



Durgapur Government College

J.N.Avenue, Durgapur, District-Paschim Bardhaman, West Bengal, Pin-713214

Website: <https://www.durgapurgovtcollege.ac.in/>

E-mail: dpggovtcollege@gmail.com

Workshops and Seminars (Academic Session: 2023-24)

Sl No.	Organizing Department	Event	Date
1	Botany, Mathematics and Physics	Online Seminar on Introduction to Biostatistics with emphasis on machine learning and Hands on Training on Origin under DBT STAR COLLEGE SCHEME	08-09-2023
2	Botany	Herbarium techniques of Angiosperms and Modern Protocols for Pteridophytic Germplasm Identification and Conservation under DBT STAR COLLEGE SCHEME	31-08-2023
3	Botany	Two Day Workshop on Restricted mapping of Plasmid DNA under DBT STAR COLLEGE SCHEME	28-08-2023 and 29-08-2023
4	Botany and Geology	Two Day Workshop and Student Project on Vegetation Mapping under DBT STAR COLLEGE SCHEME	08-08-2023 and 10-08-2023
5	Botany	Webinar cum Workshop on "PCR and techniques in Designing Primer for UG Students" organized by Department of Botany under DBT STAR COLLEGE SCHEME	09-05-2024
6	Botany	Workshop on "Collection and Preservation of pteridophytic germplasm" (24-02-2024) organized by Department of Botany under DBT STAR COLLEGE SCHEME	24-02-2024
7	Botany, Geology and Chemistry	Seminar on Aspects of Biogeochemistry under DBT STAR COLLEGE SCHEME	17-08-2023
8	Chemistry	Workshop on "Calibration and basic applications of Water Analyzer" under DBT STAR COLLEGE SCHEME	01-09-2023
9	Chemistry	Seminar cum workshop on "Nanotechnology for Sustainable Development: Clean Energy and Environment" and "Elementary Concepts of Solid	22-09-2023

		State Chemistry" organized by Department of Chemistry under DBT STAR COLLEGE SCHEME	
10	Chemistry	Two day Workshop on "Bioactivity through Computation" under DBT STAR COLLEGE SCHEME	27-03-2024 and 28-03-2024
11	Mathematics	Workshop on "MATLAB: An introduction to beginners" under DBT STAR COLLEGE SCHEME	09-08-2023
12	Mathematics	Workshop on "Basics of MATHEMATICA and Graphical demonstration using Mathematica" under DBT STAR COLLEGE SCHEME	16-08-2023
13	Mathematics	Workshop on "First Step in Mathematica" under DBT STAR COLLEGE SCHEME	26-08-2023
14	Mathematics	Workshop on "Basics of LATEX" under DBT STAR COLLEGE SCHEME	01-09-2023
15	Geology	Online Workshop on " Application of Remote Sensing Techniques for Mineral Exploration " under DBT STAR COLLEGE SCHEME	13-03-2024 and 14-03-2024
16	Geology	Online Workshop on "Statistical Methods and Computer Applications in Natural Sciences" organized by Department of Geology under DBT STAR COLLEGE SCHEME under DBT STAR COLLEGE SCHEME	16-03-2024 and 17-03-2024
17	Zoology	Workshop on " Haemoglobin Estimation from Human Blood Sample "	08-04-2024
18	Conservation Biology	One Day Workshop on R-Statistical Software: Basic Knowledge	19-03-2024
19	Conservation Biology	Seminar cum interactive session on Indian Knowledge System on "Ethnomedicine: Relevance to Modern World"	18-05-2024
20	Bengali	Seminar on "Punthi Pathaker Smritikatha"	31-01-2024
21	Equal Opportunity Cell in collaboration with the Department of English and the Department of Bengali	Seminar Lecture and Workshop on Translation	10-02-2024
22	Bengali	One Day seminar on "Bangla Sahityer Itihaser Itihas"	27-02-2024

Durgapur Government College

(Affiliated to Kazi Nazrul University, Asansol, West Bengal)

NAAC Accredited "A" Grade College

DBT STAR COLLEGE SCHEME *sponsored* online seminar on

"Introduction to Biostatistics, with emphasis on Machine Learning" and

"A one day workshop on application of the biostatistical software: Origin"

Date: 08.09.2023, Time: 11:00 a.m.

Organized by Departments of Botany, Mathematics and Physics, Durgapur Government College

Online Seminar Lecture
by

**Dr. Tapobrata
Lahiri**

Professor, Department
of Applied Science
Indian Institute of
Information
Technology, Allahabad

Hands on tutorial on
ORIGIN by

**Dr. Nupur
Bhakta**

Assistant Professor,
Department of Physics
Durgapur Government
College, Durgapur



**OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE**

J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 201

Date: 04-09-2023

NOTIFICATION

This is for information to all concerned that a workshop on "*Biostatistical Applications in Modern Science*", will be organized by Departments of Botany, Mathematics and Physics, **on 08-09-2023 from 11 am onwards** under the DBT STAR COLLEGE SCHEME. It would comprise of an online seminar on "*Introduction to Biostatistics, with emphasis on Machine Learning*", followed by a hands on tutorial on application of the biostatistical software : Origin. Attendance at the event would be considered as class attendance, during the course of the seminar cum workshop. Departmental Coordinators are requested to inform the students for participation in the aforementioned seminar cum workshop.

Nivedita Acharjee

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



Principal
Durgapur Government College

Copy forwarded for information and necessary action to

- 1. Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME*
- 2. All participating departments of DBT STAR COLLEGE SCHEME*
- 3. Notice Book, Office of the Principal*

ATTENDANCE

Seminar Cum Workshop on "Biostatistical Applications in Modern Science", organized by Departments of Botany, Mathematics and Physics,
Durgapur Government College on 08-09-2023 from 11 am onwards under the DBT STAR COLLEGE SCHEME

Sl.	Name	Department	Designation	Semester	Honours/ program	Signature with date
1	SAYANTINI CHATTERJEE	MATHEMATICS	STUDENTS	1st	Honours	Sayantini Chatterjee 8/9/23
2	PARBATI MURMU	MATHEMATICS	STUDENTS	1st	Honours	Parbati Murmu 8/9/23
3	KOYEL KARMAKAR	MATHEMATICS	STUDENTS	1st	Honours	Koyel Karman 08/09/23
4	ANITA MAHATO	MATHEMATICS	STUDENTS	1st	Honours	Anita Mahato 8/9/23
5	RAKHI BHADUR	MATHEMATICS	STUDENTS	1st	UG	Rakhi Bhadur 08/09/23
6	ABHIJIT SINGH	PHYSICS	STUDENTS	1st	Honours	Abhijit Singh 08/09/23
7	Anurag Badyakar.	PHYSICS	STUDENT	1st	Honours	Anurag Badyakar 02/09/23
8	Mohini Kumar Mondal	PHYSICS	STUDENT	1st	UG	Mohini Kumar Mondal 02/09/23
9	Sourav Roy	MATHEMATIC	STUDENT	1st	Honours	Sourav Roy 02/09/23
10	SHAYAN GHOSH	MATHEMATICS	STUDENT	3rd	How	Shayan Ghosh 08/09/23
11	Ashik Mondal	Botany	STUDENT	1st	Honours	mondalashik@gmail.com
12	Subham Ghosh	BOTANY	STUDENT	1st	Hon	Subham Ghosh 8/9/23 com
13	ABHINABA KARMAKAR	BOTANY	STUDENT	1st	Hon	Abhinaba Karman 8/9/23
14	Debjeeet Show	BOTANY	Student	1st	Hon	Debjeeet Show 08/09/2023
15	Samrat Saldar	Botany	Student	1st	Hon	Samrat Saldar 08/09/23
16	Sakh Tahir	Botany	Student	1st	UG Hon	sakh.tahir@gmail.com (Sakh Tahir)
17	PRITI GHOSH	BOTANY	STUDENT	1st	U.G	Priti Ghosh 08/09/2023
18	DOLY DHIBAR	BOTANY	Student	1st	U.G	Doly Dhibar 08/09/23
19	TRAYASHA CHATTERJEE	BOTANY	STUDENT	1st	U.G	Trayasha Chatterjee 08/09/23
20	SAYANTIKA GORAI	BOTANY	STUDENT	1st	U.G	Sayantika Gorai 8/9/23
21	AYNDRILA PARAMANIK	BOTANY	STUDENT	1st	Honours	Ayndrila Paramanik 6/9/2023
22	SPARSHA BISWAS	BOTANY	STUDENT	1st	Honours	Sparsha Biswas 08.09.2023
23	NUPUR BHAKTA	Physics	Faculty	-	-	N.P.N 08.09.23

ATTENDANCE

Seminar Cum Workshop on "Biostatistical Applications in Modern Science", organized by Departments of Botany, Mathematics and Physics,
Durgapur Government College on 08-09-2023 from 11 am onwards under the DBT STAR COLLEGE SCHEME

Sl.	Name	Department	Designation	Semester	Honours/ program	Signature with date
24.	PROSANTA SAHA	Botany	Faculty	-	-	Prosanta Saha 08.09.23
25.	SANDIPAN RAY	BOTANY	Assistant Professor	-	-	Sandipan Ray 08/09/2023
26.	SIBAJI RIT	Mathematics	Assistant Professor	-	-	Sibi Rit 08/09/2023
27.	POMT MONDAL	Mathematics	Student	1 Sem	Honours	Pomt Mondal 8/9/23
28.	SUBHOJIT OJHA	BOTANY	Faculty	-	-	Subhojit Ojha 08/09/2023

Objectives of the online seminar

The seminar aimed to achieve the following objectives:

- **Understanding Statistical Methods:** To familiarize students with statistical techniques relevant to analyzing biological data, such as hypothesis testing, regression analysis, and experimental design.
- **Introduction to Machine Learning:** Introduce participants to the fundamentals of machine learning techniques and algorithms applicable to biological datasets for prediction, classification, and pattern recognition.
- **Integration of Biostatistics and Machine Learning:** Show how biostatistics and machine learning complement each other, highlighting situations where one approach might be more suitable than the other in biological data analysis.
- **Practical Applications:** Demonstrate real-world applications of biostatistics and machine learning in biological research, including genomics, drug discovery, and healthcare analytics.
- **Hands-on Experience:** Provide participants with practical sessions or workshops to apply statistical and machine learning tools to analyze biological datasets, fostering skills in data interpretation and analysis.
- **Critical Evaluation:** Encourage critical thinking and assessment of the strengths and limitations of statistical and machine learning methods when applied to biological data.

Objectives of student tutorial on the software Origin

- Provide a comprehensive introduction to the software, acquainting students with its interface, tools, and functionalities. This includes understanding the layout, menus, and basic operations.
- Teach students how to import various types of data into Origin and manipulate it effectively.
- Enable students to perform statistical analyses using Origin, such as descriptive statistics, hypothesis testing, regression, ANOVA, and other relevant statistical procedures.
- Teach students how to create different types of graphs and visualizations (scatter plots, histograms, bar charts, etc.) using their imported data. This includes customization options for axes, labels, titles, and annotations.
- Engage students in practical exercises, case studies, or sample projects that apply the software skills learned during the tutorial to scientific analyses.

The online seminar commenced on 11:00 a.m. with an attendance of 28 participants, at the computer laboratory of Durgapur Government College. Following inaugural lectures by The Coordinator, DBT College Scheme, Secretary of Teacher's Council and Coordinators/ Heads of the organizing Departments of Botany, Physics and Mathematics, the eminent resource person Prof. Tapobrata Lahiri started his deliberation. His lecture encompassed several topics which are summarized below:

1. **Introduction to Biostatistics:**

- Definition, scope, and significance of biostatistics in biological and health sciences.
- Basic statistical concepts and terminology.

2. **Descriptive Statistics:**

- Measures of central tendency (mean, median, mode) and dispersion (variance, standard deviation).
- Graphic representations: histograms, box plots, bar charts.

3. **Hypothesis Testing and Confidence Intervals:**

- Basics of hypothesis testing: null and alternative hypotheses, p-values, significance levels.
- Construction and interpretation of confidence intervals.

4. **Regression Analysis:**

- Simple and multiple linear regression: model fitting, interpretation, and diagnostics.
- Logistic regression: application to binary outcomes in health studies.

5. **Application of Biostatistics in Research:**

- Case studies and examples showcasing the use of biostatistics in designing studies, analyzing results, and drawing conclusions in biology and health-related fields.

6. **Introduction to Machine Learning:**

- Definition, scope, and applications of machine learning.
- Historical background and evolution of machine learning algorithms.

7. **Types of Machine Learning:**

- Supervised, unsupervised, and reinforcement learning.
- Explanation of each type, their differences, and typical applications.

8. **Data Preprocessing and Feature Engineering:**

- Importance of data cleaning, normalization, and handling missing values.
- Feature selection, extraction, and transformation techniques.

9. **Applications of Machine Learning:**

- Case studies and real-world applications in various domains:
- Healthcare: Medical imaging analysis, disease prediction.
- Natural Language Processing (NLP)
- Image recognition, autonomous vehicles, recommendation systems, etc.

10. **Future Trends and Advancements:**

- Career opportunities and the future landscape of machine learning.



The outcomes of the seminar on biostatistics and machine learning:

Enhanced Understanding: Participants gain a deeper understanding of statistical methods and basic machine learning process relevant to analyzing biological data.

Application Skills: Acquiring practical skills in applying statistical techniques to biological datasets, enabling effective analysis and interpretation of data.

Problem-Solving Abilities: Improved ability to address biological questions by choosing appropriate statistical or machine learning approaches for data analysis and interpretation.

Critical Thinking: Enhanced critical thinking skills to evaluate and select the most suitable methodologies for specific biological research problems.

Research Advancements: Empowering participants to apply learned techniques in their research, potentially leading to advancements in fields such as genomics, drug discovery, disease prediction, and healthcare analytics.

Images of the online seminar on Biostatistics and Machine Learning

Following the webinar, there was lunch break from 2:00 p.m. to 2:30 p.m.

The next session on hands on tutorial on the software Origin commenced from 2:30 p.m. This technical session was conducted by Dr. Nupur Bhakta, Assistant Professor, Department of Physics, Durgapur Government College. The fundamentals of biostatistical analysis of data, preparation of graphs and plots and importing the image files using Origin software, were described in the session. The participating students performed hands on operation of the software Origin and analysed the data provided by the resource person. The students were given assignments by Dr. Prosanta Saha, Assistant Professor, Department of Botany, Durgapur Government College.



Images of the hands on tutorial session on the biostatistical software Origin delivered by Dr. Nupur Bhakta and being followed in data analysis by the participating students

Outcomes of student tutorial on the software Origin

- Students gained a comprehensive understanding of the software's interface, tools, and functionalities, becoming able in performing various tasks, such as data import, manipulation, analysis, and visualization.
- Students acquire the ability to perform a range of statistical analyses within Origin, allowing them to apply appropriate statistical tests, interpret results, and draw meaningful conclusions from their data.
- Students were able to create diverse and customized graphs which enabled the students to present data accurately and effectively, enhancing their ability to communicate findings visually.
- Exposure to troubleshooting methods equips students with the skills to address common issues encountered while using Origin, fostering independent problem-solving capabilities.
- Students can apply their acquired skills in real-world scenarios, integrating Origin into their research, projects, or academic assignments to conduct data analysis and visualization effectively.

Copies of student's assignments follow..

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DBT STAR COLLEGE SCHEME

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“A one day workshop on application of the biostatistical software: Origin”

Date: 08.09.2023

Name: ..AYNDRILA PARAMANIK.....

Department:BOTANY.....

Semester:1ST.....

Discipline:HONOURS.....

Signature:Ayndrila Paramanik.....

