitoring
38	06-03-2024 To 08-03-2024	Physics	3-day Workshop on Electric House Wiring and Safety Measure.	1. Dr. Tushar Kanti Bera, Dept of Electrical Engineering, National Institute of Technology, Durgapur 2. Dr. Swapan Kumar Ghosh, and Dr. Somnath Bhattacharya, Dept of Physics, Durgapur Govt College	38	Instructor discussed on basic electrical circuit connections for the domestic use and all the safety measures needed to be taken in home appliances.
39	24.02.2024	Botany	Workshop on "Collection and Preservation of Pteridophytic Germplasm "	Dr. Anish Bhattacharya (In house), Assistant Professor, Department of Botany, Durgapur Government College	38	Identification and then preserve the specimen mainly focusing on herbarium techniques that is more suitable for students as well as other researchers

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No.	Date of the event	Organizing Department	Name of the Event	Resource Persons/In House Faculty members	No. of participants	Outcome
40	16-12-2023	Chemistry	Invited lecture on "Asymmetric Synthesis: Past Present and Future"	Dr. Sadhanendu Samanta, Institute of Microbial Chemistry, Tokyo, Japan	58	Students learnt the basic principles of asymmetric synthesis and their applications and also interacted with the resource person
41	08-11-2023	Chemistry	Workshop on "Use of Ion Exchange Resin for experiments"	Dr. Snigdha Chandra, Associate Professor and Head and research scholars, Department of Chemistry, Durgapur Government College	07	Students learnt the basics of using an ion exchange resin for experiments

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Annexure-IV

**Science Setu Lecture Series in Collaboration with National Institute of Biomedical Genomics
(An Autonomous Institute of Department of Biotechnology, Government of India)
(29-09-2023 to 28-09-2024)**

No.	Date of the event	Name of the Event	Resource Persons/In House Faculty members	No. of participants	Outcome
1	03-04-2024	Science Setu Lecture on Genomics Enabling Deep Understanding of Human Health and Disease	Dr. Arindam Maitra, Associate Director, National Institute of Biomedical Genomics, Kalyani, West Bengal	245	The resource person gave insight into the fundamentals of genomics and its applications in understanding human health and disease
2	04-04-2024	Science Setu Lecture on Liquid Biopsy in cancer detection and tumor surveillance	Prof. Kartiki V. Desai, Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	191	The resource person gave insight into the fundamentals and applications of liquid biopsy with examples
3	24-04-2024	Science Setu Lecture on Tuberculosis: A journey from ancient to modern times	Dr. Bhaswati Pandit, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	121	The resource person gave insight into the fundamentals of the disease tuberculosis and the role of genomics in treatment of the disease.
4	03-05-2024	Science Setu Lecture on Genetics and Immunobiology of Interferon Lambda 3/4 and their significance in human health and disease	Dr. Sreeshar Chinnaswamy, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	109	The resource person gave insight into the fundamental aspects of Genetics and immunobiology.
5	07-05-2024	Science Setu Lecture on Fulfilling the promise: the search for Genomic medicine	Dr. Priyadarshi Basu, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	115	The resource person gave insight into the fundamental aspects of the evolution of different Genomic medicines
6	18-05-2024	Science Setu Lecture on "Genetics of Glaucoma: A journey of two decades and continuing...."	Dr. Moulinath Acharya, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	150	The resource person gave insight into the fundamental aspects of Glucoma and its genetics
7	28-05-2024	Science Setu Lecture on "Stemness" and "Plasticity" the moving targets in Cancer	Dr. Sandeep Singh, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	107	The resource person gave insight into the fundamental aspects of Stemness and Plasticity in respect of the Cancer disease

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Annexure-V

Industrial Trainings, Field Visits and Visits to research laboratories undertaken during the year (29-09-2023 to 28-09-2024) [Travel, contingency items and chemicals/equipment from DBT support]

No	Date of the event	Organizing Department	Visits conducted to	No. of Student Participants	Outcome
1	24-09-2024	Botany, Geology	One Day Field Trip "In Search of Fossils in the Gondwana Basin Near Mejia, Bankura"	41	Students performed field visit to understand the fossilisation process of plant fossils, when they were formed - Miocene epoch (20 Million years old). They also came to know how to recognize tree trunk of monocotyledons from dicotyledons.
2	17-08-2024	All participating departments	AICTE Idea Lab, Dr. B. C. Roy Engineering College, Durgapur (Ranked 1st in the AICTE IDEA Lab Ranking in 2023)	17	Students learnt the basic principles of different scientific equipment present in the AICTE, IDEA Lab, such as CNC Router, 3D printer, Laser Cutter and also learnt their industrial applications.
3	07-08-2024	All participating departments	National Institute of Biomedical Genomics (NIBMG), Kalyani	40	Students visited a total of 6 stations of NIBMG and learnt the basic principles and instrumentation processes employed therein. These were the proteomics lab, genomics Lab, Data Centre, Zebra Fish Culture Facility, Science Museum etc. Students also received the understanding of Genomics in the talk delivered by Dr. Srikanta Goswami, faculty member of NIBMG, Kalyani
4	05-08-2024	Chemistry	Department of Chemistry, National Institute of Technology, Durgapur	40	Students learnt the basic principle and demonstration of Gas Chromatography, Atomic Absorption Spectroscopy and UV-Visible Spectroscopy. Professor Rajnarayan Saha, Professor, Department of Chemistry, NIT, Durgapur, explained the basic principle of Atomic Absorption Spectrophotometer (AAS).
5	22-07-2024	Chemistry	Field Visit to Milk Farm at Durgapur Government College	12	Students learnt the basic techniques employed in a milk farm and after returning, they performed new experiment on the testing of milk sample in the chemical laboratory.
6	20-07-2024	Botany	One Day Field Visit at Molan Dighi, Durgapur, for Botany Major Students	09	Students' learnt the spot identification of flora and they were able to know about 2 Pteridophytes, 1 Bryophyte and 3 fungi and their distribution on that undisturbed forest
7	20-07-2024	All participating departments	Industrial Visit to Sun Ceramics, Durgapur	26	Students learnt the basic techniques and industrial processes applied in the use of scrap iron to mould the same into different parts for industrial applications.

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No	Date of the event	Organizing Department	Visits conducted to	No. of Student Participants	Outcome
8	08.07.2024	Botany, Zoology	Hands on Training on Horticultural Practices at Barjora Horticulture Farm	53	To educate students about organic farming leading to sustainable agriculture Students got the demonstration of the process of nursery build up and several other aspects of organic farming
9	20-06-2024	Geology, Chemistry and Mathematics	Field Visit for ground water collection for student project on "Industrial pollutant Concentration on Ground Water"	26	This field work was conducted by locating the polluted ground water sample collection sites through remote sensing and then collection of water samples from the wells and tubewells located in different places of Durgapur such as Gopalmath, Mayabazar, Kalpataru Mela Maidan, Shyampur Bazar, Biharpur, Narayanpur and Nodiha followed by laboratory testing to assess the drinking water quality.
10	16-05-2024 to 17-05-2024	Geology	Geological Fieldwork, Biharinath, West Bengal	15	Students performed field visit to the Gondwana rocks of Biharinath which provided valuable insights into the geological history, lithological succession study, palaeocurrent analysis and its implications. Such studies are essential for advancing our knowledge of the Earth's processes and for making informed decisions regarding land use, resource managements.
11	21-03-2024	Geology	Coal Mine visit - Trans-Damodar Open Cast Mine, Barjora, Bankura (Industrial Visit)	18	Students performed field visit (i) to identify the lithology of the host rocks and identify coal seams in field.(ii) to know about the current plan and set-up of the mine area.(iii) to get a basic idea about coal mine projects.(iv) collected coal samples and fossils of leaf.
12	19-12-2023 to 22-12-2023	Geology	Geological Fieldwork, Maithon, West Bengal	31	Students performed field visit to Maithon and the Gondwana rocks of Jitpur which provided valuable insights into the geological history, tectonic evolution, mineral resources, environmental implications of these regions. Such studies are essential for advancing our knowledge of the Earth's processes and for making informed decisions regarding land use, resource managements.

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Annexure-VI

**Training Courses for faculty and staff organized during the year
(29-09-2023 to 28-09-2024)**

[Purchase of equipment, computer, printer, software, chemicals, consumables, contingency items, travel, remuneration to resource persons from DBT support]

No.	Organizing Department	Resource Persons/In House Faculty who conducted the sessions	Name of the Event	Date of the event	Total No. of Participants	Outcome
1	Botany, Chemistry, Geology, Mathematics, Physics and Zoology	Dr. Anindya Bose Senior Scientific Officer, The University of Burdwan Topic: "Living in a digital world- eLearning resources for HEIs: Scopes and Challenges"	Faculty Development Programme on "MOOCs, E-Content and Open Educational Resources (Design Develop and Deliver)"	08-12-2023	52	This FDP gave the basic overview to teachers for designing of the four quadrant massive open online courses(MOOCs), E-content and open educational resources with student-centric approach. It relies on explaining the fundamentals to be considered while preparing the e-content to ensure increase in percentage of teachers using computer-aided methods for teaching, learning and evaluation.
2		Professor Mantu Saha Professor in Mathematics, The University of Burdwan Topic: "The Way to Success in the Development of MOOC Courses"		08-12-2023	52	
3		Professor Apurba Ratan Ghosh , Professor in Environmental Science, The University of Burdwan		09-12-2023	52	
4		Professor Saswati Gangopadhyay , Professor in Mass Communication, The University of Burdwan, Topic: "E-Learning and E-Content"		09-12-2023	52	
5		Dr. Nivedita Acharjee , Department of Chemistry, Durgapur Government College and Coordinator, DBT STAR COLLEGE SCHEME, Durgapur Government College Hands on Training by In-House Resource Persons on MOODLE and E-Content		11-12-2023	52	
6		Professor Swati Mukhopadhyay , Professor in Mathematics, The University of Burdwan, Topic: "Overviews of e-content"		11-12-2023	52	
7		Dr. Pinaki Roy , Department of Chemistry, Durgapur Government College Hands on Training by In-House Resource Persons on MOODLE and E-Content		12-12-2023	52	
8		Professor Partha Sarkar Professor in Business Administration (Human Resource), The University of Burdwan Resource Person: Communication Imperatives in E-content Development		13-12-2023	52	

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No.	Organizing Department	Resource Persons/In House Faculty who conducted the sessions	Name of the Event	Date of the event	Total No. of Participants	Outcome
9	Chemistry	Senior Technician from Envirotech Instruments, New Delhi and research scholars of Department of Chemistry, Durgapur Government College	Training Programme on "Operation of Respirable Air Sampler" for laboratory staff	08-06-2024	2	Laboratory Assistants learnt to operate and demonstrate the applications of respirable air sampler
10	Geology	Training program on petrological thin section preparation for laboratory staff	Dr. Proloy Ganguly, Department of Geology, Durgapur Government College	13-08-2024	1	The departmental staff got the training on laboratory safety and handling of rock cutting machine.
11	Chemistry	Dr. Nivedita Acharjee, Assistant Professor, Department of Chemistry, Durgapur Government College	One Day Training Programme on "Standard Solution Preparation using Dilution Method and by Weighing Method" and preparation of laboratory reagents" for laboratory staff	16-08-2024	2	Process of preparation of standard solutions was demonstrated to the laboratory staff