Q. The plant heights (in cm) of the four species (A, B, C, and D) are provided in the following table.

Rep	A	B	C	D
1	73.21	58.46	71.76	64.23
2	69.10	55.15	70.04	57.29
3	71.16	56.81	70.90	60.76

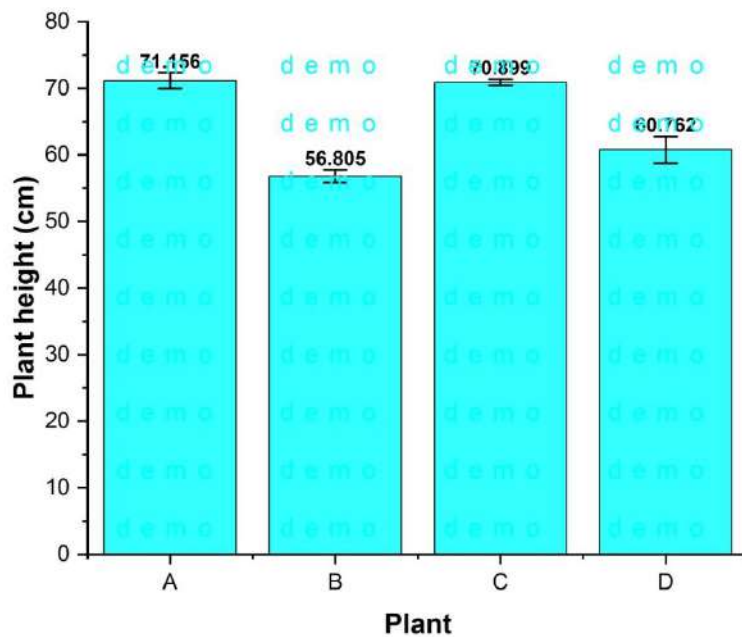
Using the software Origin, compute the descriptive statistics and find out the mean and standard error values. Present the comparative data of the four species in the form of a bar graph.

Ans: The descriptive statistics is presented in the following table

Descriptive Statistics

	N total	Mean	Standard Deviation	SE of mean	Variance	Sum	Minimum	Median	Maximum
A	3	71.15598	2.05221	1.18484	4.21156	213.46795	69.10377	71.15598	73.20819
B	3	56.80539	1.65255	0.9541	2.73093	170.41617	55.15284	56.80539	58.45794
C	3	70.89891	0.85891	0.49589	0.73772	212.69672	70.04	70.89891	71.75781
D	3	60.76243	3.47076	2.00385	12.0462	182.28729	57.29167	60.76243	64.23319

The comparative bar graph is presented below



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" A one day workshop on application of the biostatistical software: Origin"

Date: 08.09.2023

Name: ... *Abhinaba Karmakar*

Department: ... *Botany*

Semester: ... *1st*

Discipline: ... *Honours*

Signature: ... *Abhinaba Karmakar*

Q. The root length (in cm) of the four species (A, B, C, and D) is provided in the following table.

Rep	A	B	C	D
1	70.16	35.15	66.13	59.34
2	64.24	33.58	61.89	50.16
3	67.20	34.36	64.01	54.75

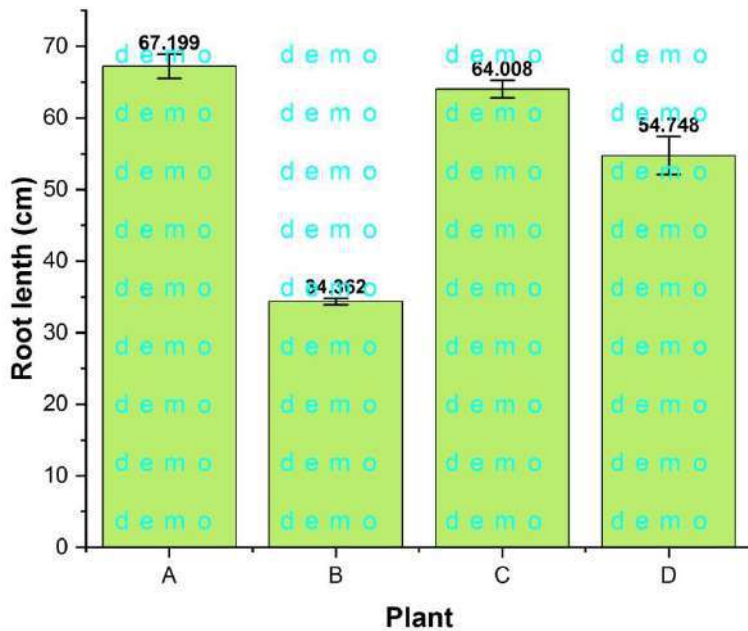
Using the software Origin, compute the descriptive statistics and find out the mean and standard error values. Present the comparative data of the four species in the form of a bar graph.

Ans: The descriptive statistics is presented in the following table

Descriptive Statistics

	N total	Mean	Standard Deviation	SE of mean	Variance	Sum	Minimum	Median	Maximum
A	3	67.19897	2.95914	1.70846	8.75649	201.5969	64.23983	67.19897	70.1581
B	3	34.36246	0.78343	0.45231	0.61376	103.08738	33.57903	34.36246	35.14589
C	3	64.00791	2.12112	1.22463	4.49915	192.02374	61.88679	64.00791	66.12903
D	3	54.74845	4.58837	2.6491	21.05313	164.24536	50.16009	54.74845	59.33682

The comparative bar graph is presented below



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“A one day workshop on application of the biostatistical software: Origin”

Date: 08.09.2023

Name: Seeh Tahiro

Department: Botany

Semester: 1st

Discipline: Undergraduate

Signature: Seeh Tahiro

Q. The leaf length (in mm) of the four species (A, B, C, and D) is provided in the following table.

Rep	A	B	C	D
1	71.23	54.95	64.75	54.11
2	63.33	54.86	67.15	60.63
3	67.28	54.91	65.95	57.37

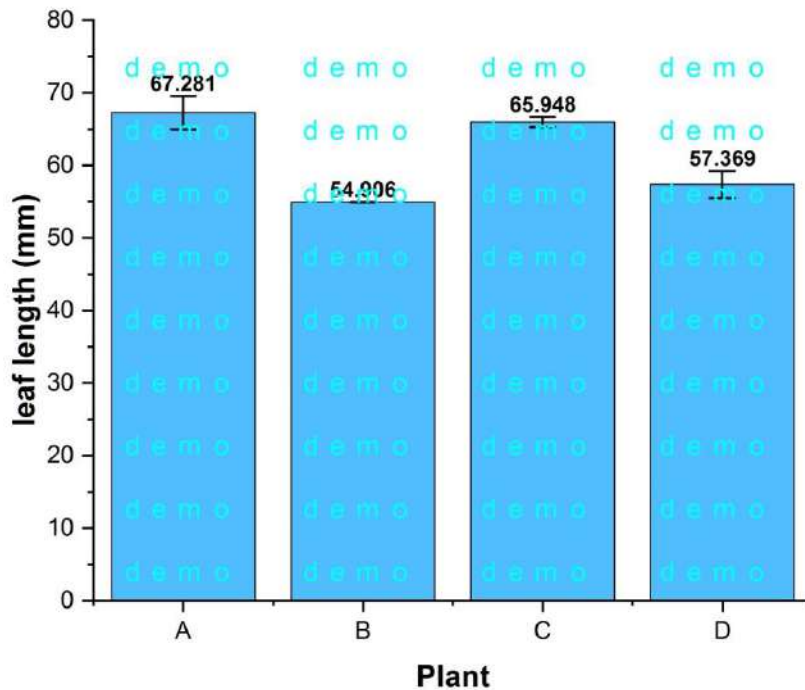
Using the software Origin, compute the descriptive statistics and find out the mean and standard error values. Present the comparative data of the four species in the form of a bar graph.

Ans: The descriptive statistics is presented in the following table

Descriptive Statistics

	N total	Mean	Standard Deviation	SE of mean	Variance	Sum	Minimum	Median	Maximum
A	3	67.28059	3.94726	2.27895	15.58087	201.84178	63.33333	67.28059	71.22786
B	3	54.90599	0.0445	0.02569	0.00198	164.71798	54.86149	54.90599	54.9505
C	3	65.94776	1.202	0.69397	1.4448	197.84328	64.74576	65.94776	67.14976
D	3	57.36858	3.2623	1.88349	10.64263	172.10575	54.10628	57.36858	60.63089

The comparative bar graph is presented below



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DBT STAR COLLEGE SCHEME

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“A one day workshop on application of the biostatistical software: Origin”

Date: 08.09.2023

Name: *Debjeeet Show*
Department: *Botany*
Semester: *1st*
Discipline: *Hons.*
Signature: *Debjeeet Show*

Q. The seed diameters (in mm) of the four species (A, B, C, and D) are provided in the following table.

Rep	A	B	C	D
1	39.27	32.40	38.52	36.94
2	38.68	32.34	37.62	39.17
3	38.97	32.37	38.07	38.06

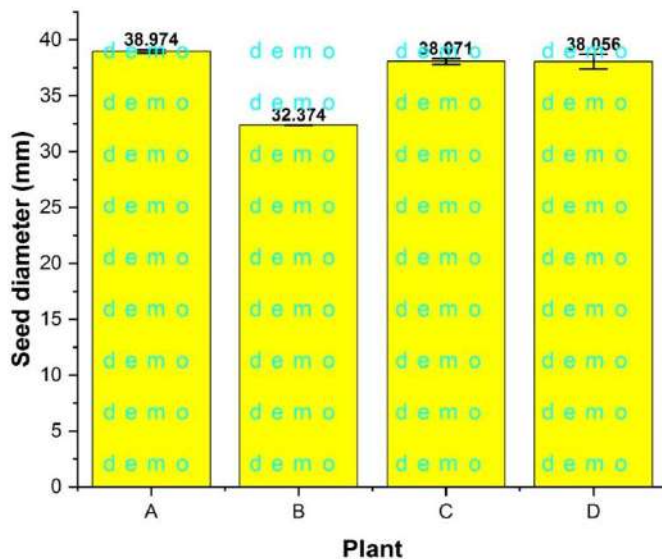
Using the software Origin, compute the descriptive statistics and find out the mean and standard error values. Present the comparative data of the four species in the form of a bar graph.

Ans: The descriptive statistics is presented in the following table

Descriptive Statistics

	N total	Mean	Standard Deviation	SE of mean	Variance	Sum	Minimum	Median	Maximum
A	3	38.97351	0.29801	0.17206	0.08881	116.92053	38.6755	38.97351	39.27152
B	3	32.37389	0.02967	0.01713	8.80522E-4	97.12166	32.34421	32.37389	32.40356
C	3	38.07099	0.44753	0.25838	0.20028	114.21296	37.62346	38.07099	38.51852
D	3	38.05556	1.11111	0.6415	1.23457	114.16667	36.94444	38.05556	39.16667

The comparative bar graph is presented below



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DBT STAR COLLEGE SCHEME

sponsored

**“A one day workshop on
application of the biostatistical
software: Origin”**

Date: 08.09.2023

Name: Sparsha Biswas

Department: Botany (Hons)

Semester: 1st

Discipline: Honours

Signature: Sparsha Biswas

Q. The petal length (in mm) of the four species (A, B, C, and D) is provided in the following table.

Rep	A	B	C	D
1	45.12	30.44	48.95	44.35
2	38.27	36.30	44.57	37.01
3	41.69	33.37	46.76	40.68

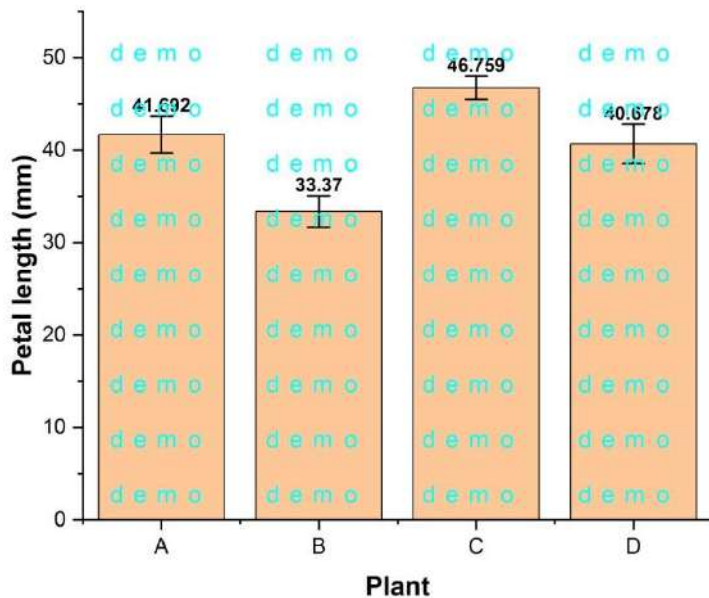
Using the software Origin, compute the descriptive statistics and find out the mean and standard error values. Present the comparative data of the four species in the form of a bar graph.

Ans: The descriptive statistics is presented in the following table

Descriptive Statistics

	N total	Mean	Standard Deviation	SE of mean	Variance	Sum	Minimum	Median	Maximum
A	3	41.6918	3.42448	1.97712	11.72704	125.07541	38.26733	41.6918	45.11628
B	3	33.36951	2.93049	1.69192	8.58776	100.10854	30.43902	33.36951	36.3
C	3	46.75889	2.18703	1.26268	4.78309	140.27668	44.57187	46.75889	48.94592
D	3	40.67755	3.67134	2.11965	13.47875	122.03266	37.00621	40.67755	44.34889

The comparative bar graph is presented below

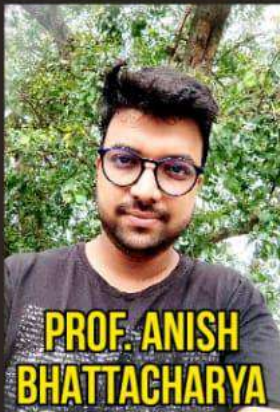


**DBT STAR COLLEGE SCHEME
SPONSORED ONE DAY WORKSHOP ON**

**HERBARIUM TECHNIQUES OF
ANGIOSPERMS AND MODERN
PROTOCOLS FOR PTERIDOPHYTIC
GERMPLASM IDENTIFICATION AND
CONSERVATION**

31.08.2023

**PTERIDOPHYTIC GERMPLASM
IDENTIFICATION AND
CONSERVATION**



**PROF. ANISH
BHATTACHARYA**

11:00- 11:30- INTRODUCTION

11:30- 12:00- PLANT DEMONSTRATION

**12:00- 13:00- IDENTIFICATION
TECHNIQUE**

LUNCH BREAK (13:00- 13:30)

**HERBARIUM
TECHNIQUES OF
ANGIOSPERMS**



**DR. ASHOKE
BHATTACHARYA**

13:30- 14:00- INTRODUCTION

14:00- 14:30- HERBARIUM SHEET DEMONSTRATION

**14:30- 15:00- HERBARIUM SHEET PREPARATION BY
STUDENTS**

15:00- 16:00- FIELD VISIT

16:00- 16:30- PLANT SPECIMEN PASTING

**OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE**

J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 186

Date: 24-08-2023

NOTIFICATION

This is for information to all concerned that Department of Botany will conduct workshop on "*Herbarium Techniques of Angiosperms and Modern protocols for pteridophytic germplasm identification and conservation*" for B.Sc. students on 31-08-2023 from 11 am onwards under the DBT STAR COLLEGE SCHEME.

Departmental Coordinators are requested to inform the students of their respective departments for participation in the aforementioned workshop and contact Dr. Prosanta Saha (Departmental Coordinator of Botany) for other details.

Nivedita Acharjee

Dr. Nivedita Acharjee

Coordinator, DBT STAR COLLEGE SCHEME
Durgapur Government College



Principal

Durgapur Government College

Copy forwarded for information and necessary action to

- 1. Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME*
- 2. All participating departments of DBT STAR COLLEGE SCHEME*
- 3. Notice Book, Office of the Principal*

**HERBARIUM TECHNIQUES OF ANGIOSPERMS AND MODERN PROTOCOLS FOR
PTERIDOPHYTIC GERMPLASM IDENTIFICATION AND CONSERVATION**

Date - 31.08.2023 (1st Half)

Attendance Sheet

<u>Sl No.</u>	<u>Name in BLOCK</u>	<u>DEPARTMENT</u>	<u>SEMESTER</u>	<u>REGN. NO.</u>	<u>e-mail id</u>	<u>SIGNATURE</u>
1	Sekh Tahiri	Botany	1 st Leg	23BOT002	mm.tahir.sm@gmail.com	Sekh Tahiri
2	SAMRAT SARDER	BOTANY	1 st Sem	23BOTH008	Sarders093@gmail.com	Samarat Sardar
3	ASHIK MONDAL	BOTANY	1 st Sem	23BOTH020	ashik97@gmail.com	Ashik Mondal
4	PARIJA CHAKRABORTY	BOTANY	5 th SEM	20BOTH-040	parijachakraborty240@gmail.com	Paruja Chakraborty
5	Sparsha Biswas	Botany	1 st Sem	23BOTH011	sparshabiswas445599@gmail.com	Sparsha Biswas
6	Anpan Basudhan	Botany	3 rd Sem	105220211 20058.	anpanbasudhan111@gmail.com	Anpan Basudhan
7						

HERBARIUM TECHNIQUES OF ANGIOSPERMS AND MODERN PROTOCOLS
 FOR PTERIDOPHYTIC GERMPLASM IDENTIFICATION AND CONSERVATION (2nd Half)

08.23

Sl No.	Name in BLOCK	DEPARTMENT	SEMESTER	REGN. NO.	e-mail id	SIGNATURE
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3	Sparsha Biswas	Botany	1st	23BOT1011	Sparsha.biswas 445599@gmail.com	Sparsha Biswas
4	ASHIK MONDAL	Botany	1st	23BOT1020	mondal ashik97@gmail.com	Ashik Mondal
5	Sekh Tahiro	Botany	4th	23BOT1002	mnjtahiro5m (a)	Sekh Tahiro
6.	ARPAN BARDHAN	Botany	3rd	210522112058	arpanbardhan 111@gmail.com	Arpan Bardhan

No. of participants– 6

Name of the participants(their attendance was taken in feedback form and practice work given in page no. 3-8)–

1. ParijaChakraborty (6thSemHons)
2. ArpanBardhan (3rdSem Botany Program)
3. SekhTahir (1stSem UG Botany)
4. SamratSarder(1stSemHons Botany)
5. SparshaBiswas(1stSemHons Botany)
6. AshikMondal(1stSemHons Botany)

Report of the whole programme:-

Pteridophyticgermplasm identification and conservation:-

Pteridophytes (Vascular Cryptogams) are the first vascular land plants prevailing still now being the second most diverse plant group on earth. Majority of the pteridophytes love to grow in shady areas. Few are adapted to disturbed condition. Increasing urbanization and industrialization are affecting many sensitive species of pteridophytes. So, we must conserve the plant species at least those who are locally rare or getting extinct day by day. But before conserving, the proper taxonomic identification is must needed. So, we tried to make our students knowledgeable about the identification procedure with the help of Dichotomous key. For this purpose, we used **Illustrated Manual of Ferns of Assam by S.K. Borthakur**. Some images of the class are given below -



After taking the identification class we gave some local pteridophytic specimens to the students. Their identification along with description by some of the students are given below –

(A)
plant A have root and it's non aquatic plants. it can produce spore. it's leaf structure like birds wings. the distance between root to first leaf are called petiole.

(B)
plant B have root and it's non aquatic plant.

(C)
plant C have no root. it's absorbing leaf work like root. and it's also aquatic plants. It's distance between two leaf are called stem

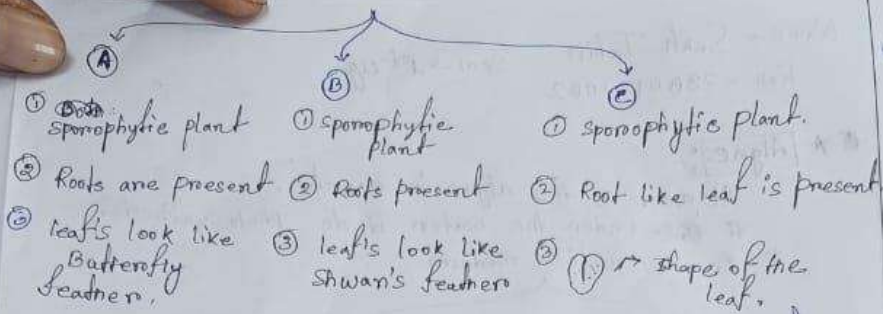
31/08/21

Specimen - A Adiantaceae → Adiantum philippense

Specimen - B Pteridiaceae → Pteris → pteris vittata

Specimen - C Salviniaaceae → Salvinia → Salvinia natas

DO NOT WRITE HERE



Collected
31/08/23

DO NOT WRITE HERE

Specimen - A
 # ADIANTACEAE → Adiantum philippense
 (family)

Specimen - B
 # Pteridiaceae → Pteris (species) → Pteris vittata

Specimen - C
 ① Salviniaceae (family)
 ↳ ② Salvinia (species) found in india.
 # Salvinia natans

31/08/23

(4)



Prof. Prasad
Semester - 3rd
Roll no. - 20130TP031

Main Answer Booklet Number : KNU/

Course Code :

Course Name :

1) Algae characteristics :-

- ① It is asexual and sexual forms.
- ② It is photosynthetic and roots or leaves absent.

2) Bryophyte characteristics -

- ① Roots, stem or leaves present.
- ② Seta and capsule present.
- ③ multicellular root

Psilobryte :- Pteridobryte

- ① stem present
- ② Non produce spore.
- ③ It's had root.

① It is non-aquatic plant and the leaf is wing like structure.
Rhizome present.

② It have root and it's non aquatic.
Rhizome present.

③ Plant e has no root and it's having leaf and petiole leaf bracket.

Specimen - B

Pteridiaceae (family)
↓
Pteris vittata

Specimen - A

Adiantaceae (family)
Adiantum → Pteris
(1)
Adiantum philippense

Specimen - C

① Salvinaceae (family)
↓
② Salvinia (species)
↓
Cuscutata
Se. mactans

Checked

3/10/20

3/10/20

DO NOT WRITE

(A)
 ① The spores are present ~~on~~ adaxial surface of the leaves on the borders of the leaves, containing rhizome, root, frond, etc.

② It is terrestrial.

Specimen - A
~~Salvinia~~
 Adiantaceae
 ↓
 Adiantum
 philippense

(B)
 ① The spores are present on adaxial surface of the leaves and the leaves are feather-like, containing rhizome, leaflets, rachis, lamina, root.

② It is also terrestrial.

Specimen - B
 Pteridaceae
 ↓
 Pteris (4)
 ↓
 vitata

(C)
 In this plant, the leaves are differentiated into 2 types - assimilatory leaf and absorbing leaf.

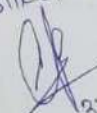
② It is aquatic.

Specimen - C
 Salviniaceae
 ↓
 Salvinia
 ↓
 natans

DO NOT WRITE HERE

[Signature]
 3/08/24


- | | | |
|-------------------|-------------------|-------------------|
| <u>A</u> | <u>B</u> | <u>C</u> |
| • non aquatic | • non aquatic | • aquatic |
| • roots present | • roots present | • no roots |
| that's why it's A | that's why it's B | that's why it's C |

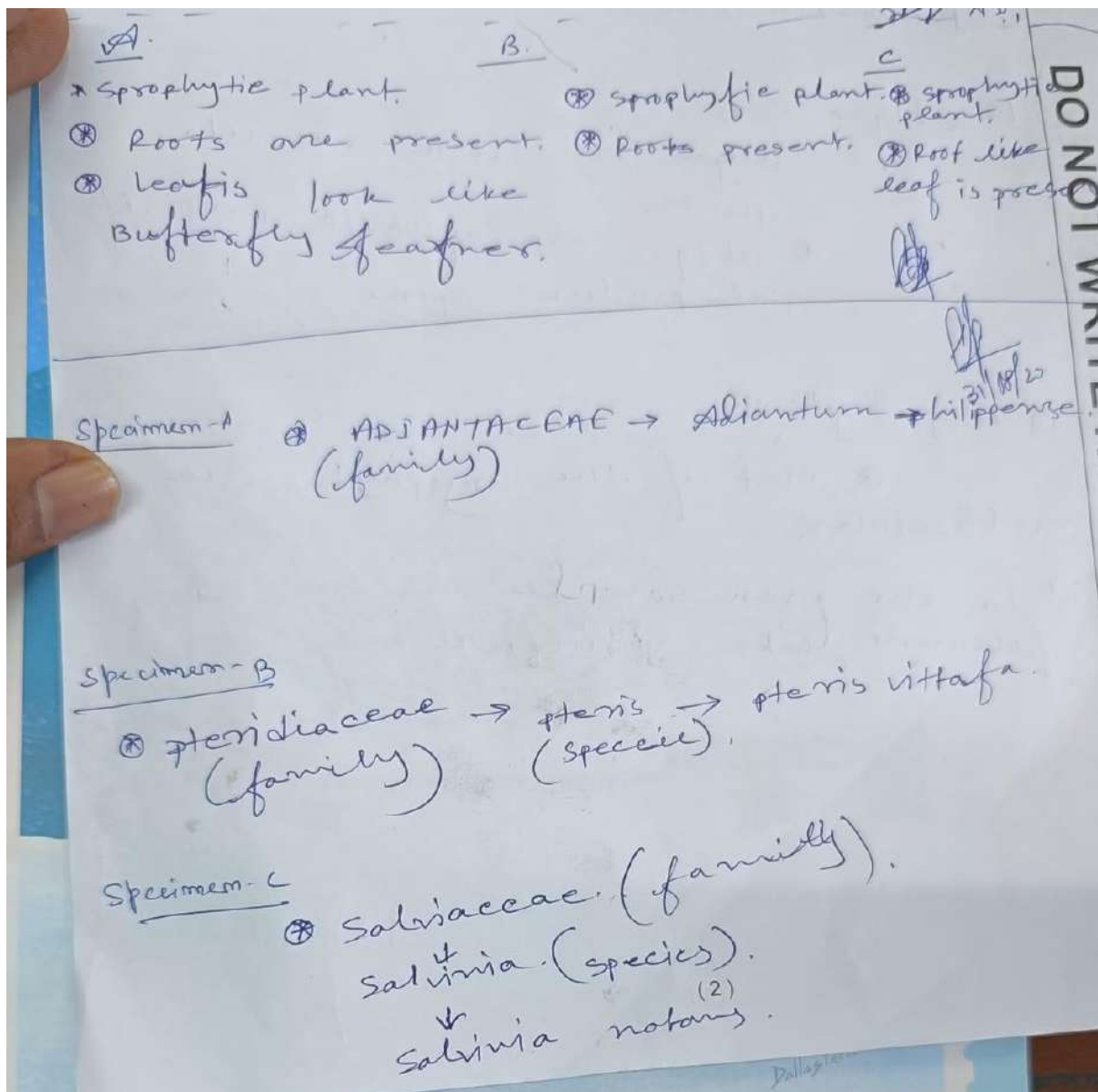
Collected

 31/08/22

Specimen - A
 Adiantaceae → Adiantum philippense

Specimen - B
 Pteridiaceae → Pteris vittata

Specimen - C
 Salviniaceae
 salvinia (found in india) → Salvinia natans

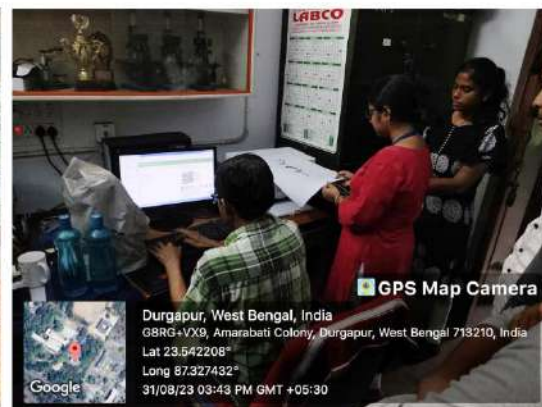

 31/08/22



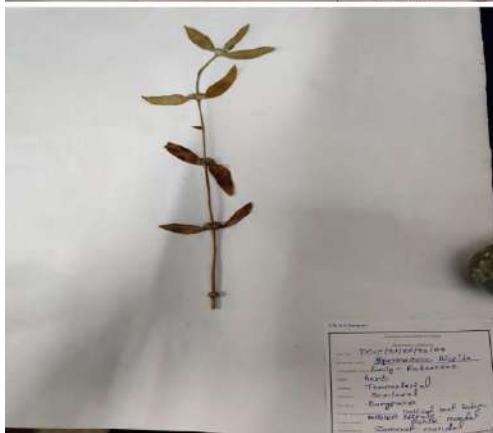
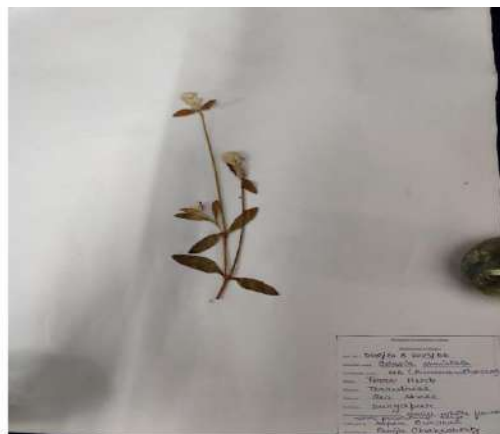
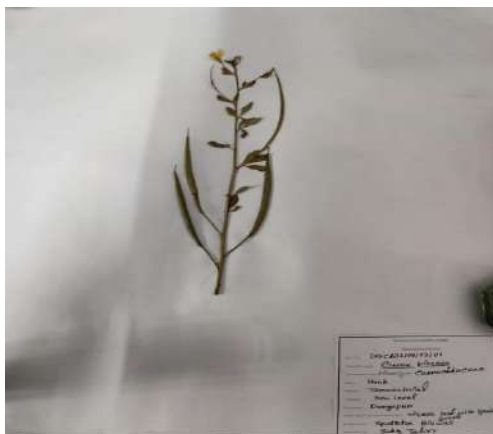
Herbarium techniques of angiosperm:-

Herbarium sheet is an excellent medium to preserve plant specimens. People who are interested in plant taxonomical study often follow herbarium sheets along with different dichotomous keys, flora or manual. It is frequently observed that plant populations are often get destroyed and uprooted due to various anthropogenic activities. So, it is difficult to a taxonomist if he/she likes to make a check list of a flora. But if a plant is preserved in herbarium sheet then the task become easier.

So, our motive was to let the student know about Herbarium then the importance of Herbarium sheets and finally the procedures of making a proper herbarium sheet. Following are some pictures of the above mentioned technique demonstrated by our respected H.O.D Dr.Ashoke Bhattacharya. Dr. Bhattacharya also taught the students about making of a QR code of a herbarium sheet.



We also let the students to make some herbarium sheets by their own. Some of those are given below –



Students of different semesters along with the Herbarium sheets

Durgapur Government College

(Affiliated to Kazi Nazrul University, Asansol, West Bengal)

NAAC Accredited "A" Grade College

DBT STAR COLLEGE SCHEME sponsored two day's workshop on

“RESTRICTION MAPPING OF PLASMID DNA”

Date: 28.08.2023 - 29.08.2023, Time: 11:00 a.m.