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Annexure-VII

**Outreach activities/Popular lectures organized during the year
(29-09-2023 to 28-09-2024)**

[Purchase of equipment, computer, printer, software, chemicals, consumables, contingency items, travel, remuneration to resource persons from DBT support]

No.	Organizing Department	Name of the Event	Resource Persons/In House Faculty	Date of the event	Total No. of Participants	Outcome
1	Botany, Chemistry, Geology, Mathematics, Physics and Zoology	Celebration of National Science Day: Invited lecture followed by Poster Competition for students	Invited lecture by Professor Kartik Chandra Ghanta, Department of Chemical Engineering, National Institute of Technology, Durgapur and Judgement of Posters by Dr. Mrinal Kanti Mandal, Associate Professor, Department of Physics, National Institute of Technology, Durgapur	28-02-2024	94	Students were sensitized of the significance of science in everyday life by the resource person. Students prepared innovative posters on the five themes: Waste Management, Science through computing and programming, Natural Resource Survey and Analysis, Laboratory Techniques and Entrepreneurship. Best posters were awarded.
2	Zoology	Awareness lecture and interactive session on "Malaria" to observe World Malaria Day	Dr. Manas Paramanik, Assistant Professor of Animal Science, Kazi Nazrul University	25-04-2024	59	Both the lectures were highly informative providing insights on the methods to have a clean community. These cleanliness measures would in turn reduce the breeding places of mosquitoes, which in turn would cause the decrease in the cases of malaria in the community at large. Very simple practices of throwing unused stagnant water, like water in vases, tyres, pots, clogged drains can cause a great change to the mosquito population. Planting plants like Lavender, Citronella Grass (Lemon Grass) Catmint,
3	Zoology	Awareness lecture and interactive session on : Mosquito: Public Enemy no 1 (WHO)" to observe World Malaria Day	Dr. Kuntal Bhattacharya, Assistant Professor, department of Zoology, Durgapur Government College	25-04-2024	59	

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						Rosemary can easily keep away mosquitos. Another great mosquito repellent is rosemary, Scented Geranium. Participants understood about the root cause of Malaria and its preventive techniques and are well equipped to spread this awareness to the society at large.
4	Physics, Chemistry and Mathematics	"Telescope making and Star Gazing programme" organized by Departments of Physics Chemistry and Mathematics under DBT STAR COLLEGE SCHEME for local schools at Durgapur	Prof. Biswajit Maiti, Associate Professor of Physics, Maulana Azad College, Kolkata, Shri Palash Chatterjee, Ramkrishna Sikshalaya, Howrah and Shri Nikhilesh Pal	11-07-2024	120	Student received hands on training and the overview of the telescope making. Dr. Biswajit Maiti, Associate Professor, Department of Physics, Maulana Azad College, Kolkata, delivered plenary talk on "The evolution of Telescope". Mr. Palash Chatterjee, teacher of Sri Ramakrishna Sikshalaya, Howrah delivered plenary talk on " Observation of Night Sky" and provided hands on training on Telescope making. This innovative event is the first of its kind in Durgapur to be organised by a higher education institution and received overwhelming appreciation from school students and teachers.
5	Physics, Chemistry and Mathematics	"Telescope making and Star Gazing programme" organized by Departments of Physics Chemistry and Mathematics under DBT STAR COLLEGE SCHEME for local schools at Visva Bharati, Shantiniketan	Prof. Biswajit Maiti, Associate Professor of Physics, Maulana Azad College, Kolkata, Shri Palash Chatterjee, Ramkrishna Sikshalaya, Howrah and Shri Nikhilesh Pal	12-07-2024	176	
6	Geology in collaboration with West Bengal Academy of Science & Technology (WAST)	Outreach activity on "Interactive session on prospects of Earth Science in Academia and Industry" for students of local colleges	Prof. (Dr.) Pulak Sengupta, and Prof. (Dr.) Subir Sarkar, Department of Geological Sciences, Jadavpur University, Kolkata	26-09-2024	85	Participants from Geology Department of Hooghly Mohosin College, Ranigunj TDB College and Kabi Jagad Ram Ray General Degree College, Mejia interacted with the resource persons and resolved their queries regarding career opportunities in Geology after completion of under graduation study.

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Annexure-VIII

**Colleges Mentored for applying under DBT STAR COLLEGE SCHEME
(29-09-2023 to 28-09-2024)**

Mentoring Sessions were conducted for faculty members of Katwa College to apply for DBT STAR COLLEGE SCHEME on 02-03-2024. The mentoring sessions were conducted by Dr. Debnath Palit, Principal, Durgapur Government College and Dr. Nivedita Acharjee, Coordinator, DBT STAR COLLEGE SCHEME, Durgapur Government College. Online sessions were also conducted for faculty members of Katwa College by Dr. Nivedita Acharjee, Coordinator, DBT STAR COLLEGE SCHEME, Durgapur Government College

Annexure-IX

**Seminars/Workshops attended, paper presentations, publications and Students' achievements during the year
(29-09-2023 to 28-09-2024)**

Paper Presentation by student:

Poster prepared by undergraduate student Prativa Banerjee of Department of Zoology selected for presentation in the event on "International Tiger Day" organized by WWF in Kolkata (29th July 2024)

Prize won by student

- Dhruva Mondal and Ankit Sengupta, UG Semester-III student, Department of Geology jointly won third prize in the Poster Presentation Competition in Lithify 2024, organized by Department of Geological Sciences, Jadavpur University, Kolkata (September 2024)

Paper Presentation/participation of research work by faculty members in seminars/conferences:

- Anish Bhattacharya, Assistant Professor in Botany, Durgapur Government College, International conference on 'Seedless Vascular Plant Research and Transdisciplinary Approaches : Biodiversity Exploration and Sustainable Livelihood' organized by Dept. of Botany, University of Kalyani and Indian Fern Society, Chandigarh, November 22-24, 2023
- Dr. Amiya Biswas, Assistant Professor in Mathematics, Durgapur Government College, "3rd International conference on nonlinear applied analysis and optimization (icnaao 2023) organized by Department of Mathematics, National Institute of Technology Durgapur", December 08-10, 2023
- Sudeep Kumar Das, Assistant Professor in Physics, Durgapur Government College, "National conference on 'materials and Devices organized by Teerthankar Mahaveer University, Moradabad", December 28-29, 2023
- Sudeep Kumar Das, Assistant Professor in Physics, Durgapur Government College, "International conference on 'International Conference on Natural Sciences and Engineering for Sustainable Development'" organized by Kazi Nazrul University, Asansol", March 06-07, 2024

Students as University Toppers (2023):

- Bachelor of Science (Honours) in Botany; MAYNA KUNDU; Registration No: KNU20105001958 (Joint University Topper of 2023)
- Bachelor of Science (Honours) in Botany AMRITA BANERJEE; Registration No: KNU20105001836 (Joint University Topper of 2023)
- Bachelor of Science (Honours) in Zoology DISHA CHAKRABORTY; Registration No: KNU20105001765 (University Topper of 2023)

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Selected outstanding All India Rank of Students in JAM examinations (2024)

- Ishan Banerjee: Geology Honours: All India Rank: 15
- Subhankar Barman: Geology Honours: All India Rank: 45
- Shreya Mitra: Geology Honours: All India Rank: 51
- Aryan Shah: Chemistry Honours; All India Rank: 99
- Supriya Kabiraj: Geology Honours: All India Rank: 125
- Prabhat Dhibar: Geology Honours: All India Rank: 183

Some Selected Progression of Students to higher studies to reputed institutes (2023-2024)

Name of Student	Programme graduated from Durgapur Government College	Name of Institution Joined	Programme admitted to
ATASI GHANTI	B.Sc. Honours in Zoology	RAJIV GANDHI CENTRE FOR BIOTECHNOLOGY	M.Sc in Biotechnology
ARYAN SHAH	B.Sc. Honours in Chemistry	IIT, Madras	M.Sc. In Chemistry
URMILA GHOSH	B.Sc. Honours in Chemistry	IIT KANPUR	M.Sc. In Chemistry
ARIJIT DEY	B.Sc. Honours in Chemistry	IIT GUWAHATI	M.Sc. In Chemistry
SANJUKTA CHEL	B.Sc. Honours in Geology	IIT BOMBAY	M.Sc. in Applied Geology
SHREEJATA DAS	B.Sc. Honours in Geology	IIT(ISM) DHANBAD	M.Sc. (Tech.) in Applied Geology
MUKUL DEY	B.Sc. Honours in Geology	IIT(ISM) DHANBAD	M.Sc. (Tech.) in Applied Geology
DEBARCHIT DAS	B.Sc. Honours in Geology	IIT(ISM) DHANBAD	M.Sc. (Tech.) in Applied Geology
SWARNENDU NASKAR	B.Sc. Honours in Physics	IIT-BHU	M.Sc. in Physics
NILADREE SHEKHAR SAHA	B.Sc. Honours in Geology	NIT ROURKELA	M.Sc. in Applied Geology
DEBANGANA DUTTA	B.Sc. Honours in Physics	NIT-JSR	M.Sc. in Physics
RANJAN HALDER	B.Sc. Honours in Physics	NIT-JSR	M. Sc. in Physics
MEGHA CHAKRABORTY	B.Sc. Honours in Geology	IISER, KOLKATA	Integrated Phd in Earth Sciences
NIRUPAM TIKADER	B.Sc. Honours in Geology	IEST SHIBPUR	M.Sc. in Applied Geology
CHHANDA GHOSH	B.Sc. Honours in Chemistry	Visva Bharati, Santiniketan	M.Sc. In Chemistry
PAPIYA GHOSH	B.Sc. Honours in Chemistry	The University of Burdwan	M.Sc. In Chemistry
Riya Biswas	B.Sc. Honours in Physics	The University of Burdwan	M.Sc. in Physics
Ananya Moitra	B.Sc. Honours in Physics	The University of Burdwan	M.Sc in Physics
KUSHAL MISTRY	B.Sc. Honours in Zoology	VIDYASAGAR UNIVERSITY	MSc Zoology
DISHA CHAKROBARTY	B.Sc. Honours in Zoology	THE UNIVERSITY OF BURDWAN	MSc in Zoology
NUSRIN KHATUN	B.Sc. Honours in Zoology	THE UNIVERSITY OF BURDWAN	MSc in Zoology
KANAYA MONDAL	B.Sc. Honours in Zoology	THE UNIVERSITY OF BURDWAN	MSc in Zoology
PREETI BIT	B.Sc. Honours in Zoology	AMITY UNIVERSITY	M.Sc in Biotechnology
BITHIKA GARAI	B.Sc. Honours in Zoology	AMITY UNIVERSITY	M.Sc in Biotechnology

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Annexure-X

YouTube Links of selected sessions by eminent resource persons organized by Durgapur Government College under the DBT STAR COLLEGE SCHEME posted in the DBT STAR COLLEGE SCHEME channel (29-09-2023 to 28-09-2024)