Organized by Departments of Botany, Durgapur Government College

Resource Person -

Dr. Prosanta Saha

Assistant Professor

Department of Botany

Durgapur Government College,

Durgapur

Event schedule -

Day 1 [28.08.2023]

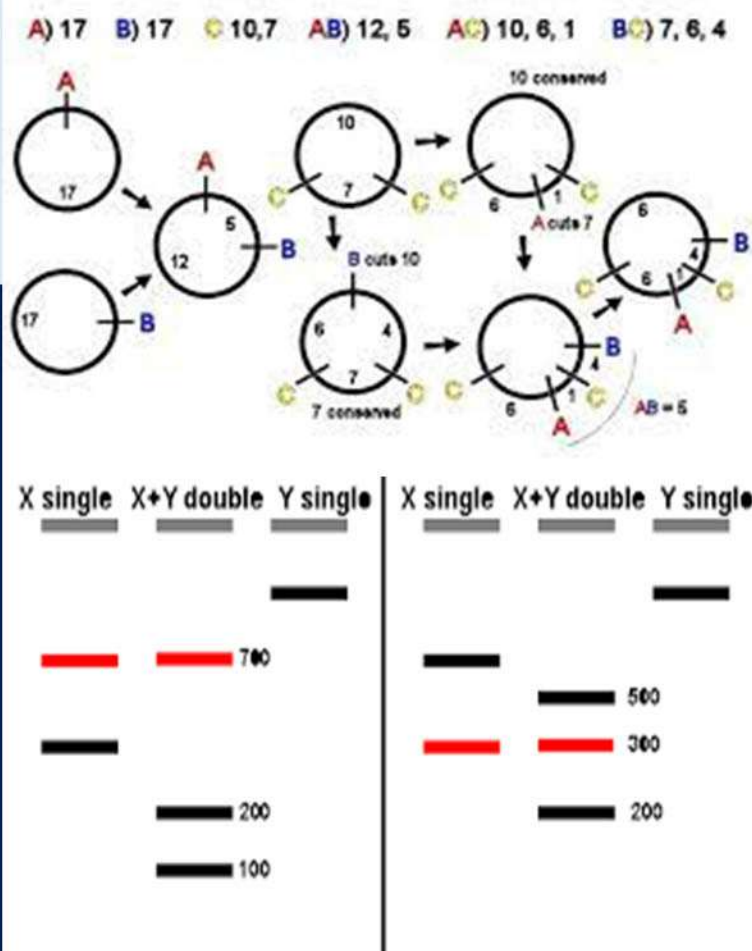
•11:00 a.m. to 01:30 p.m. - Seminar lecture on Restriction Mapping of DNA

•01:30 p.m. to 02:00 p.m. - Lunch break

•02:00 p.m. to 05:00 p.m. - Technical session on designing a Restriction Mapping experiment

Day 2 [29.08.2023]

•11:00 a.m. to 05:00 p.m. - Hands on demonstration and tutorial of Restriction Mapping process



**OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE**

J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 185

Date: 24-08-2023

NOTIFICATION

This is for information to all concerned that Department of Botany will conduct workshop on "***Restricted mapping of Plasmid DNA***" for B.Sc. students on 28-08-2023 and 29-08-2023 from 12 noon onwards under the DBT STAR COLLEGE SCHEME.

Departmental Coordinators are requested to inform the students of their respective departments for participation in the aforementioned workshop and contact Dr. Prosanta Saha (Departmental Coordinator of Botany) for other details.

Nivedita Acharjee

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



Principal
Durgapur Government College

Copy forwarded for information and necessary action to

- 1. Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME*
- 2. All participating departments of DBT STAR COLLEGE SCHEME*
- 3. Notice Book, Office of the Principal*

Session - I Attendance Sheet

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7	AYNDRILA PARAMANIK	Botany honr	1st		achintyadgp6@gmail.com	Ayndrila Paramanik
8	Bristi Bhandari	Botany Programme	1st		bhandari bristi8@	Bristi Bhandari
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10	Sekh Tahir	Botany Progr...	1st		mr.tahir.50@gmail.com	Sekh Tahir
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12	Smoiti Mondal	Botany programme	1st		mondalsmoiti830@gmail.com	Smoiti Mondal
13	Koyel Ghosh	Botany Progr.	1st		koyelmoutier2005@gmail.com	Koyel Ghosh
14	ARINA BHATTI-ACHARYA	Botany Progr-programme	1st		arinabhattiacharya@gmail.com	Arina Bhattacharya
15	Doly Dhibar	Botany - Prog.	1st		doladhibar41@gmail.com	Doly Dhibar
16	Tijyasha Chatterjee	Botany Programme	1st		chatterjee tijyasha907g.	Tijyasha Chatterjee
17	Rohan Mahata	PHYSICS HONS	3rd	105221220043	mahatarohan196@gmail.com	Rohan Mahata
18	Gourab Bej	PHYSICS HONS	3rd	105221220036	gourabbej66@gmail.com	Gourab Bej
19	Nibedita Ghosh	PHYSICS HONS	3rd	105221220037	nibeditaghosh160@gmail.com	Nibedita Ghosh
20	Sumana Mondal	PHYSICS HONS	3rd	105221220112	sumanam715@gmail.com	Sumana Mondal
21	Suparna Pal	PHYSICS HONS	3rd	105221220085	suparnapal.dgp123@gmail.com	Suparna Pal
22	Neha Rej	PHYSICS HONS	3rd	105221220015	seeirecha2004@gmail.com	Neha Rej
23	ARJIT RAHA ROY	PHYSICS HONS	3rd	105221220032	arjit162020@gmail.com	Arjit Raha Roy.
24	Tanchan Mondal	Physics Hons	3rd	105221220019	tanchanmondal@gmail.com	Tanchan Mondal
25	Mandira Mukherjee	Zoology Hons.	1st		mandiramukherjee19@gmail.com	Mandira Mukherjee

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36	Gouran Poddar	Zoology U-G	1st		gauranpoddar410@gmail.com	G.P
37	Deep Poddar	Zoology U.G	1st		deep.poddar27@gmail.com	D.P
38						

EVENT - Restriction Mapping of Plasmid DNA Day 2 Date - 29.08.2023

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RAKHI SINGH	BOTANY	5th HONS	21BOTH024	rakhijyotsnall@gmail.com	Rakhi Singh
Anisa Khatun	Zoology	1st Hons.	23ZOOH006	Khatunanisa861@gmail.com	Anisa Khatun
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Sekh Tahiro	Botany	1st UG	23BOTU002	mrs.tahir.sm@gmail.com	Sekh Tahiro
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Krishna Dangar	Zoology	1st	23ZOOH029.	Krishnadangar03@gmail.com	Krishna Dangar
Barsha Mondal	Zoology	1st UG	23ZOOU004	Geurupadamondal525@gmail.com	Barsha Mondal

Objectives of the workshop

The workshop on restriction mapping of plasmid DNA aims to teach participants how to use restriction enzymes to cut DNA at specific sequences, analyze the resulting fragments, and map the locations of these restriction sites on a DNA molecule. The objectives further include disseminating knowledge to students about the principles behind restriction mapping, identification of restriction sites from web servers and planning the restriction digestions, hands-on experience with laboratory techniques, interpreting restriction patterns, and applying this knowledge in molecular biology research or genetic engineering.

Day 1 of workshop (28.08.2023)

Session I Seminar Lecture on Restriction Mapping of DNA: The workshop commenced at 11:00 a.m. with the seminar lecture entitled “Restriction Mapping of Plasmid DNA” by Dr. Prosanta Saha, Assistant Professor, Department of Botany, Durgapur Government College. The session had a participation of 37 students. The seminar covered various aspects of restriction mapping from the basics, which involves the identification and mapping of restriction enzyme recognition sites in a DNA sequence. Some key topics covered in the lecture, are presented below -

1. Introduction to DNA Restriction Mapping:	<ul style="list-style-type: none">• Overview of the principle and history of DNA restriction mapping.• Importance and applications in molecular biology, genetics, and biotechnology.
2. Restriction Enzymes:	<ul style="list-style-type: none">• Explanation of restriction enzymes, their types (Type I, II, III), and specific recognition sequences.
3. Techniques for DNA Cleavage:	<ul style="list-style-type: none">• Mechanisms of DNA cleavage by restriction enzymes.• Gel electrophoresis and its role in separating DNA fragments based on size.
4. Mapping Strategies and Analysis:	<ul style="list-style-type: none">• Overview of mapping strategies (single/double digestion, partial digestion) for DNA fragments.• Analyzing restriction digests using agarose or polyacrylamide gel electrophoresis.
5. Constructing Restriction Maps:	<ul style="list-style-type: none">• Interpretation and assembly of restriction fragment patterns to generate complete restriction maps.
6. Challenges and Limitations:	<ul style="list-style-type: none">• Limitations and challenges in restriction mapping techniques, such as resolution issues or handling complex genomes.
7. Future Directions and Technological Advances:	<ul style="list-style-type: none">• Use of restriction mapping in gene mapping, genome analysis, and cloning experiments..• Emerging technologies (such as next-generation sequencing) and their impact on DNA mapping techniques.• Potential advancements or improvements in restriction mapping methodologies.



Images of Seminar Lecture session of Day 1 of workshop

Session II Technical session on Restriction Mapping: This session of the workshop commenced at 02:00 p.m. following a half hour lunch break. In this session, the resource person Dr. Prosanta Saha explained about the handling of online repositories and the web servers that are essential for retrieval of plasmid DNA sequences and designing the restriction digestion processes. The students were demonstrated the processes of plasmid sequence retrieval from NCBI databases, creating the FASTA files, and applying the later at Nebcutter V.3 server for selecting the appropriate enzymes for restriction digestion. Finally, combinatorial enzymatic digestion process and restriction map preparation was explained and

demonstrated. The students were given assignments to map the restriction sites on given plasmids, using the web servers that were demonstrated.



Images of Technical session from 2nd half of Day 1 of workshop

Day 2 of workshop (29.08.2023)

Hands-on session on Restriction Mapping of DNA: The second day of the workshop commenced from 11:00 noon and in this day restriction digestion experiment was done using *HiPer^o Restriction Mapping Teaching Kit*. The plasmid and the enzymes were used from the kit, following protocol of the manufacturer. Restriction digestion mixes were prepared and incubated at 37° C for 2 hours. Thereafter the digestion products were loaded into agarose gels and electrophoresis was performed. Finally the gels were visualized under UV transilluminator and the digested DNA fragments were explained to the students.

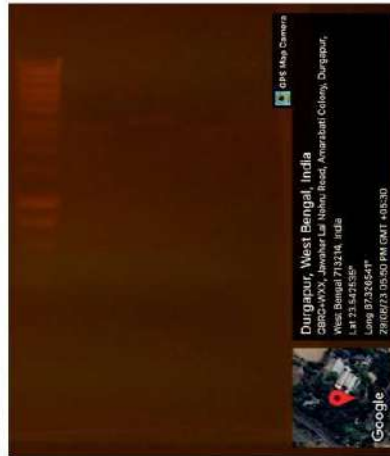


Images of Hands-on session from Day 2 of workshop

Lanes 1 2 3 4



Lane 1: 1 kb Ladder
Lane 2: *EcoRI* digest
Lane 3: *HindIII* digest
Lane 4: *EcoRI* +
HinIII digest



Result from Day 2 of
workshop

Outcome of the workshop

The outcomes of this workshop on restriction mapping are listed below:

- **Understanding of Principles:** Participants gained a deeper understanding of how restriction enzymes work, how they cut DNA at specific sites, and the principles behind restriction mapping.
- **Hands-on Skills:** Acquiring practical skills in performing restriction digests, running agarose gel electrophoresis, and analyzing resulting DNA fragments.
- **Mapping DNA:** Ability to interpret restriction patterns to map the locations of restriction sites on a DNA molecule.
- **Application in Research:** Capability to apply this knowledge in various research fields, such as molecular biology, genetics, or biotechnology in the future.
- **Troubleshooting and Collaboration:** Development of troubleshooting skills in case of unexpected results or challenges during the restriction mapping process. The workshop also encouraged collaboration and discussion among participants to enhance understanding and problem-solving in molecular biology techniques.

The students' assignment follows...

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DBT STAR COLLEGE SCHEME

sponsored

“Two days workshop on Restriction mapping of plasmid DNA”

Date: 28.08.2023 - 29.08.2023

Name: AYNDRILA PARAMANIK

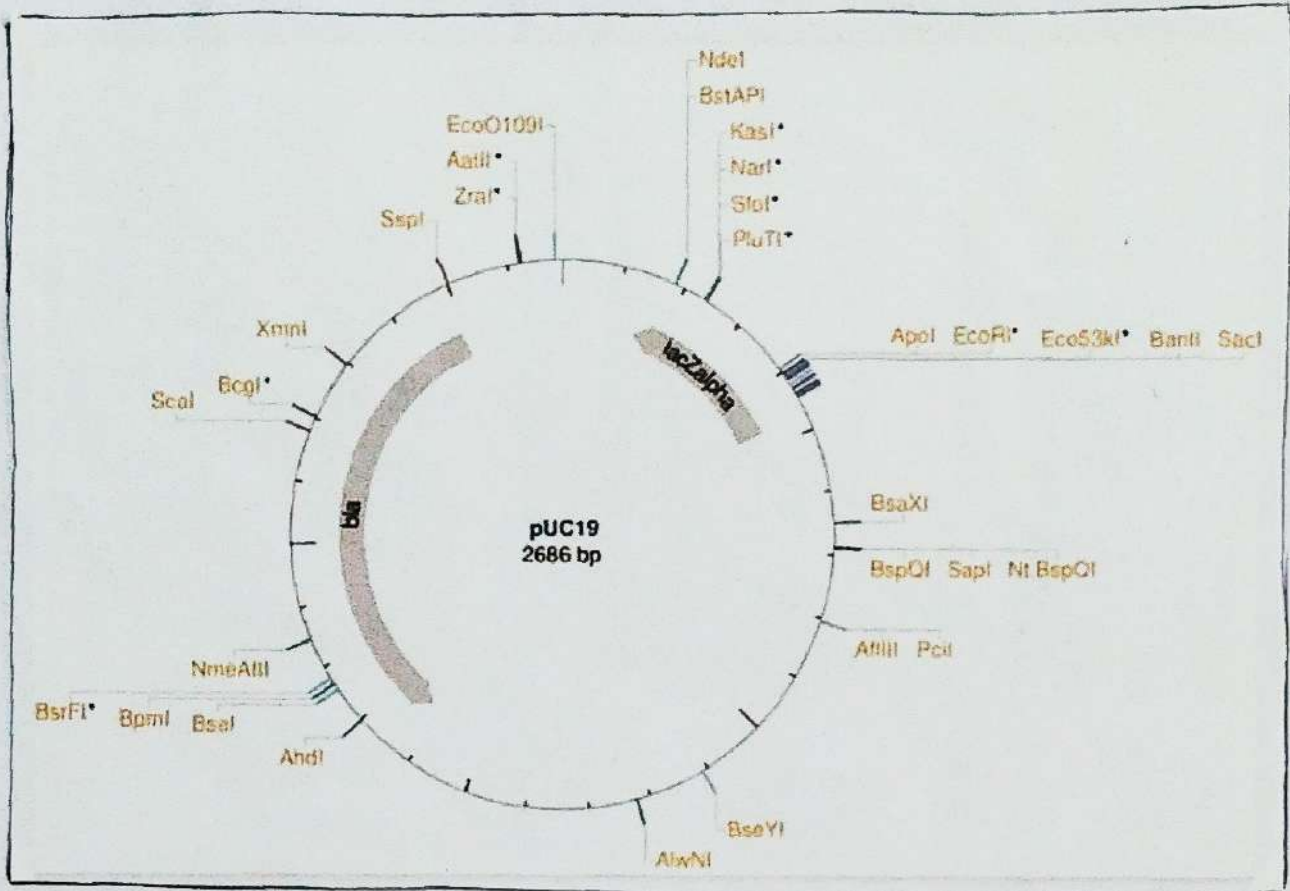
Department: BOTANY

Semester: 1ST

Discipline: HONOURS

Signature: Ayndrila Paramanik

Plasmid vector → pUC19



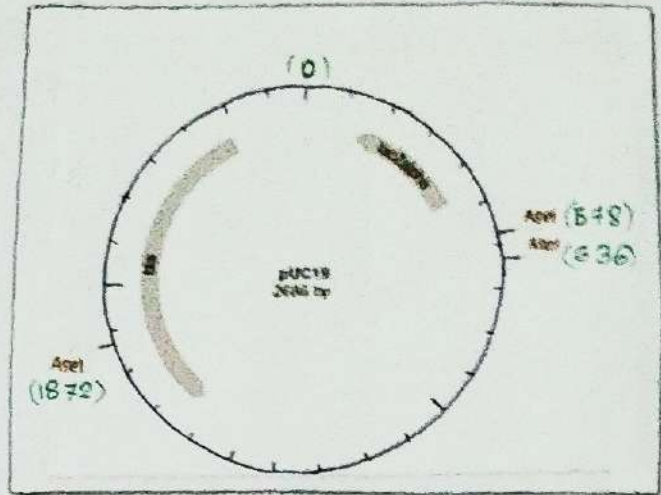
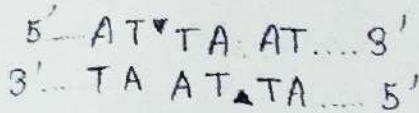
puc19