- **"Sir Upendranath Brahmachari & Leishmania research in India"**
Professor Syamal Roy, Ph.D., FASc, FNAsc, FNA; J.C. Bose National Fellow, Dept. of Science and Technology, Govt. of India; ICMR Emeritus Scientist, CSIR-Indian Institute of Chemical Biology, Kolkata; Honorary Professor, Indian Institute of Science Education & Research, Kolkata; Former Chief Scientist, CSIR-Indian Institute of Chemical Biology, Kolkata; Former Vice Chancellor, Cooch Behar Panchanan Barma University
<https://www.youtube.com/watch?v=Mf1RXzU-7k>
(Delivered in the local language Bengali)
- **"Structural Biology of Neuro-degeneration"**
Dr. Krishnananda Chattopadhyay, Chief Scientist & Head, Structural Biology & Bioinformatics Division, CSIR-Indian Institute of Chemical Biology, Kolkata, West Bengal
<https://www.youtube.com/watch?v=559HwScQWGU>
(Delivered in the local language Bengali)
- Science Setu Lecture 1: **"Genomics enabling deep understanding of human health and disease"**
Dr. Arindam Maitra, Associate Director, National Institute of Biomedical Genomics, Kalyani, West Bengal
<https://www.youtube.com/live/TjwHxUzK0Wg>
- Science Setu Lecture series: Lecture 2: **"Liquid Biopsy in cancer detection and tumor surveillance"**
Prof. Kartiki V. Desai, Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
<https://www.youtube.com/watch?v=zMNhRZ3jT7U>
- Science Setu Lecture series: Lecture 3: **"Tuberculosis: A journey from ancient to modern times"**
Dr. Bhaswati Pandit, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
<https://www.youtube.com/watch?v=QVuKcNetgHw>
- Science Setu Lecture series: Lecture 4: **"Genetics and Immunobiology of Interferon Lambda 3/4 and their significance in human health and disease"**
Dr. Sreedhar Chinnaswamy, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
<https://www.youtube.com/watch?v=U-w!TTLz TI>
- Science Setu Lecture series: Lecture 5: **"Fulfilling the promise: the search for Genomic medicine"**
Dr. Priyadarshi Basu, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
https://www.youtube.com/watch?v=9E_ibEy4Qz0
- Science Setu Lecture series: Lecture 6: **"Genetics of Glaucoma: A journey of two decades and continuing...."**
Dr. Moulinath Acharya, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
<https://www.youtube.com/watch?v=Mnj3P4AJdl4>
- Science Setu Lecture series: Lecture 7: **"Stemness and "Plasticity" the moving targets in Cancer"**
Dr. Sandeep Singh, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
<https://www.youtube.com/watch?v=gILackYTRrg>

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- **"Biological Waste Disposal"**
Dr. Eliza Chakraborty, Ph.D, Pdf(USA); Erstwhile Faculty of Geffen School of Medicine, Ucla, USA; Professor, Dept of Biotechnology & HOD DST-Fist, MIET Group.; Department of Biotechnology (DBT); Meerut Institute of Engineering and Technology (MIET), Meerut
<https://www.youtube.com/watch?v=ojfNylL1uxc>
- **"A Journey into Quantum Land"**
Dr. Anirban Pathak, Professor and Head, Department of Physics and Material Science and Engineering, Jaypee Institute of Information Technology, Noida
<https://www.youtube.com/watch?v=5bj018051EY>
- **"Visualizing DNA in action: A Multidisciplinary research methodology approach"**
Dr. Padmaja Prasad Mishra, Associate Professor, Division: Chemical Sciences, Saha Institute of Nuclear Physics, Kolkata, West Bengal
<https://www.youtube.com/watch?v=KpRXudW0zVc>
- **"Modern Techniques of Molecular Biology and Plant Biotechnology for UG Students"**
Dr. Zahed Hossain, Professor, Department of Botany, University of Kalyani, West Bengal
<https://www.youtube.com/watch?v=GLrsNemE6DA>

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Annexure-XI

Name, designation, host institutes of resource persons invited for different offline/online events
(29-09-2023 to 28-09-2024)

1. Dr. Mrinal Kanti Mandal, Department of Physics, NIT, Durgapur
2. Professor Sankar Chandra Moi, Professor and Head, Department of Chemistry, NIT, Durgapur
3. Prof. Biswajit Maiti, Associate Professor of Physics, Maulana Azad College, Kolkata
4. Dr. Sadhanendu Samanta, Post Doctoral Research Fellow (JSPS), Institute of Microbial Chemistry Tokyo, Japan
5. Dr. Arnab Chakraborty, Associate Professor, ISI, Kolkata
6. Dr. Zahed Hossain, Professor of Botany, University of Kalyani
7. Dr. Padmaja Prasad Mishra, Associate Professor, Chemical Sciences Division, Saha Institute of Nuclear Physics
8. Dr. Anindya Bose, Senior Scientific Officer, The University of Burdwan
9. Professor Mantu Saha, Professor in Mathematics, The University of Burdwan
10. Professor Apurba Ratan Ghosh, Professor in Environmental Science, The University of Burdwan
11. Professor Saswati Gangopadhyay, Professor in Mass Communication, The University of Burdwan
12. Professor Swati Mukhopadhyay, Professor in Mathematics, The University of Burdwan, Topic: "Overviews of e-content"
13. Professor Partha Sarkar, Professor in Business Administration (Human Resource), The University of Burdwan
14. Professor Kartik Chandra Ghanta, Department of Chemical Engineering, National Institute of Technology, Durgapur
15. Dr. Mrinal Kanti Mandal, Associate Professor, Department of Physics, National Institute of Technology, Durgapur
16. Dr. Urbashi Sarkar, Department of Earth Science, Assam University, Silchar
17. Dr. Anirban Pathak, Department of Physics and Material Science and Engineering, Jaypee Institute of Information Technology, Noida
18. Dr. Rajani Panchang, Department of Environmental Science, Savitribai Phule Pune University
19. Dr. Anju T.R., Assistant Professor and Head, Department of Biotechnology and Coordinator, DBT STAR COLLEGE SCHEME, Newman College, Kerala
20. Dr. Subhronil Mondal, Department of Earth Sciences, IISER, Kolkata
21. Professor Pulak Sengupta, Department of Geological Sciences, Jadavpur University
22. Professor Subir Sarkar, Department of Geological Sciences, Jadavpur University
23. Dr. Arijit Ganguly, Assistant Professor, Department of Mathematics, IIT Kanpur
24. Dr. Arindam Maitra, Associate Director, National Institute of Biomedical Genomics, Kalyani, West Bengal
25. Prof. Kartiki V. Desai, Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
26. Dr. Bhaswati Pandit, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
27. Dr. Sreeshar Chinnaswamy, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
28. Dr. Priyadarshi Basu, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal

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29. Dr. Moulinath Acharya, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
30. Dr. Sandeep Singh, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal
31. Dr. Arijit Ganguly, Assistant Professor, Department of Mathematics, IIT Kanpur
32. Dr. Eliza Chakraborty, Professor of Biotechnology, Meerut Institute of Engineering and Technology and HOD of DST-FIST Center, MIET
33. Dr. Diptonil Banerjee, Associate Professor, Department of Physics, Teerthankar Mahaveer University, Moradabad
34. Dr. M. Pravin Kumar, Biome Biologicals Private Limited
35. Dr. Anis Biswas, Staff Scientist, Ames National Laboratory, Iowa State University, USA
36. Dr. Debabrata Biswas, Assistant Professor, Department of Physics, Bankura University
37. Mr. Ramesh Rakshit, National Awardee Teacher from the Department of Skill development and Entrepreneurship, Government of India and Instructor, Government Industrial Training Institute, Durgapur
38. Dr. Samir Shukla, Assistant Professor, Department of Mathematics, IIT Mandi
39. Dr. Arup Kumar Mitra, Associate Professor and Head, PG and Research Department of Microbiology, St. Xavier's College, Kolkata
40. Satadru Bhattacharya, Indian Space Research Organization, ISRO Planetary Sciences Division
41. Dr. Jyotirmoy Paul, Marie Curie postdoctoral fellow, Oslo, Norway
42. Shri Alik Prakash, Government Industrial Training Institute, Durgapur
43. Shri Mihir Kumar Sarkar, Government Industrial Training Institute, Durgapur
44. Shri Ananta Nandi, Government Industrial Training Institute, Durgapur
45. Shri Ansuman Saha, Government Industrial Training Institute, Durgapur
46. Dr. Krishnananda Chattopadhyay, Chief Scientist & Head, Structural Biology & Bioinformatics Division, CSIR-Indian Institute of Chemical Biology, Kolkata
47. Professor Anirban Basu, Scientist, National Brain Research Institute, Manesar, Haryana
48. Dr. Syamal Roy Emeritus Professor, Indian Institute of Chemical Biology, Kolkata

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Annexure-XII
PHOTOGRAPHS OF EVENTS CONDUCTED UNDER DBT STAR COLLEGE SCHEME
(29-09-2023 TO 28-09-2024)

New experiment on "Use of Thin Layer Chromatography for Lipid Separation" (26-09-2024)



Workshop on "Collection and Preservation of Pteridophytic Germplasm" (24-02-2024)



Workshop on "Happy Mushroom Gardening" (08-08-2024)



Field Visit at Molan Dighi, Durgapur for spot identification of flora (20-07-2024)



New experiment on "Gram Staining of Bacteria" (02-03-2024)



Student Project on "Extraction and Applications of Essential Oil from botanical sources" (12-09-2024)



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Eight Days Training Workshop on "Basic Techniques in Molecular Biology" (11-09-2024 to 18-09-2024)



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Training Workshop on Basic Home Appliances and "Instrumentation Process and Control of Different Scientific Equipment"
(19-09-2024, 20-09-2024, 23-09-2024 and 24-09-2024)



Workshop on "Augmentation of Scientific aptitude through bioinnovation and entrepreneurship" (10-08-2024)



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Training Workshop on "Basic Electrical Equipment and Home Appliances" (18-07-2024 and 19-07-2024)



Hands on training Programme on "Prawn Culture" under earning while learning initiatives" (10-07-2024)



Student Project and Seminar on "Study of different types of birds and their effects on agriculture" (09-09-2024)



New Experiment on Embryological studies of Chick Embryo (24h, 48h, 72 h); (17-12-2023)



Workshop on "Hemoglobin estimation from Human blood Sample (08-04-2024)



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New Experiment on
estimation of glucose
from commercial pack



New Experiment on
estimation of Vitamin C
in fruits and vegetables



New Experiment on
"Estimation of Glycine using
Sorensen formol titration"



New Experiment on "Determination of the amount of phosphate in cold drinks using spectrophotometric method"



New Experiment on "Isolation
of Essential oil (eucalyptus oil)
by Steam Distillation Method"



New Experiment on "Milk Testing" for the presence of adulterants



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Workshop on the use of Water Analyzer (18-06-2024)



Field work for collection of ground water samples and on spot analysis (20-06-2024)



Laboratory analysis of the ground water samples (25-06-2024 onwards)



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Workshop on "Calibration and Set up of pH meter, Potentiometer, Conductivity Meter, Water analyzer and Visible Spectrophotometer for UG students" (17-08-2024)