Enzyme Name: → AseI

Graphical View: →

Cuts: → 3

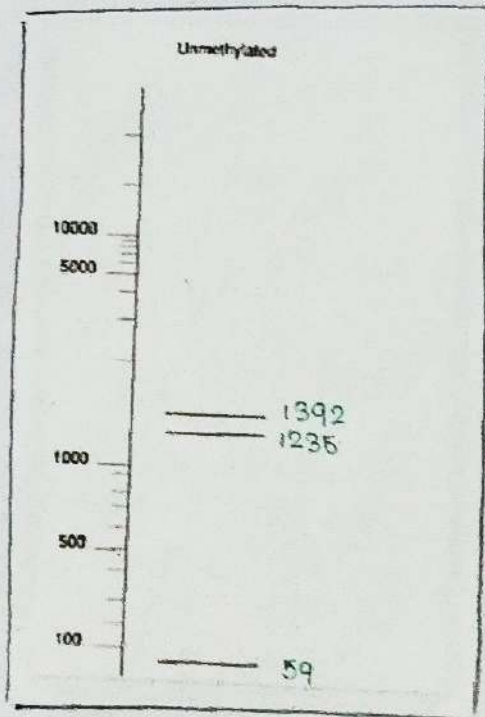
Recognition Sequence: →



Fragments: →

#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	AseI-AseI	578-636	59	
2	AseI-AseI	637-1871	1235	
3	AseI-AseI	1872-577	1392	

Gel: →

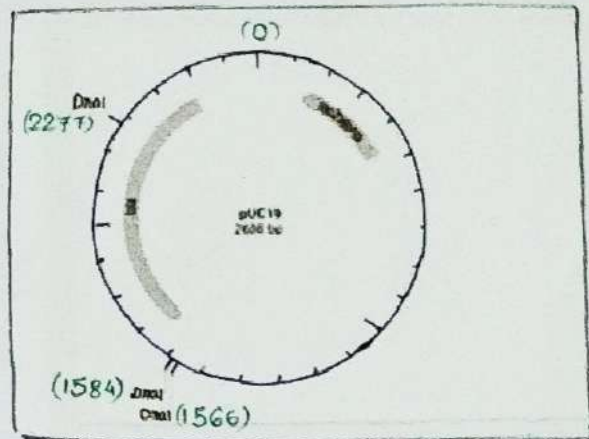
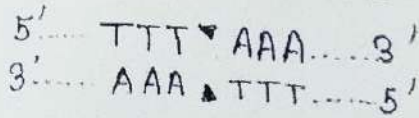


Enzyme Name: ~~Ase~~ **DraI**

Graphical View: →

Cuts - 3

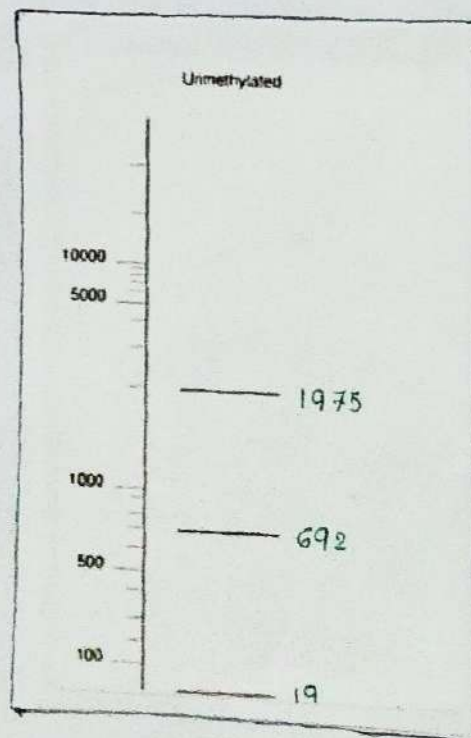
Recognition Sequence



Fragments: →

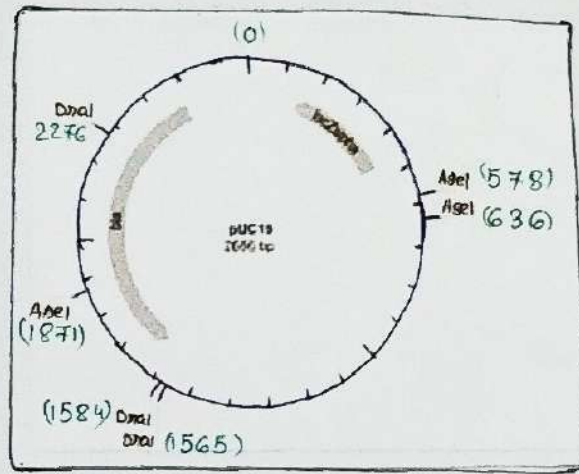
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	DraI-DraI	1566 - 1584	19	
2	DraI-DraI	1585 - 2276	692	
3	DraI-DraI	2277 - 1565	1975	

Gel: →



Enzyme: → AseI, DraI

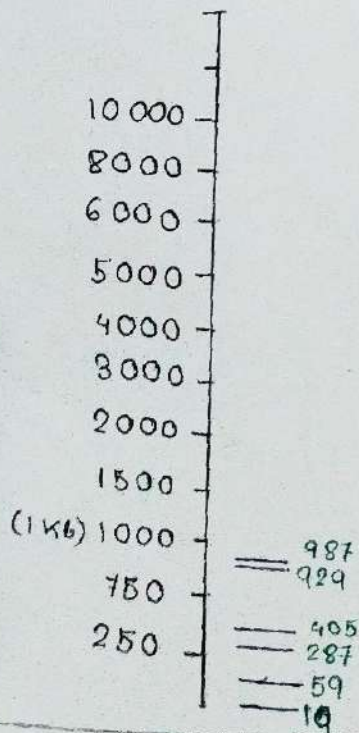
Graphical View: →



Fragments: →

#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	AseI - AseI	578 - 636	59	
2	AseI - DraI	637 - 1565	929	
3	DraI - DraI	1566 - 1584	19	
4	DraI - AseI	1585 - 1871	287	
5	AseI - DraI	1872 - 2276	405	
6	DraI - AseI	2277 - 577	987	

Gel: →



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NAAC Accredited "A" Grade College

DBT STAR COLLEGE SCHEME

sponsored

“Two days workshop on Restriction mapping of plasmid DNA”

Date: 28.08.2023 - 29.08.2023

Name: *Debjit Shou*
Department: *Botany*
Semester: *1st*
Discipline: *Hons.*
Signature: *Debjit Shou*

DURGAPUR
GOVERNMENT COLLEGE

Name: **DEBJEET SHOW**

Plasmid: **pRS 306**

Accession No: **U03438**

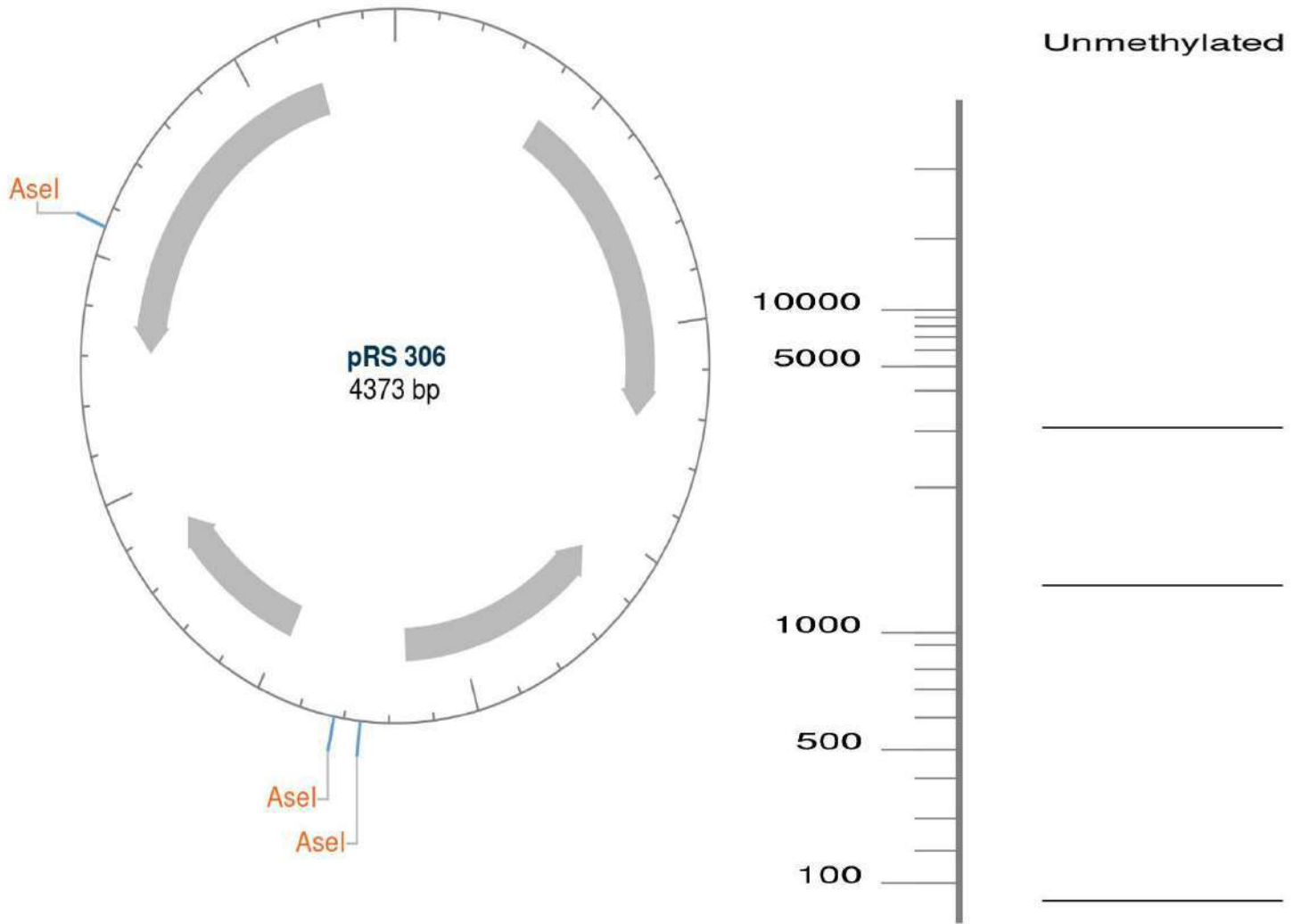
Enzymes: **AseI & BspHI**

Department: **BOTANY**

Semister: **1st**

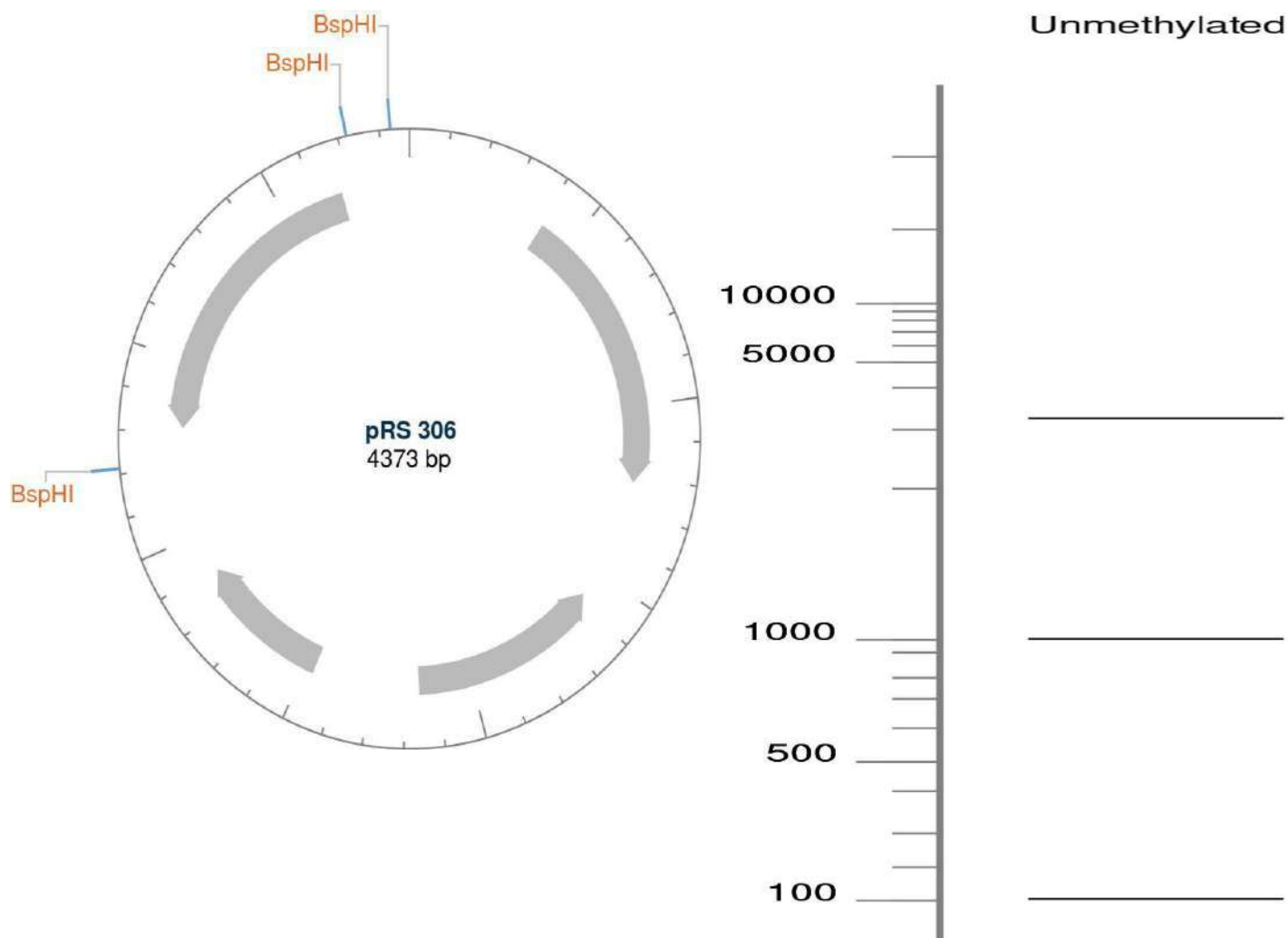
Signature:.....