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New Experiments on Use of GPS and on GPS data input into QGIS" (July-August 2024)



New Experiments on Ground water exploration (27-09-2024)



Hands on training on "Open Source Hardware and Software: The Raspberry Pi" (16-07-2024)



Hands on Training on "Data Analysis" (11-09-2024)



Two Day Workshop on "Scientific computation with C for beginners" (09-07-2024 (Theory) and 19-07-2024 (Practical))



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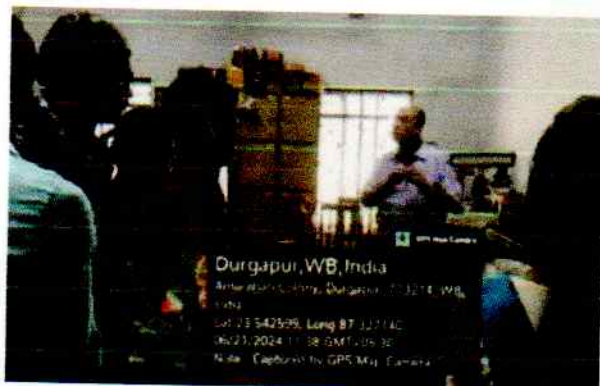
Three Day Workshop on Electric House
Wiring and Safety Measures
(06-03-2024 to 08-03-2024)



New experiment on "Preparation of ZnO
nanoparticles by co-precipitation
method" (01-07-2024)



New experiment on "To verify the Malus Law
for Plane Polarized light" (21-06-2024)



New experiment on "To study and verify
Resonance in series LCR circuit and measurement
of resonance frequency" (21-02-2024)



New experiment on "To study the Photo-electric Effect:
photo current versus intensity" (03-01-2024)



New experiment on "To find an unknown capacitance
using De' Sauty's AC bridge" (07-12-2023)



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New experiment on "Determination of Planck's constant using photo-electric effect" (27-11-2023)



One Day Workshop on Telescope making and Star Gazing Programme



New Experiment on "Preparation of silver nanoparticles from Azadirachta indica (Neem) leaves" (11-09-2024)



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Field Trip "In Search of Fossils in the Gondwana Basin Near Mejia, Bankura" (24-09-2024)



Hands on Training on Horticultural Practices at Barjora Horticulture Farm (08-07-2024)



Research Laboratory Visit to AICTE IDEA Lab, (Ranked 1 in India in 2023),
Dr. B. C. Roy Engineering College, Durgapur (17-08-2024)



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Research Laboratory Visit to National Institute of Biomedical Genomics (NIBMG), Kalyani
(07-08-2024)



Research Laboratory Visit to Department of
Chemistry, National Institute of Technology,
Durgapur (05-08-2024)



Field Visit to Milk Production Farm in Durgapur
(22-07-2024)



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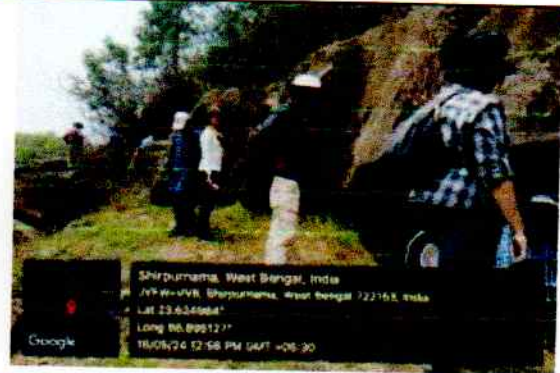
Industrial Visit to Sun Ceramics, Durgapur (20-07-2024)



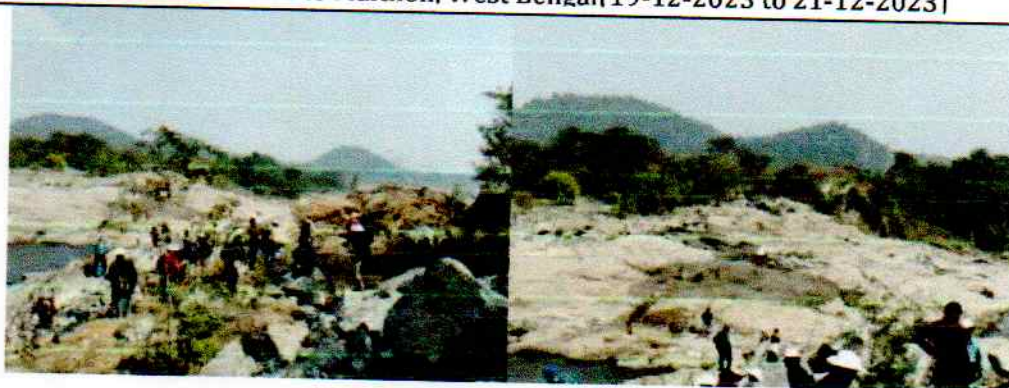
Coal Mine visit – Trans-Damodar Open Cast Mine, Barjora, Bankura (Industrial Visit) (21-03-2024)



Geological Field Work to Biharinath, West Bengal (16-05-2024 to 17-05-2024)



Geological Field Work to Maithon, West Bengal (19-12-2023 to 21-12-2023)



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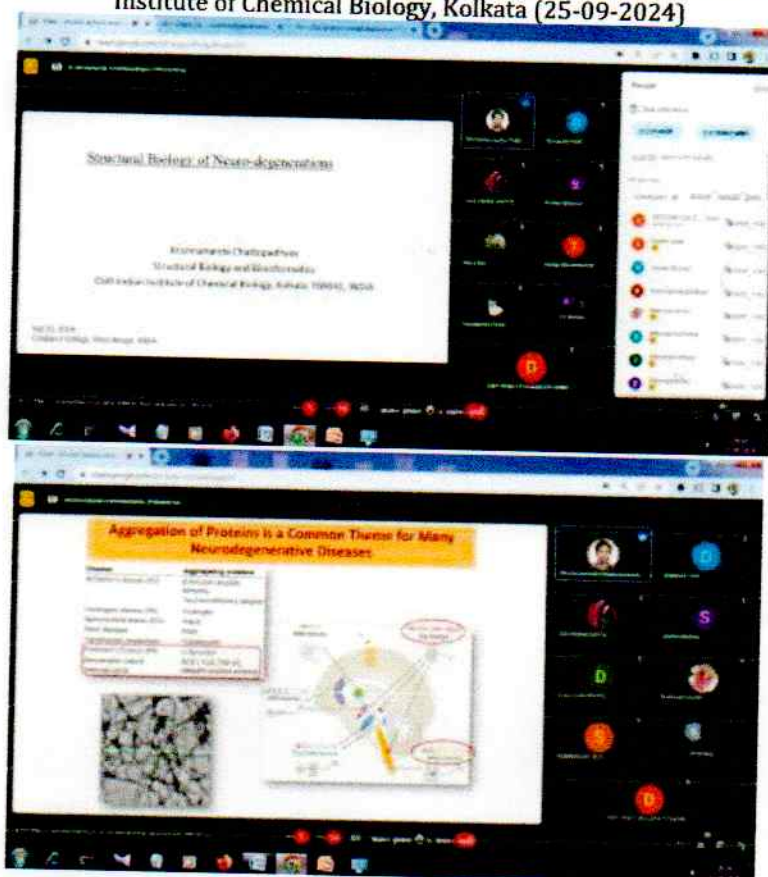
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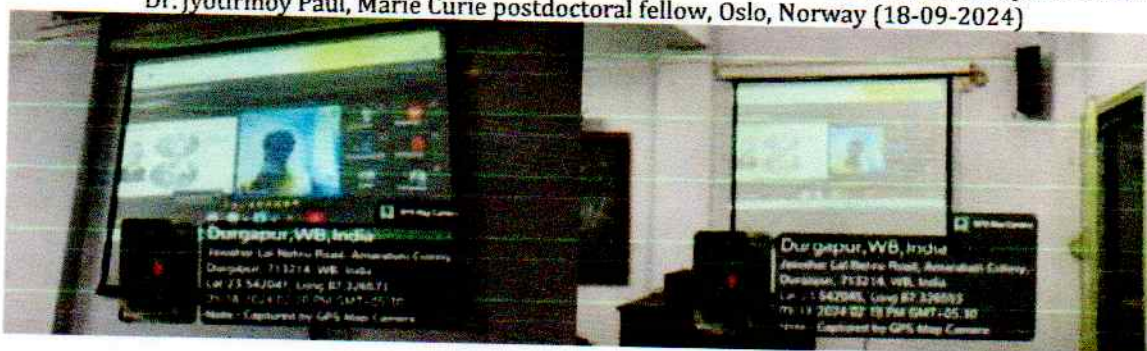
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Invited Lecture and Interactive Session (online) on "Structural Biology of Neuro-degeneration"
Dr. Krishnananda Chattopadhyay, Chief Scientist & Head, Structural Biology & Bioinformatics Division, CSIR-Indian Institute of Chemical Biology, Kolkata (25-09-2024)



Invited Lecture and interactive session (online) "The relation between mantle dynamics and plate tectonics"
Dr. Jyotirmoy Paul, Marie Curie postdoctoral fellow, Oslo, Norway (18-09-2024)



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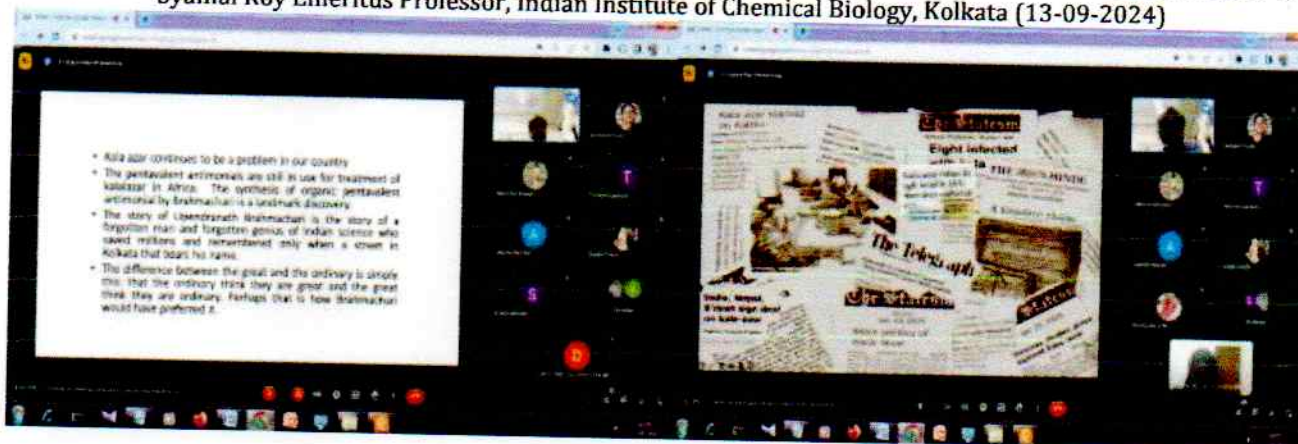
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Invited lecture and Interactive Session (online) on "Sir Upendranath Brahmachari & Leishmania research in India" Dr. Syamal Roy Emeritus Professor, Indian Institute of Chemical Biology, Kolkata (13-09-2024)