1. AseI



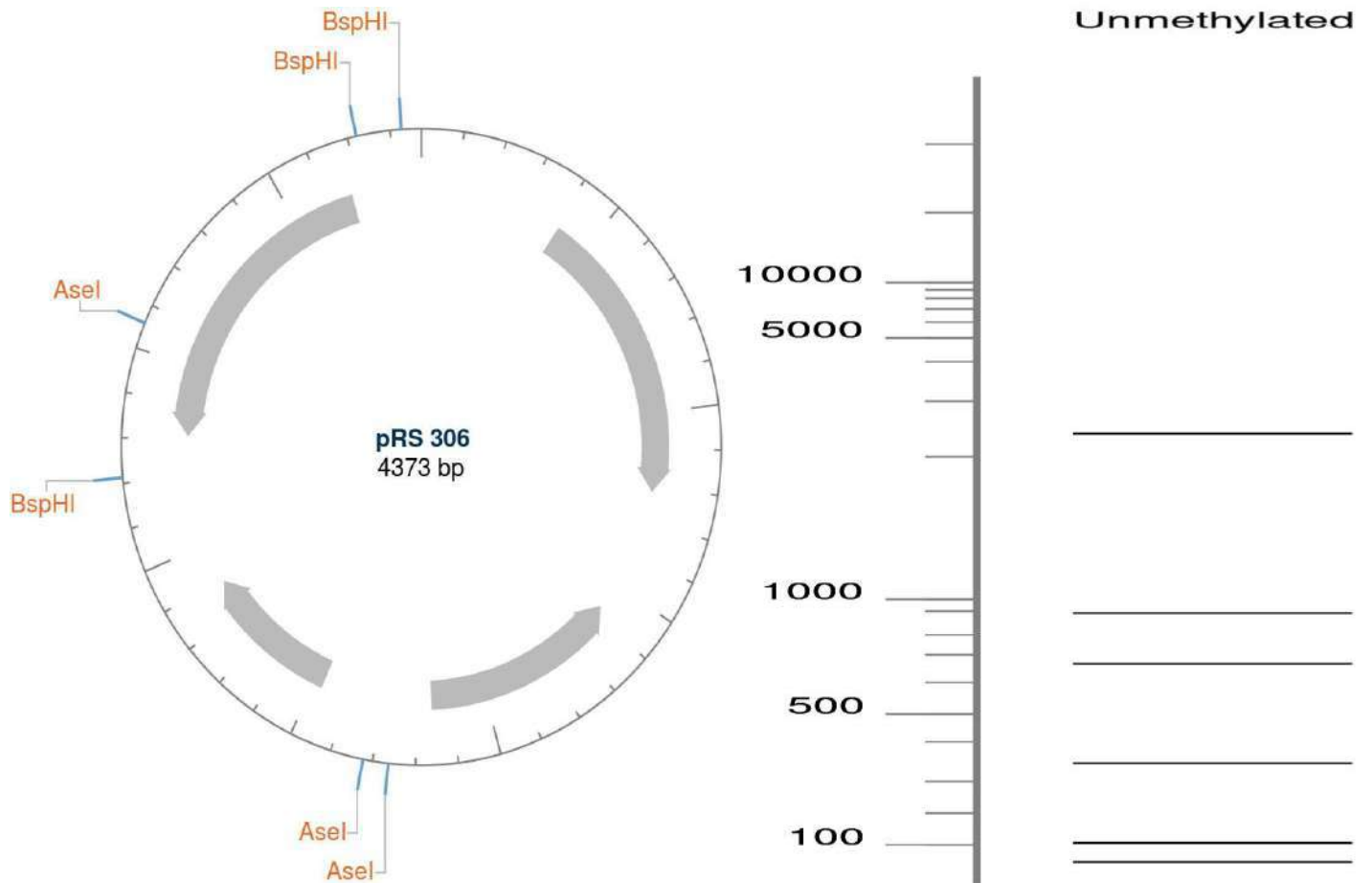
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	AseI - AseI	3559-2264	3079	
2	AseI - AseI	2324-3558	1235	
3	AseI - AseI	2265-2323	59	

2. BspHI



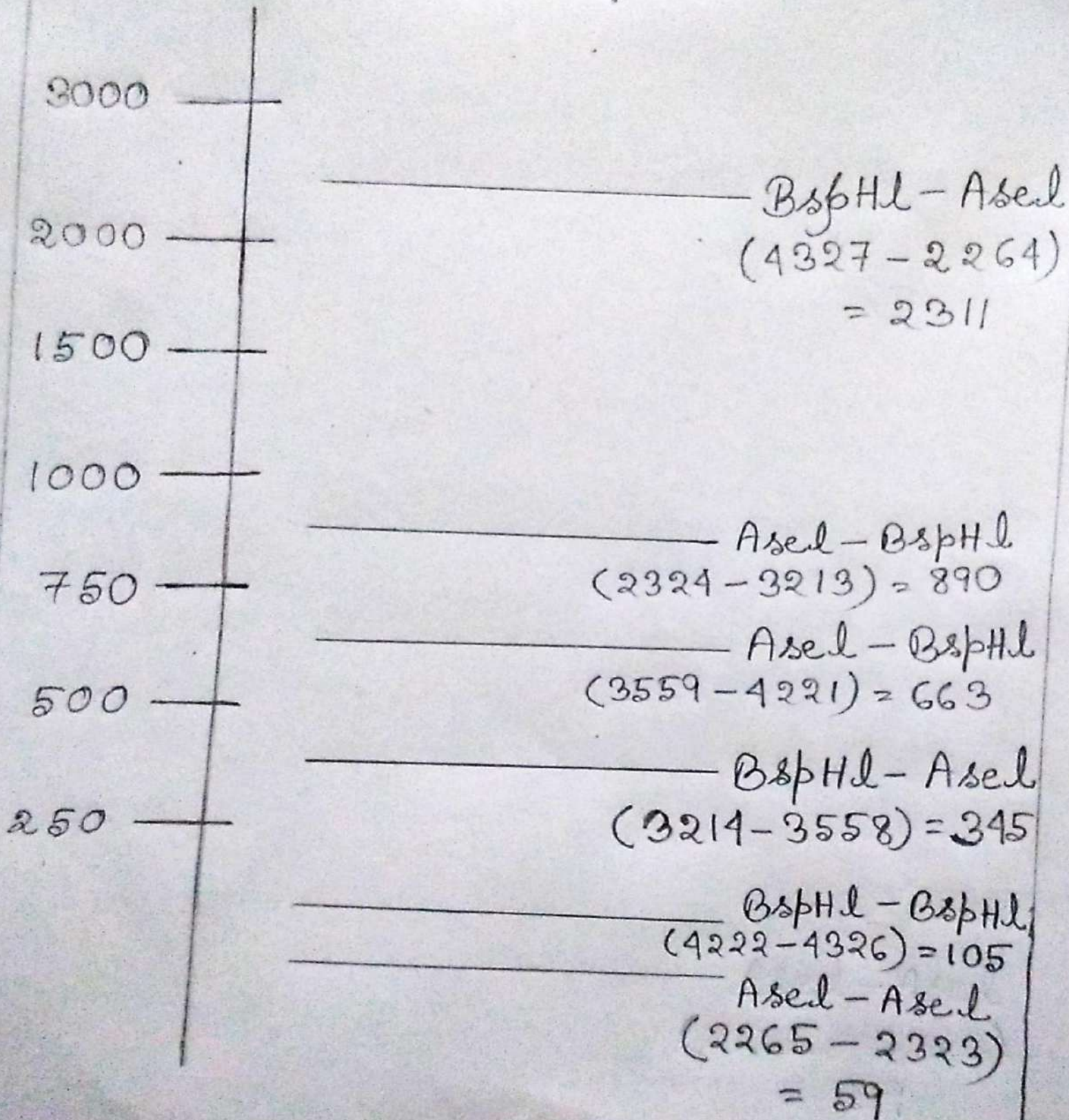
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	BspHI - BspHI	4327-3213	3260	
2	BspHI - BspHI	3214-4221	1008	
3	BspHI - BspHI	4222-4326	105	

3. Asel & BspHI



#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	BspHI - AseI	4327-2264	2311	
2	AseI - BspHI	2324-3213	890	
3	AseI - BspHI	3559-4221	663	
4	BspHI - AseI	3214-3558	345	
5	BspHI - BspHI	4222-4326	105	
6	AseI - AseI	2265-2323	59	

Unmethylated



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DBT STAR COLLEGE SCHEME

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“Two days workshop on Restriction mapping of plasmid DNA”

Date: 28.08.2023 - 29.08.2023

Name: Subham Ghosh

Department: BOTANY

Semester: 1st

Discipline: HONOURS

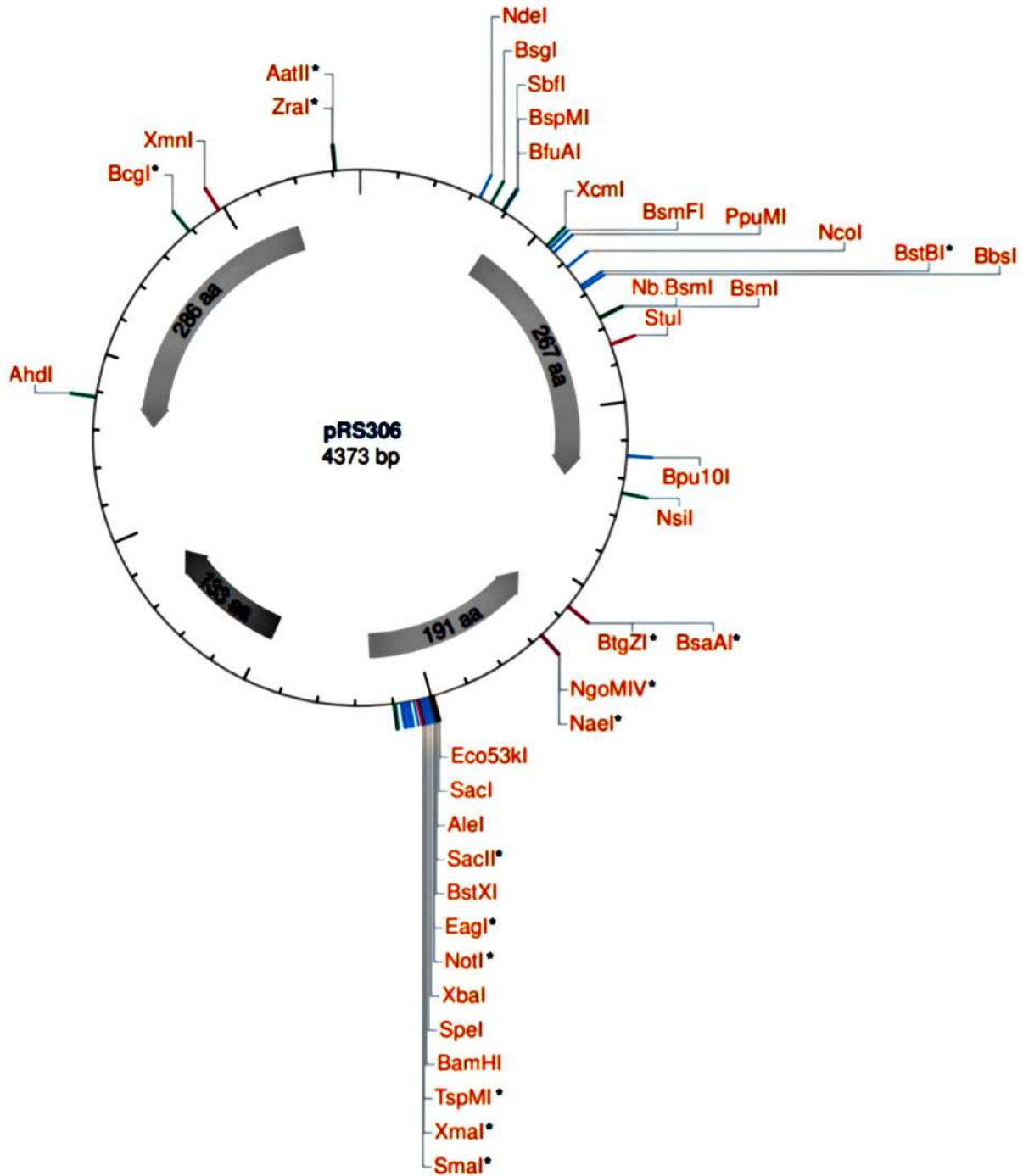
Signature: Subham Ghosh

plasmid - PRS306

ACCESSION NUMBER - U03438.1

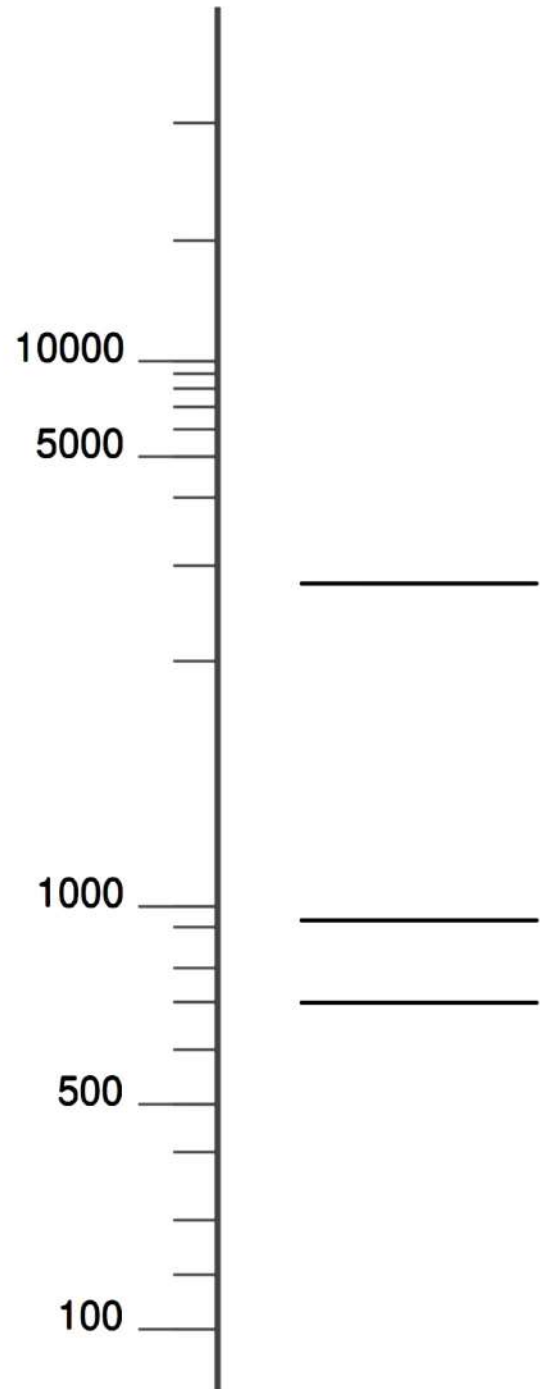
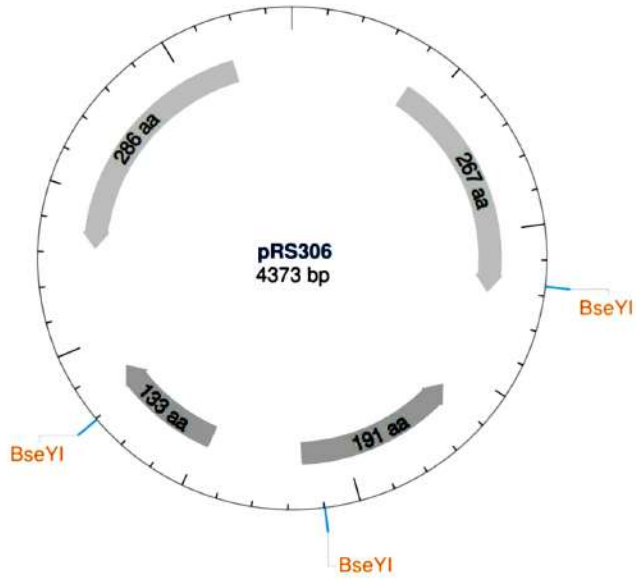
ENZYMES - BseY 1 & Btg 1

pRS306



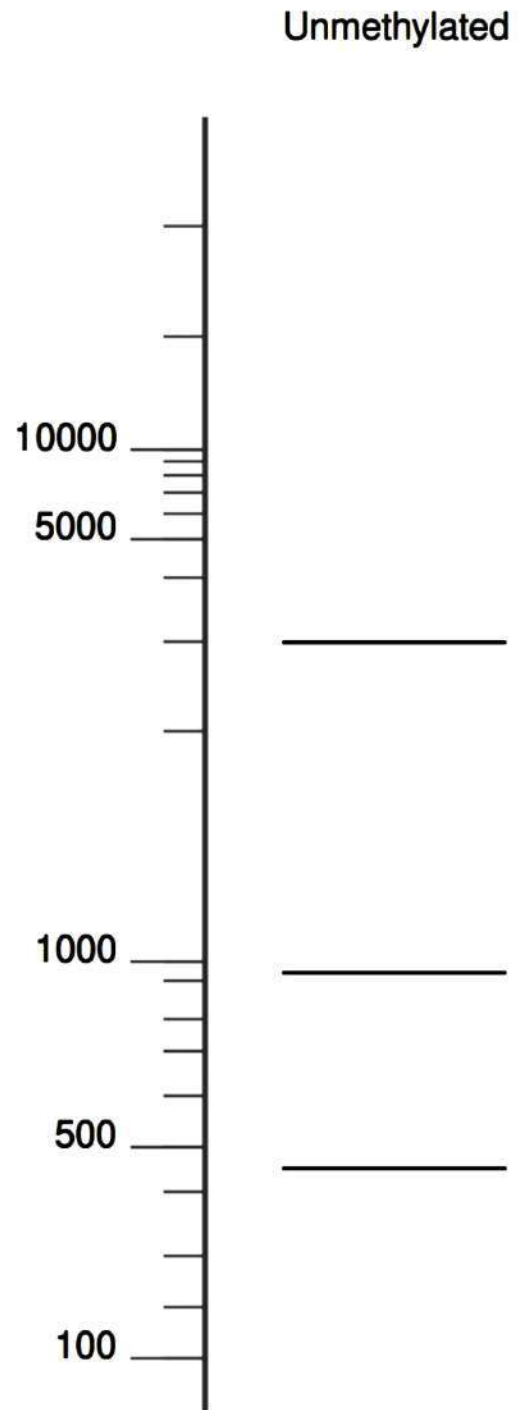
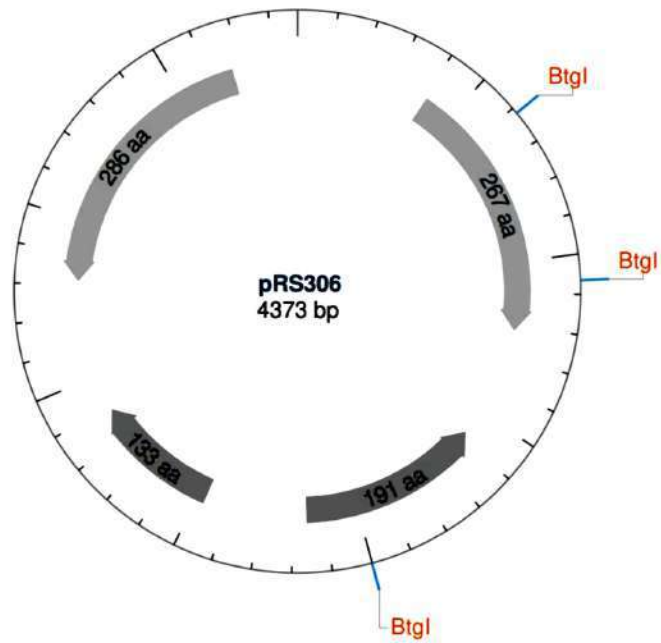
1.BseYI

Unmethylated



#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	BseYI - BseYI	2798-1174	2750	
2	BseYI - BseYI	1175-2099	925	
3	BseYI - BseYI	2100-2797	698	

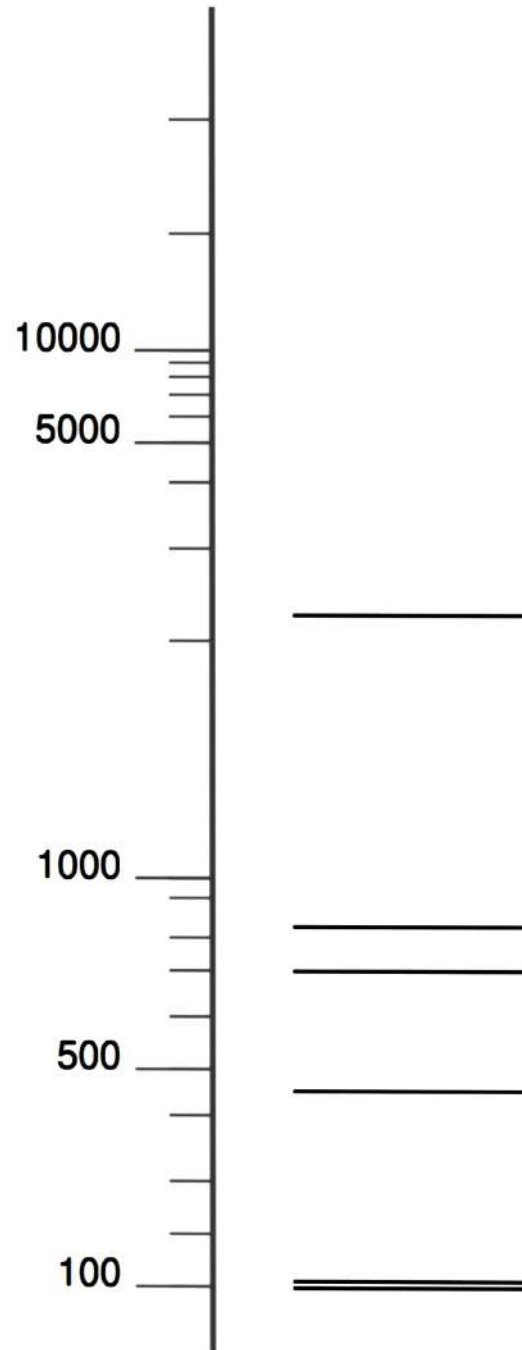
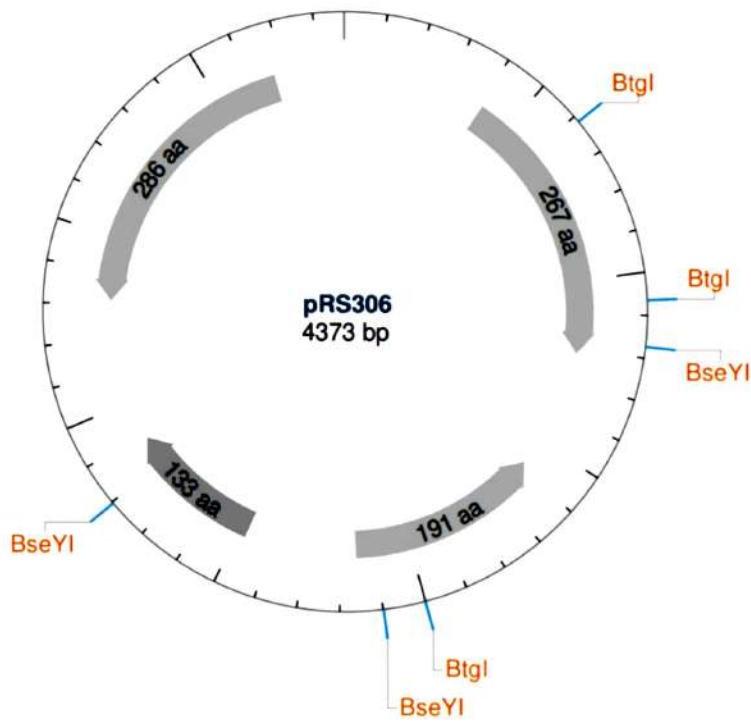
2.Btg1



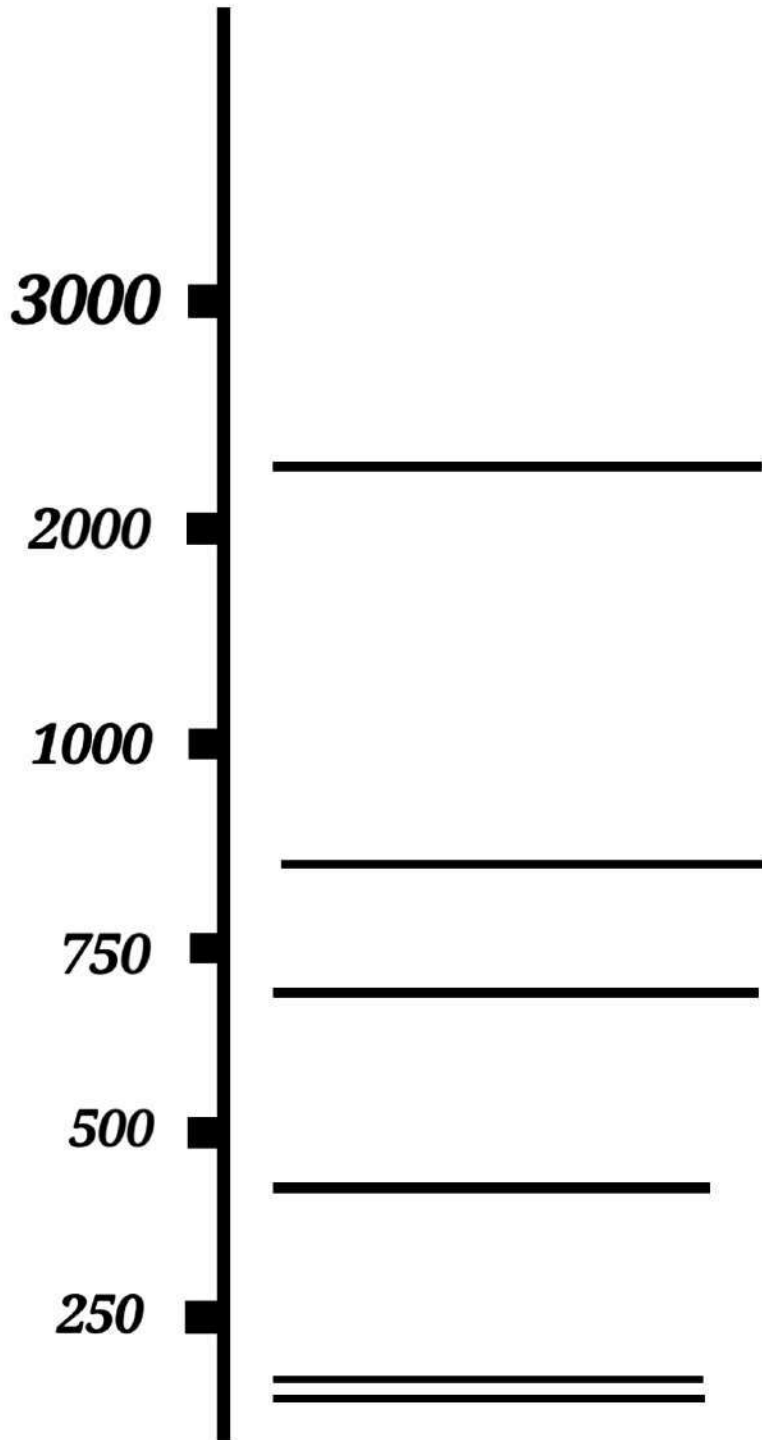
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	BtgI - BtgI	2002-616	2988	
2	BtgI - BtgI	1067-2001	935	
3	BtgI - BtgI	617-1066	450	

3.BOTH

Unmethylated



#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	BseYI - BtgI	2798-616	2192	
2	BseYI - BtgI	1175-2001	827	
3	BseYI - BseYI	2100-2797	698	
4	BtgI - BtgI	617-1066	450	
5	BtgI - BseYI	1067-1174	108	
6	BtgI - BseYI	2002-2099	98	



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DBT STAR COLLEGE SCHEME

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“Two days workshop on Restriction mapping of plasmid DNA”