Invited lecture and interactive session (offline) on
"Emerging and Re-emerging Viral Diseases: Host Immunity and Therapeutic Interventions"
Professor Anirban Basu, Scientist, National Brain Research Institute, Manesar, Haryana (21-08-2024)



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Invited Lecture (online) "Constraining lunar crustal composition and hydration through imaging spectroscopy"
Satadru Bhattacharya, Planetary Science Division, ISRO, Ahmedabad (20-08-2024)



Invited Lecture and Interactive Session (Online)
"Chemical Toxicology with special emphasis on Heavy Metal Toxicity"

Dr. SANKAR CHANDRA MOI, Professor, Dept of Chemistry, National Institute of Technology, Durgapur (26-07-2024)



Invited lecture (online) on
"Introduction to graph coloring and applications"
Dr. Samir Shukla, Assistant Professor of Mathematics, IIT Mandi (22-07-2024)



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Invited talk (online) on
"Magnetic Refrigeration: future prospects and Challenges"
Dr. Anis Biswas, Staff Scientist, Ames National Laboratory, Iowa State University, USA (10-07-2024)



Invited talk (online) on
"An Introduction to the world of Nanomaterials"
Dr. Diptonil Banerjee,, Associate Professor,
Department of Physics, Teerthankar Mahaveer University, Moradabad (04-07-2024)



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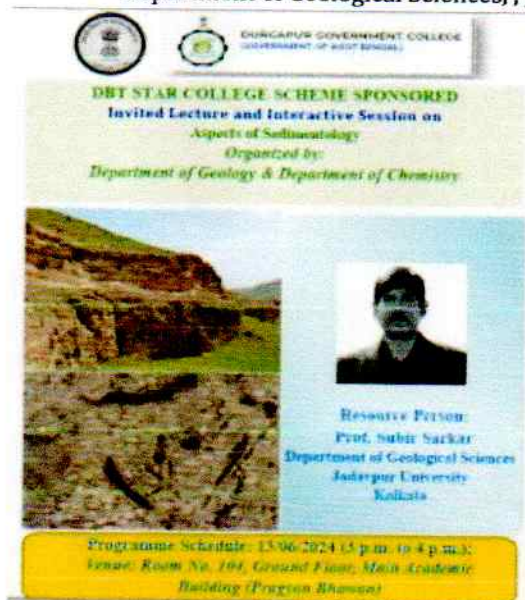
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Invited Lecture on "Aspects of Sedimentology"
Prof. (Dr.) Subir Sarkar,

Department of Geological Sciences, Jadavpur University, Kolkata (13-06-2024)

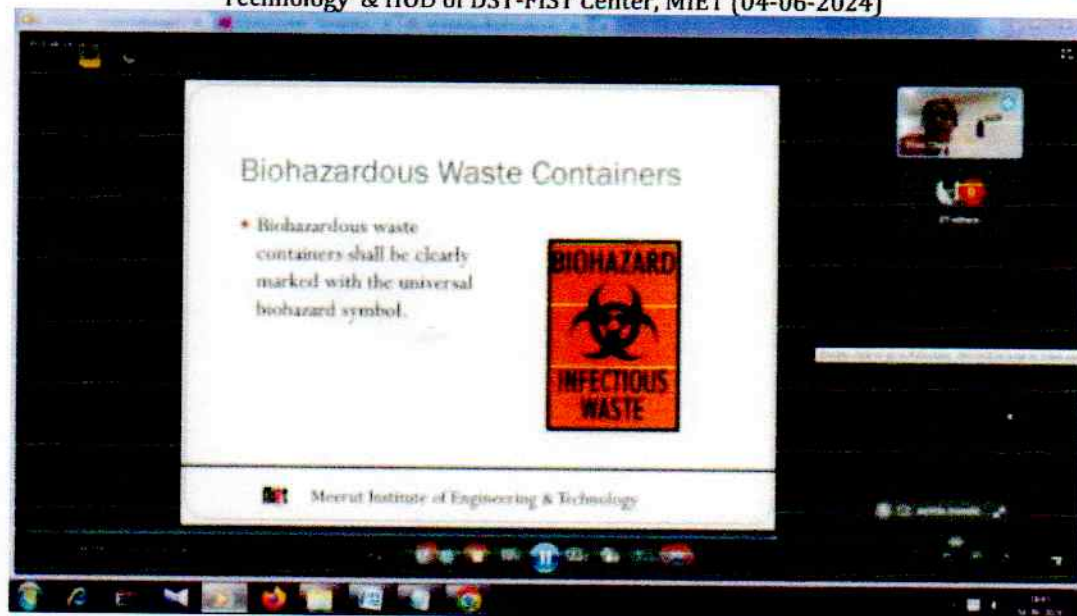


Invited Lecture on "Aspects of Metamorphology"
Prof. (Dr.) Pulak Sengupta,



Workshop (online) on " Biological Waste Disposal "

Dr. Eliza Chakraborty, Professor of Biotechnology, Department of Biotechnology, Meerut Institute of Engineering and Technology & HOD of DST-FIST Center, MIET (04-06-2024)



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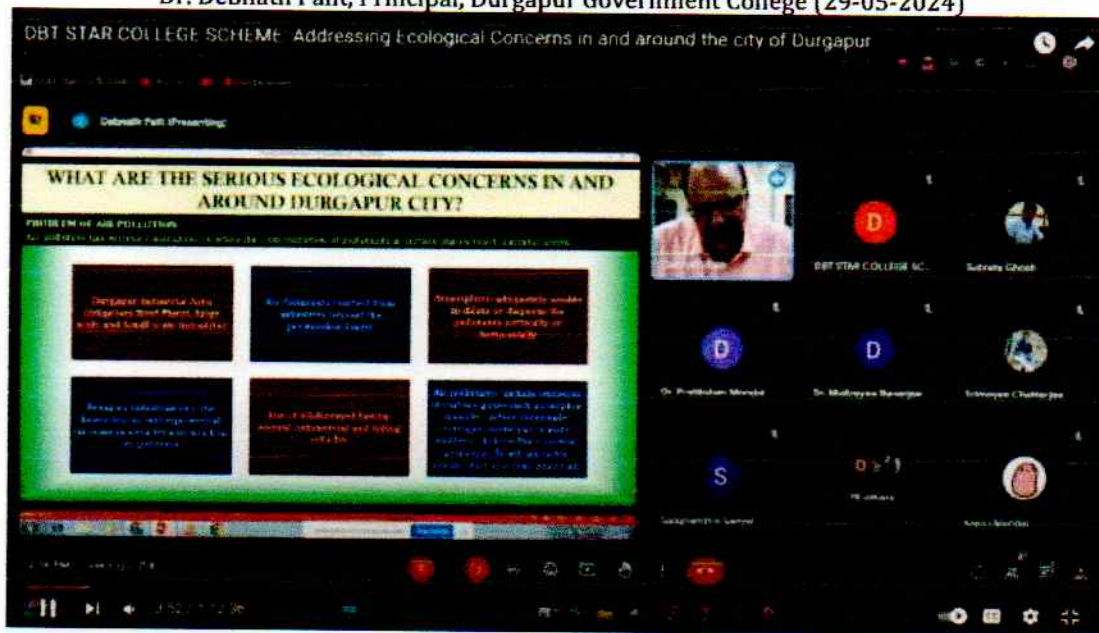
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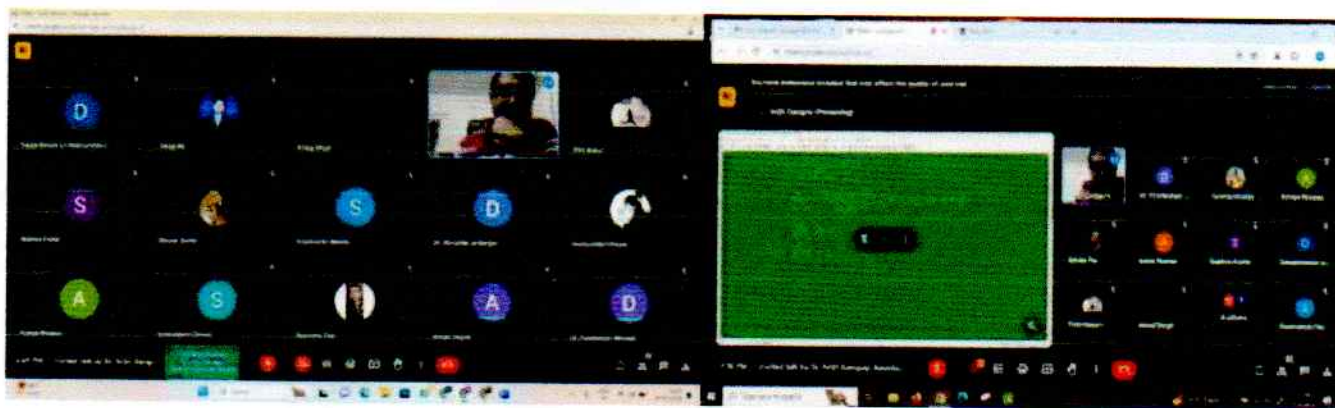
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Seminar (blended mode) on
"Addressing Ecological Concerns in and around the city of Durgapur : Fundamental aspects of some research prospects",
Dr. Debnath Palit, Principal, Durgapur Government College (29-05-2024)



Invited lecture (online) on
"Limit of Functions"; Dr. Arijit Ganguly, Assistant Professor of Mathematics, IIT Kanpur (29-05-2024)



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Invited Lecture (online) on
"Diversification patterns of Phanerozoic Marine Invertebrates"
Dr. Subhronil Mondal, Department of Earth Sciences, IISER, Kolkata (25-05-2024)




Invited Lecture (online) on
"Foraminifera as Sea Level Indicators"
Dr. Rajani Panchang, Dept. of Environmental Sciences, Savitribhai Phule Pune University (24-05-2024)



Invited Lecture (online) on "Intellectual Property Rights in Indian Scenario"
Dr. Anju T R., Assistant Professor and Head, Department of Biotechnology, Coordinator, DBT STAR COLLEGE SCHEME
Newman College, Kerala, India (24-05-2024)



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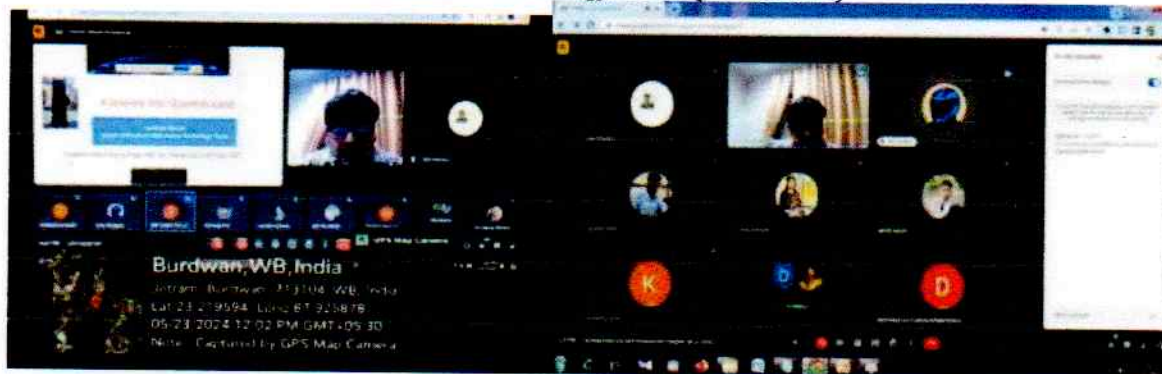

Dr. Debnath Palit
Principal
Durgapur Government College

COORDINATOR
DBT STAR SCHEME
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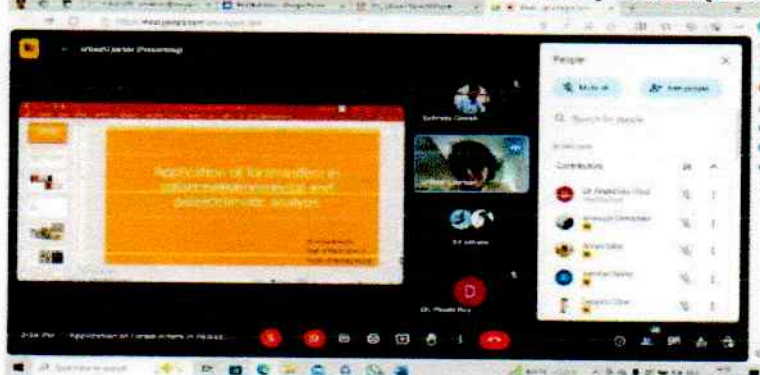
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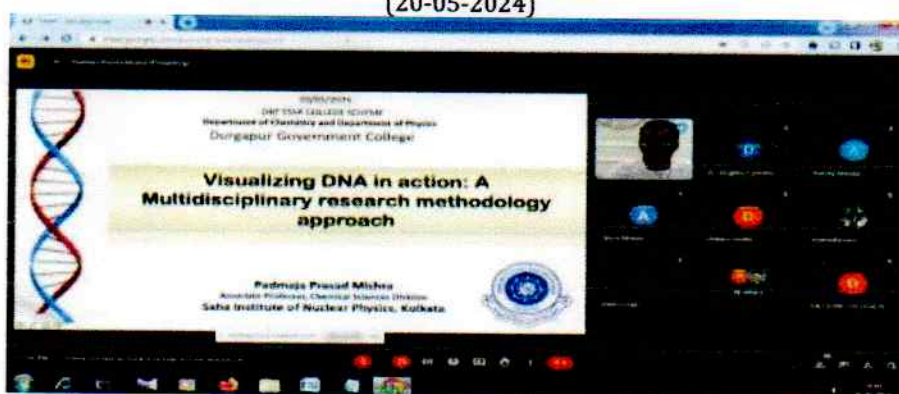
Invited lecture and Interactive Session (online) on
"A Journey into Quantum Land"
Prof. Anirban Pathak, Professor and Head, Department of Physics, Materials Science and Engineering, Jaypee Institute of
Information Technology, Noida (23-05-2024)



Invited Lecture (online) on
"Application of Foraminifera in Palaeoenvironmental & Palaeoclimatic Analysis"
Dr. Urbashi Sarkar,, Dept. of Earth Sciences, Assam University, Silchar (22-05-2024)



Invited lecture (online) on
"Visualizing DNA in action: A Multidisciplinary research methodology Approach"
Dr. Padmaja Prasad Mishra, Associate Professor, Division: Chemical Sciences, Saha Institute of Nuclear Physics, Kolkata
(20-05-2024)



Nivedita Acharyee

Dr. Nivedita Acharyee
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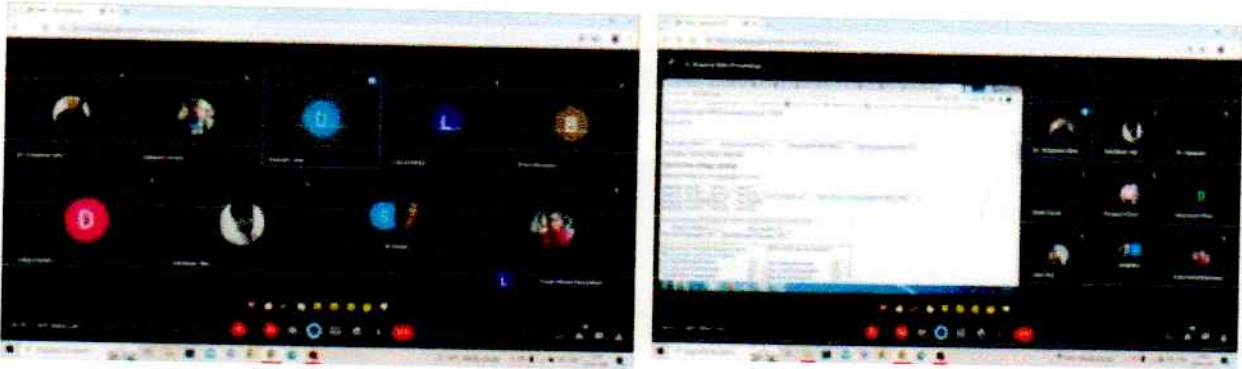
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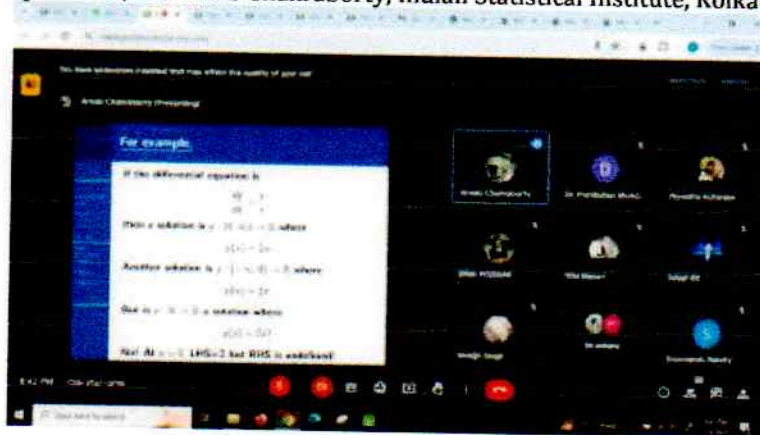
Workshop (online) on
"PCR AND TECHNIQUES IN DESIGNING PRIMER FOR UG STUDENTS "
Dr. Prosanta Saha (In house), Assistant Professor, Department of Botany, Durgapur Government College (09-05-2024)




Invited lecture (online) on
"Modern Techniques of Molecular Biology and Plant Biotechnology for UG Students"
Dr. Zahed Hossain, Professor of Botany, Department of Botany, University of Kalyani (07-05-2024)



Invited Lecture (online) on
"Differential Equations"; Dr. Arnab Chakraborty, Indian Statistical Institute, Kolkata (04.05.2024)



Nivedita Acharjee
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Workshop (online) on "Bioactivity through Computation"
Dr. Nivedita Acharjee, Assistant Professor in Chemistry, Dr. Sandipan Ray, Assistant Professor in Botany, and research scholars, Department of Chemistry, Durgapur Government College (27-03-2024 and 28-03-2024)

The poster features the college logo at the top left. Text includes: "Durgapur Government College", "Accredited by NAAC with 'A' Grade in 2017", "Affiliated to Kazi Nazrul University | UGC 205 and 12(B) Recognized College", "DBT STAR COLLEGE SCHEME", "Two Day Online Workshop on 'Bioactivity through Computation'", "March 27-28, 2024", "Organized by Departments of Chemistry, Botany and Zoology Durgapur Government College". On the right, there is a molecular model and a "PASS online" logo. Below the text are two photographs: the top one shows a computer lab with several workstations, and the bottom one shows a person working at a computer.

Workshop (online) on
"Statistical Methods & Computer Applications in Natural Sciences"
Dr. M.K. Devrajan, Senior Mineral Exploration Consultant (16-03-2024 and 17-03-2024)

The poster has a light background with a blue border. Text includes: "TWO DAYS WORKSHOP ON 'STATISTICAL METHODS AND COMPUTER APPLICATIONS IN NATURAL SCIENCES (ONLINE)'" in red and blue, "Under the DBT-STAR college scheme", "Organized by The Department of Geology Durgapur Government College (Affiliated to Kazi Nazrul University, West Bengal Accredited by NAAC with 'A' grade in 2017)", "Workshop objectives" listed as: "Types of sampling", "Data analysis tool in Excel", "Univariate statistics", "Bivariate statistics", "Spatial statistics", "Date" in a blue box: "16th & 17th March, 2024 (online mode)", "Coordinators" listed as: "Dr. Saradee Sengupta", "Dr. Proloy Ganguly", "Resource person" listed as: "Dr. M. K. Devrajan Senior Mineral Exploration Consultant", "Target Group" in a blue box: "UG and PG students of Geology and UG students of Chemistry, Zoology, and Botany departments of Durgapur Government College".

Nivedita Acharjee

Dr. Nivedita Acharjee
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Durgapur Government College

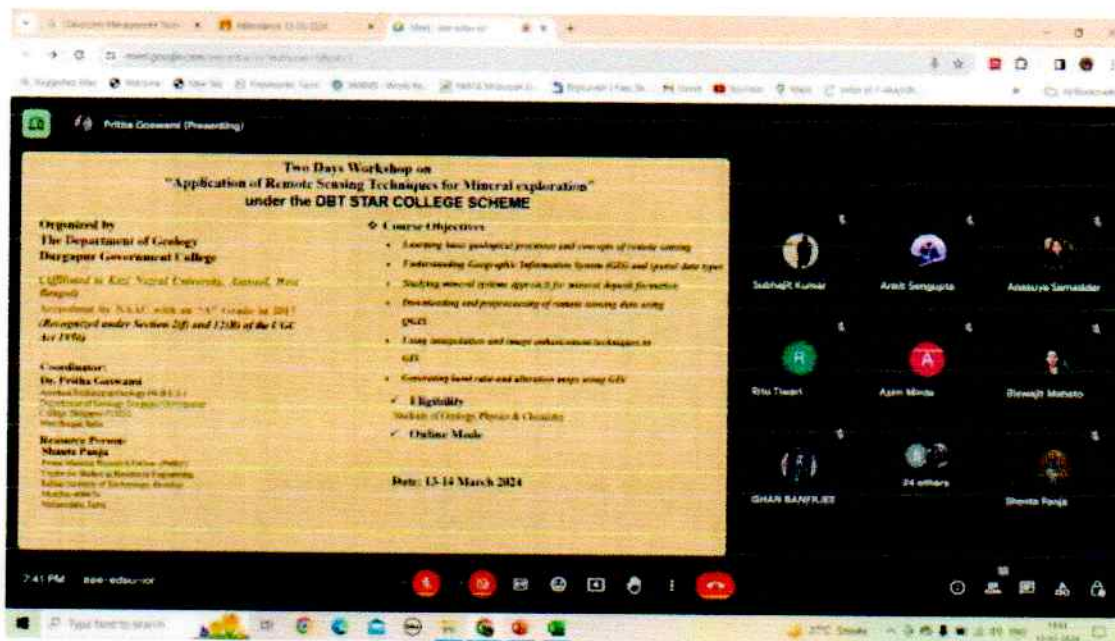
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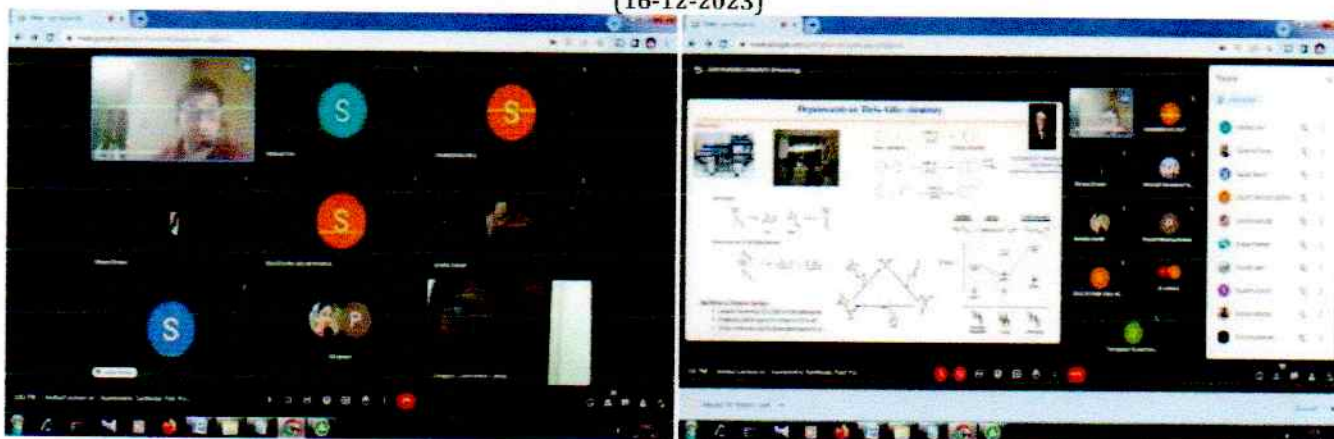
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Workshop (online) on
"Application of remote sensing techniques for mineral exploration"
Shanta Panja, Centre for Studies in Resources Engineering, IIT, Bombay (14-03-2024 and 15-03-2024)



Invited lecture (online) on
"Asymmetric Synthesis: Past Present and Future"
Dr. Sadhanendu Samanta, Institute of Microbial Chemistry, Tokyo, Japan and
Alumni, Department of Chemistry, Durgapur Government College
(16-12-2023)



Nivedita Acharyee

Dr. Nivedita Acharyee
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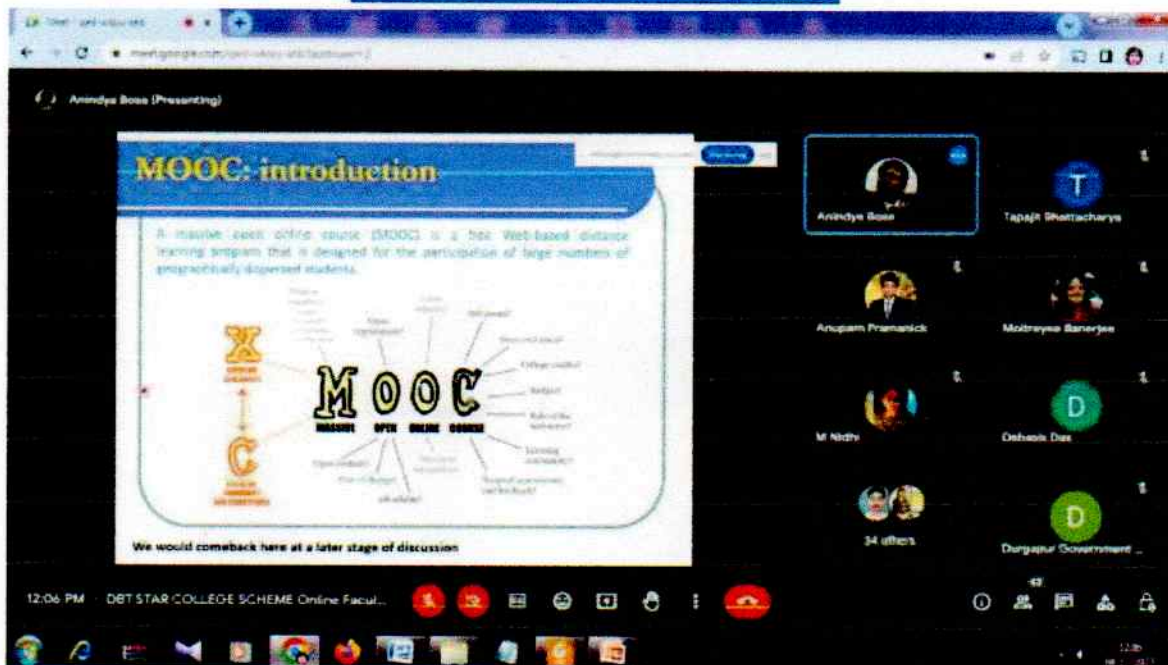
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Faculty Development Programme on "MOOCs, E-Content and Open Educational Resources (Design Develop and Deliver)"
(08-12-2023 to 13-12-2023)

The poster is for the DBT STAR COLLEGE SCHEME Online Faculty Development Programme. It features the logos of the Department of Biotechnology and the Ministry of Science & Technology, Government of India. The text includes: "Durgapur Government College", "Accredited by A-LAC with 'A' Grade in 2017", "Affiliated to Koo Nazim University | UGC 20(5) and 12(B) Recognized College", "DBT STAR COLLEGE SCHEME", "Online Faculty Development Programme on 'MOOCs, E-Content and Open Educational Resources (Design, Develop and Deliver)'", "December 08, 2023 to December 14, 2023", a photograph of the college entrance, "REGISTRATION LINK", the URL "https://forms.gle/HCGbPAFf82boQrR78", and a note: "There is no registration fee. All participants will receive certificate of participation. Please register on or before 06-12-2023".



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Training Programme on "Operation of Respirable Air Sampler" for laboratory staff (08-06-2024)



Training program on petrological thin section preparation for laboratory staff (13-08-2024)



One Day Training Programme on "Standard Solution Preparation using Dilution Method and by Weighing Method" and preparation of laboratory reagents" for laboratory staff (16-08-2024)



Nivedita Acharyee

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Celebration of National Science Day: Invited lecture followed by Poster Competition for students (28-02-2024)
Invited lecture by Professor Kartik Chandra Ghanta, Department of Chemical Engineering, National Institute of Technology, Durgapur and Judgement of Posters by Dr. Mrinal Kanti Mandal, Associate Professor, Department of Physics, National Institute of Technology, Durgapur

DEPARTMENT OF BIOTECHNOLOGY
MINISTRY OF SCIENCE & TECHNOLOGY, GOVERNMENT OF INDIA

Durgapur Government College
J. N. Avenue, Durgapur, Paschim Bardhaman, West Bengal-713214
Accredited by NAAC with "A" Grade in 2017
Affiliated to Kazi Nazrul University | UGC 2(f) and 12(B) Recognized College

DBT STAR COLLEGE SCHEME
NATIONAL SCIENCE DAY CELEBRATION
Invited Lecture and Poster Competition
February 28, 2024

**REGISTRATION LINK FOR
POSTER COMPETITION**

<https://forms.gle/B5Mo96qVW1t2u6ex6>



Nivedita Acharjee

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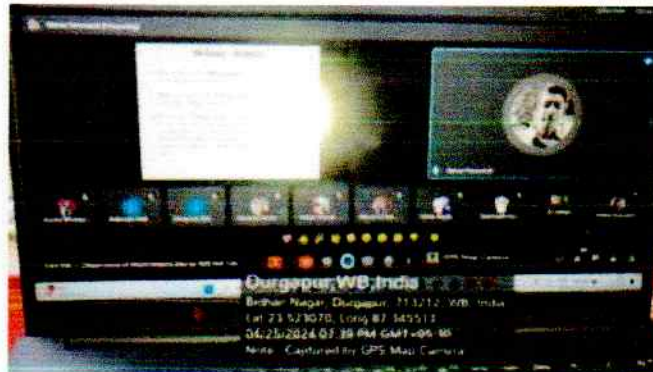
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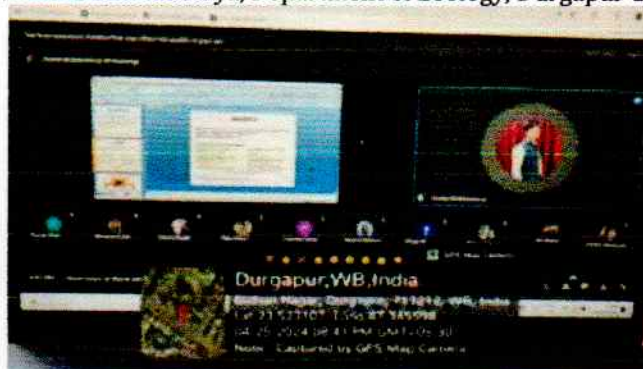
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Online Awareness lecture and interactive session on "Malaria" to observe World Malaria Day (25-04-2024)
Dr. Manas Paramanik, Assistant Professor of Animal Science, Kazi Nazrul University



Online Awareness lecture and interactive session on : Mosquito: Public Enemy no 1 (WHO)" to observe World Malaria Day (25-04-2024); Dr. Kuntal Bhattacharya, Department of Zoology, Durgapur Government College



Outreach activity on "Telescope making and Star Gazing programme" organized by Departments of Physics Chemistry and Mathematics under DBT STAR COLLEGE SCHEME for local schools at Durgapur (11-07-2024)



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Outreach activity on "Interactive session on prospects of Earth Science in Academia and Industry" for students of local colleges; Prof. (Dr.) Pulak Sengupta, and Prof. (Dr.) Subir Sarkar, Department of Geological Sciences, Jadavpur University, Kolkata (26-09-2024)



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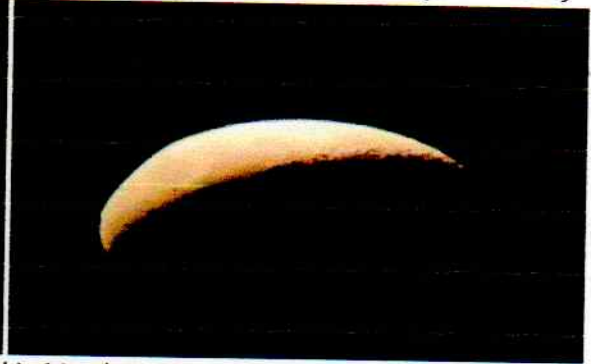
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Outreach activity on "Telescope making and Star Gazing programme" organized by Departments of Physics Chemistry and Mathematics under DBT STAR COLLEGE SCHEME for local schools at Visva Bharati, Shantiniketan (12-07-2024)



(Images of moon recorded in March 2024)



Telescope making and workshop images of July 12, 2024

Nivedita Acharyee

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Durgapur Government College

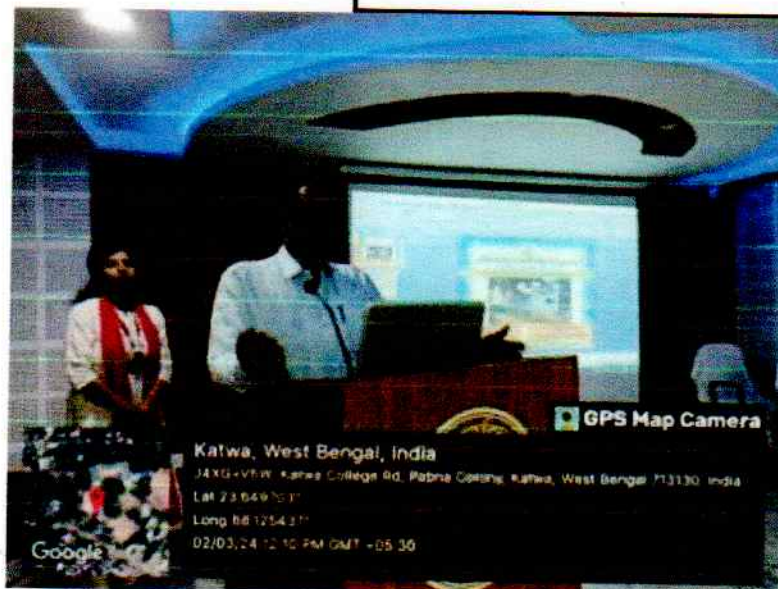
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Mentoring Session conducted for Katwa College to apply for DBT STAR COLLEGE SCHEME (02-03-2024)



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Dhruba Mondal and Ankit Sengupta, UG Semester-III student, Department of Geology jointly won third prize in the Poster Presentation Competition in Lithify 2024, organized by Department of Geological Sciences, Jadavpur University, Kolkata (September 2024)



Glimpses of Advisory Meeting dated 21-08-2024 held at Durgapur Government College



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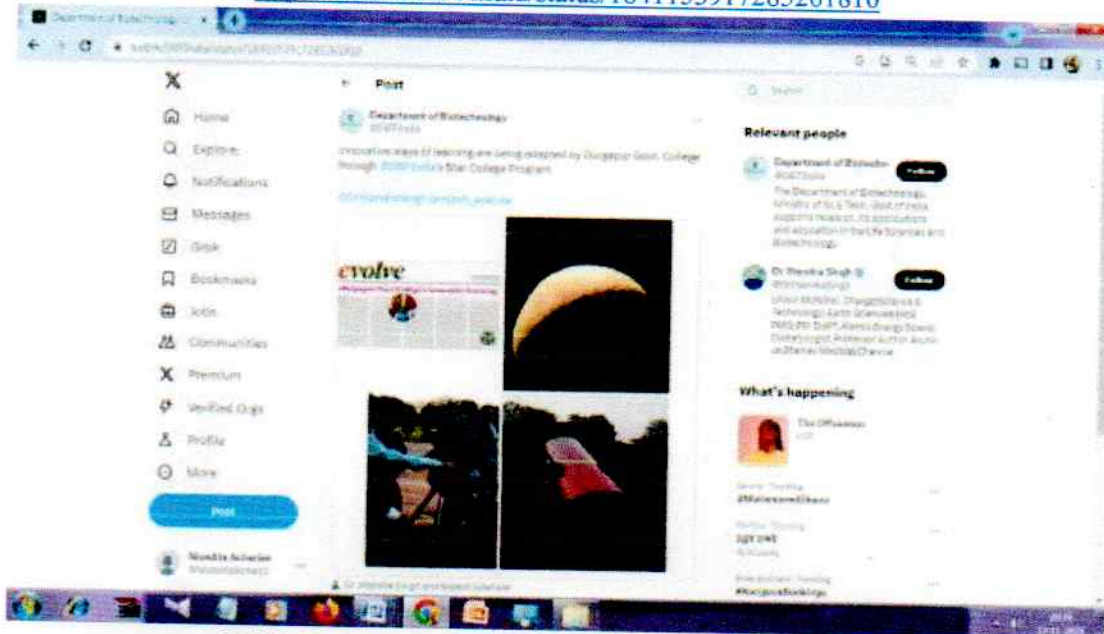
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INNOVATIVE PRACTICES OF DURGAPUR GOVERNMENT COLLEGE POSTED IN THE OFFICIAL X PAGE OF DEPARTMENT OF BIOTECHNOLOGY

<https://x.com/DBTIndia/status/1841153917285261810>



DBT STAR COLLEGE SCHEME ACTIVITIES OF
DURGAPUR GOVERNMENT COLLEGE IN NEWSPAPERS ARTICLES

evolve

The Sunday Statesman
KOLKATA | 11 AUGUST 2024

Durgapur Govt College's innovative learning

Under the DBT Star College Scheme, the Department of Biotechnology, Government of West Bengal, is supporting innovative learning practices in higher education. Durgapur Government College, West Bengal, is a pioneer in this regard, having adopted the DBT Star College Program. The college has implemented various innovative practices, including the use of virtual reality (VR) and augmented reality (AR) in teaching, the use of 3D printing in research, and the use of artificial intelligence (AI) in data analysis. The college has also established a state-of-the-art laboratory for the study of nanotechnology and has been successful in securing funding from the DBT Star College Scheme for the purchase of advanced equipment. The college's innovative learning practices have not only enhanced the quality of education but have also led to the discovery of new materials and the development of new technologies. The college's success in implementing the DBT Star College Program is a testament to the commitment of the Government of West Bengal to support higher education and to promote innovation in research and development.

DBT STAR COLLEGE SCHEME ACTIVITIES
(August 11, 2024): Sunday Statesman (Kolkata)

Nivedita Acharyee
Dr. Nivedita Acharyee
Coordinator, DBT STAR COLLEGE SCHEME
Durgapur Government College

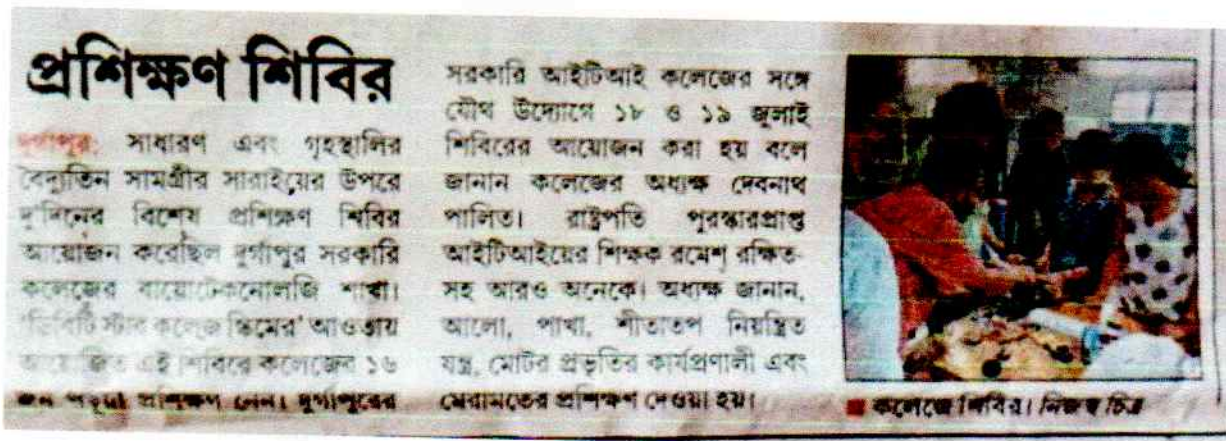
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DBT STAR COLLEGE SCHEME (Durgapur Government College)
(July 29, 2024): Daily Statesman (Bengali Version)



July 18-19, 2024

Hands on Training Programme on "Basic Electrical Equipment and Home Appliances" under DBT STAR COLLEGE SCHEME as a collaborative initiative of Durgapur Government College with Government Industrial Training Institute, Durgapur

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18 June 2024

To Whomsoever It May concern

We are happy to certify that Durgapur Government College has collaborated with us to jointly organize the Science Setu lectures, the details of which are enclosed. Seven lectures were organized as a part of this collaborative initiative from 03-04-2024 to 28-05-2024 online.

Sagar Sengupta

Director

डॉ. सागर सेनगुप्ता / Dr. Sagar Sengupta
निदेशक / Director
बैज्ञानिक अनुसंधान और नवप्रौद्योगिकी परिषद-राष्ट्रीय वैश्वीकरण केन्द्र
Biotechnology Research Innovation Council-National
Institute of Biomedical Genomics
(BRIC - NIBMG)
कल्याणी, पश्चिम बंगाल
Kalyani, West Bengal
भारत / India



राष्ट्रीय जैववैज्ञानिक
जीनोमिक्स संस्थान
National Institute of
Biomedical Genomics

DETAILS OF THE SCIENCE SETU LECTURES ORGANIZED AS A COLLABORATIVE INITIATIVE OF DURGAPUR GOVERNMENT COLLEGE, DURGAPUR, PASCHIM BARDHAMAN, WEST BENGAL AND NATIONAL INSTITUTE OF BIOMEDICAL GENOMICS, KALYANI, WEST BENGAL

Sl No.	Date of the event	Name of the Event	Resource Persons/In House Faculty members	YouTube Link
1	03-04-2024	<i>Science Setu Invited Lecture on Genomics Enabling Deep Understanding of Human Health and Disease</i>	Dr. Arindam Maitra, Associate Director, National Institute of Biomedical Genomics, Kalyani, West Bengal	https://youtube.com/live/TjwHxUzK0Wg?feature=share
2	04-04-2024	<i>Science Setu Invited Lecture on Liquid Biopsy in cancer detection and tumor surveillance</i>	Prof. Kartiki V. Desai, Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	https://www.youtube.com/watch?v=zMnHRZ3jT7U
3	24-04-2024	<i>Science Setu Invited Lecture on Tuberculosis: A journey from ancient to modern times</i>	Dr. Bhaswati Pandit, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	https://www.youtube.com/watch?v=QVuKcNetgHw
4	03-05-2024	<i>Science Setu Invited Lecture on Genetics and Immunobiology of Interferon Lambda 3/4 and their significance in human health and disease</i>	Dr. Sreedhar Chinnaswamy, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	https://youtu.be/U-wlTTiz_Tl
5	07-05-2024	<i>Science Setu Invited Lecture on Fulfilling the promise: the search for Genomic medicine</i>	Dr. Priyadarshi Basu, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	https://youtu.be/9E_ibEy4Oz0
6	18-05-2024	<i>Science Setu Invited Lecture on "Genetics of Glaucoma: A journey of two decades and continuing...."</i>	Dr. Moulinath Acharya, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	https://youtu.be/Mnj3P4AjdI4
7	28-05-2024	<i>Science Setu Invited Lecture on "Stemness" and "Plasticity" the moving targets in Cancer</i>	Dr. Sandeep Singh, Associate Professor, National Institute of Biomedical Genomics, Kalyani, West Bengal	https://youtu.be/giLackYTRrg

Kalyani, PIN: 741251, West Bengal, India

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