Date: 28.08.2023 - 29.08.2023

Name: Sekh Tahir

Department: Botany

Semester: 1st

Discipline: Under graduate

Signature: Sekh Tahir

DURGAPUR GOVERNMENT COLLEGE

DEPARTMENT OF BOTANY

NAME: SEKH TAHIR

ROLL NO: 23BOTU002

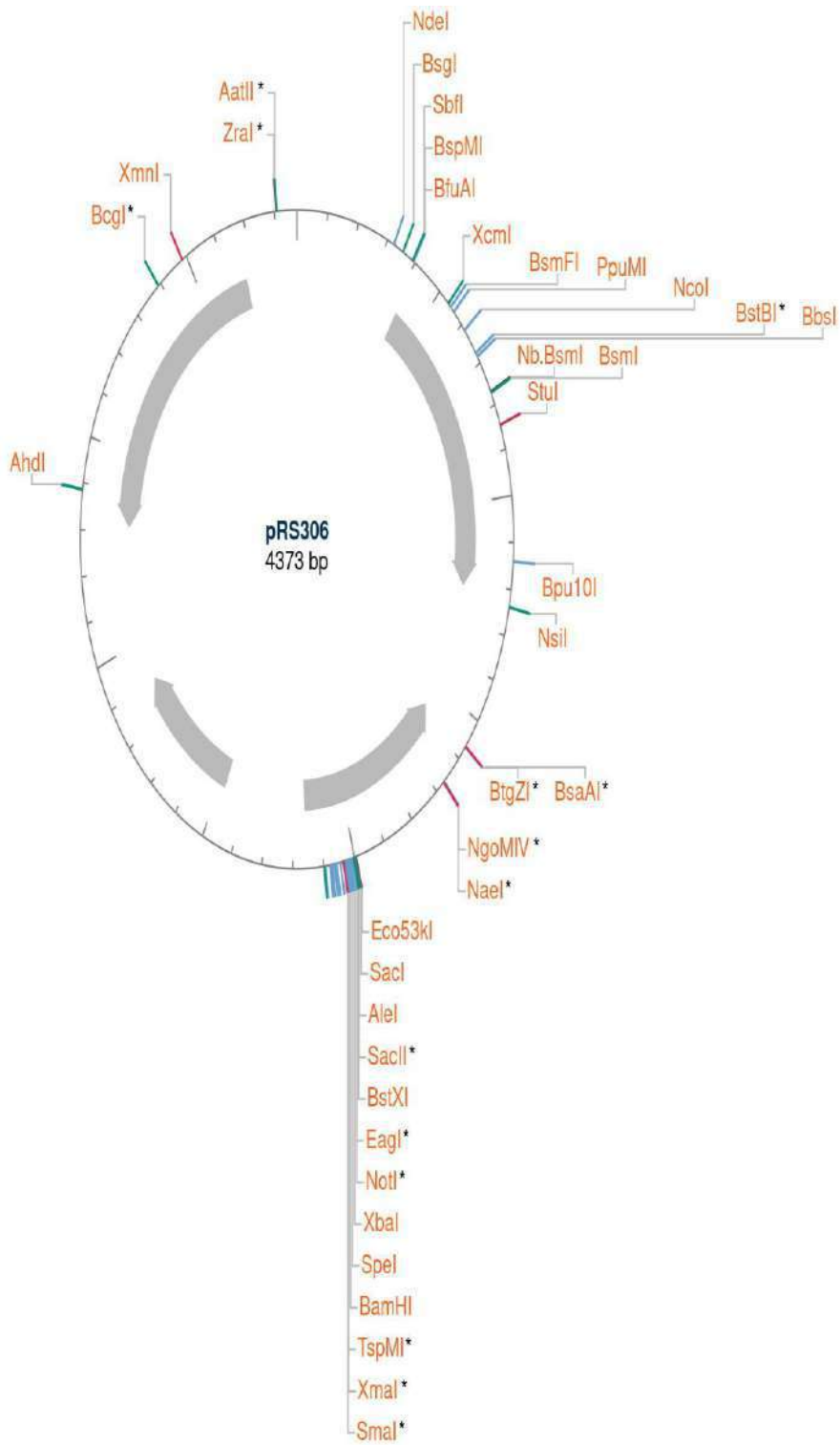
PLASMID: pRS306

ACCESSION NO : U03438

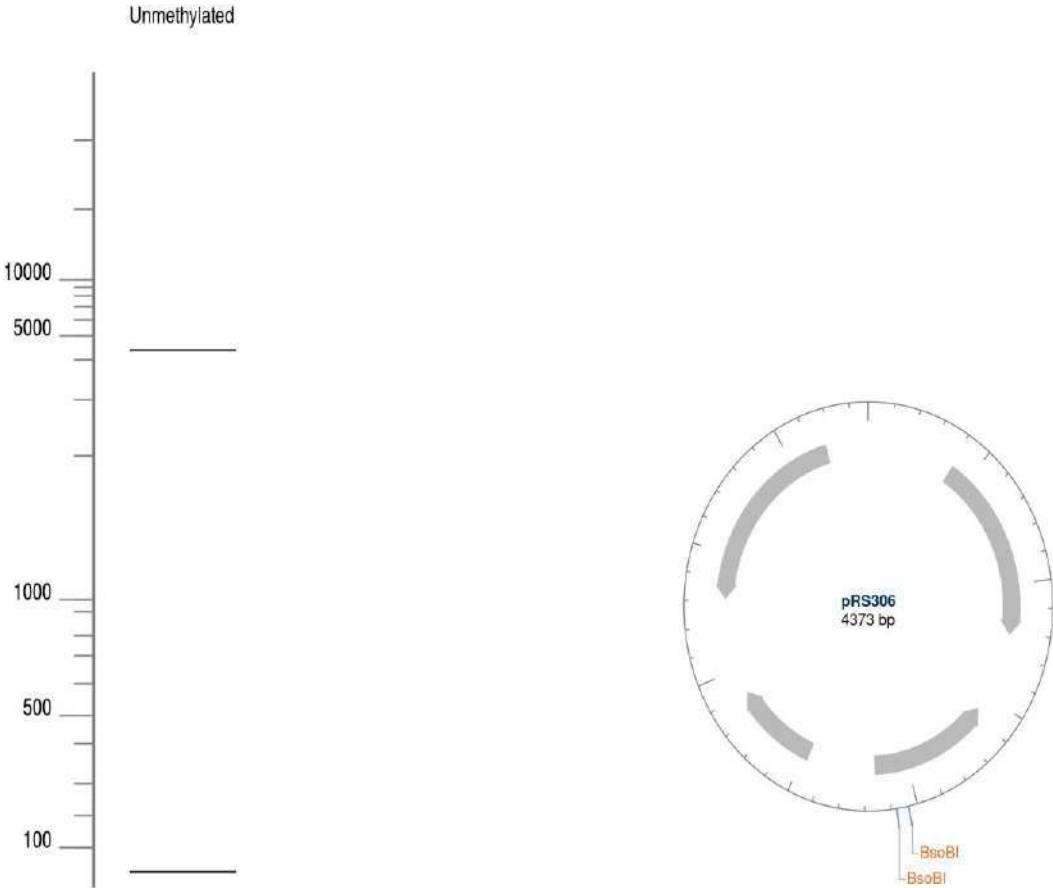
ENZYMES: BsoBI,AlwNI

DATE.....

SIGNATURE.....

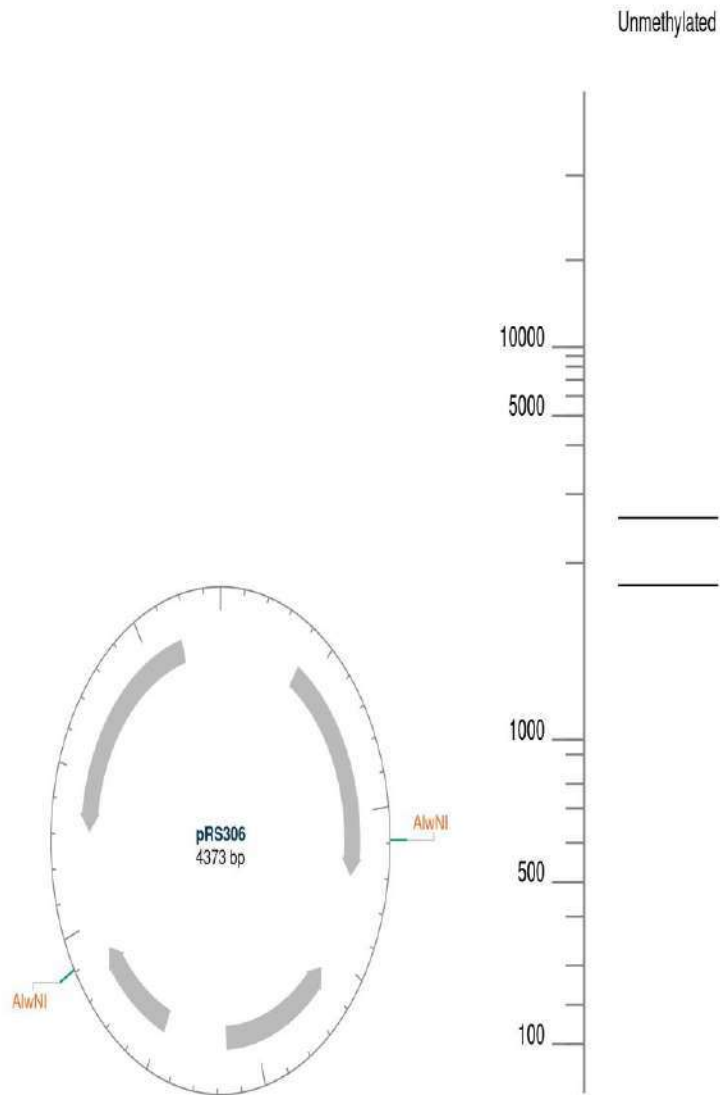


BsoBI



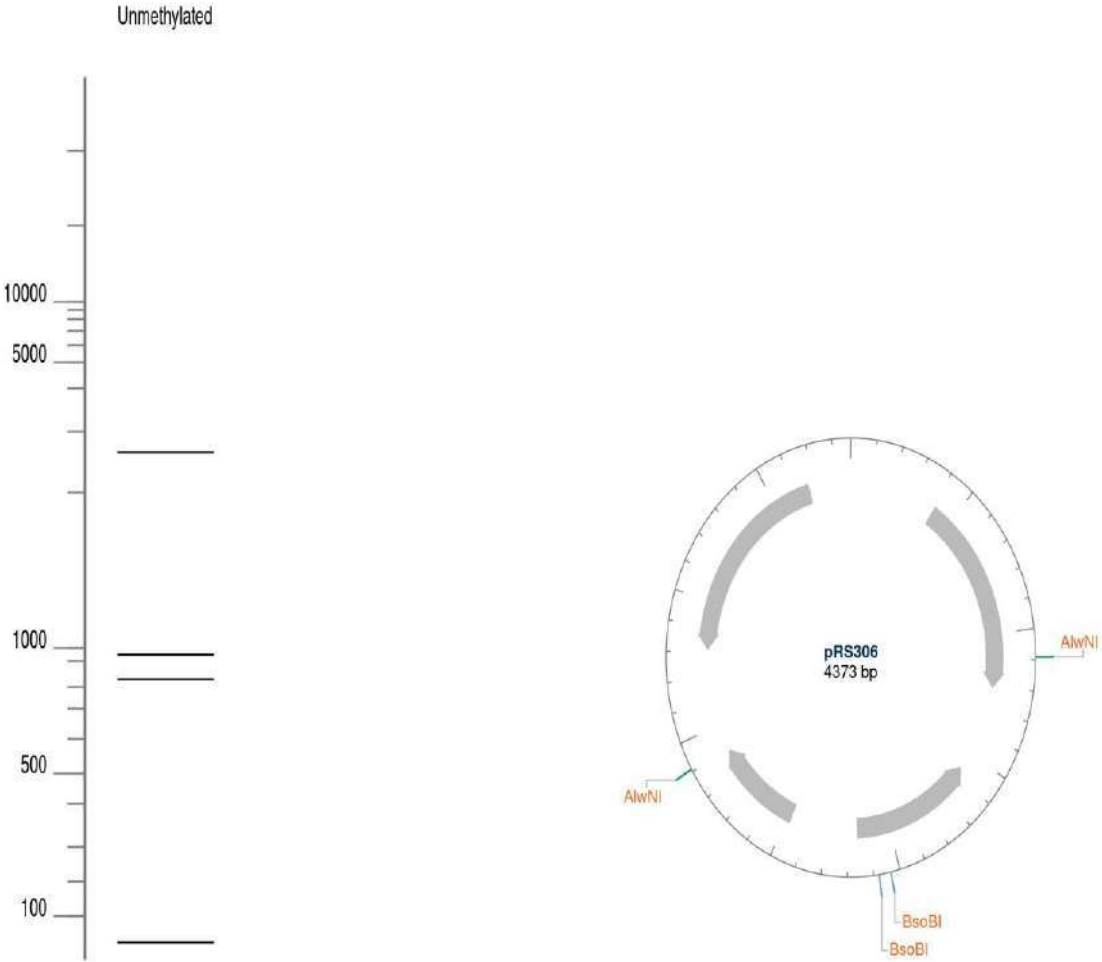
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	BsoBI - BsoBI	2081-2035	4328	NO
2	BsoBI - BsoBI	2036-2080	45	NO

AlwNI



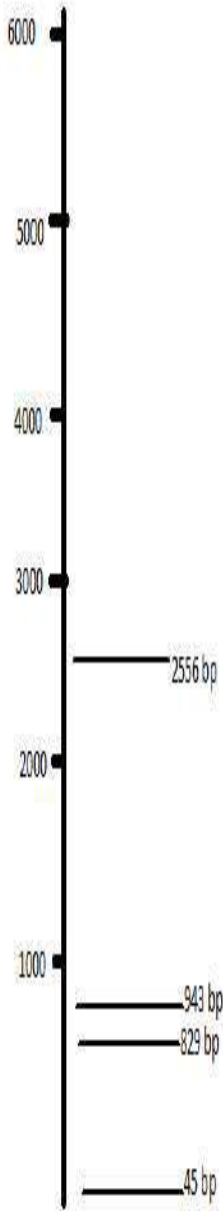
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	AlwNI - AlwNI	2910-1092	2556	NO
2	AlwNI - AlwNI	1093-2909	1817	NO

BOTH ENZYMES



#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	AlwNI - AlwNI	2910-1092	2556	NO
2	AlwNI - BsoBI	1093-2035	943	NO
3	BsoBI - AlwNI	2081-2909	829	NO
4	BsoBI - BsoBI	2036-2080	45	NO

HAND MADE



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DBT STAR COLLEGE SCHEME

sponsored

“Two days workshop on Restriction mapping of plasmid DNA”

Date: 28.08.2023 - 29.08.2023

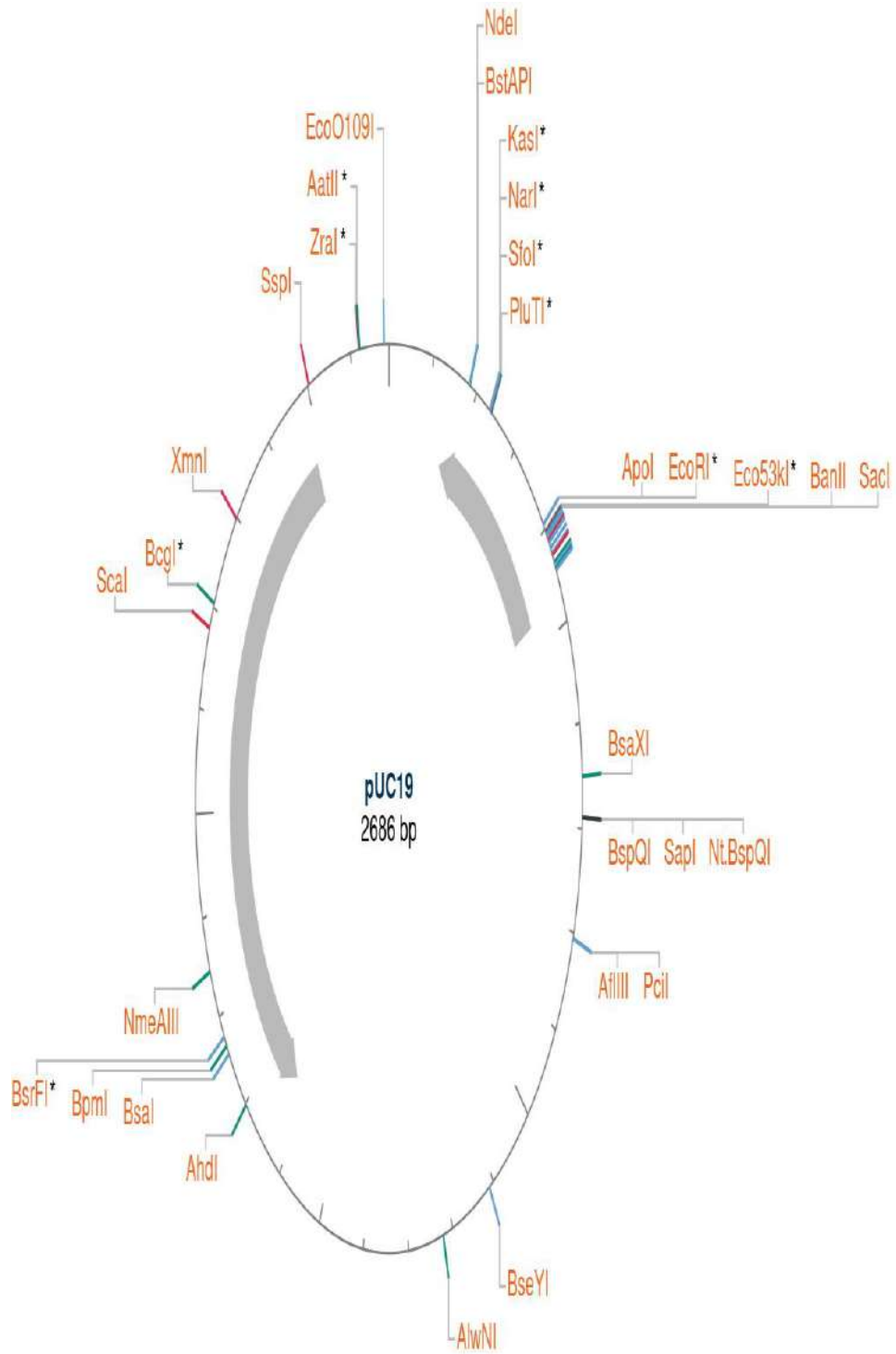
Name: Sparsha Biswas

Department: Botany (Hons)

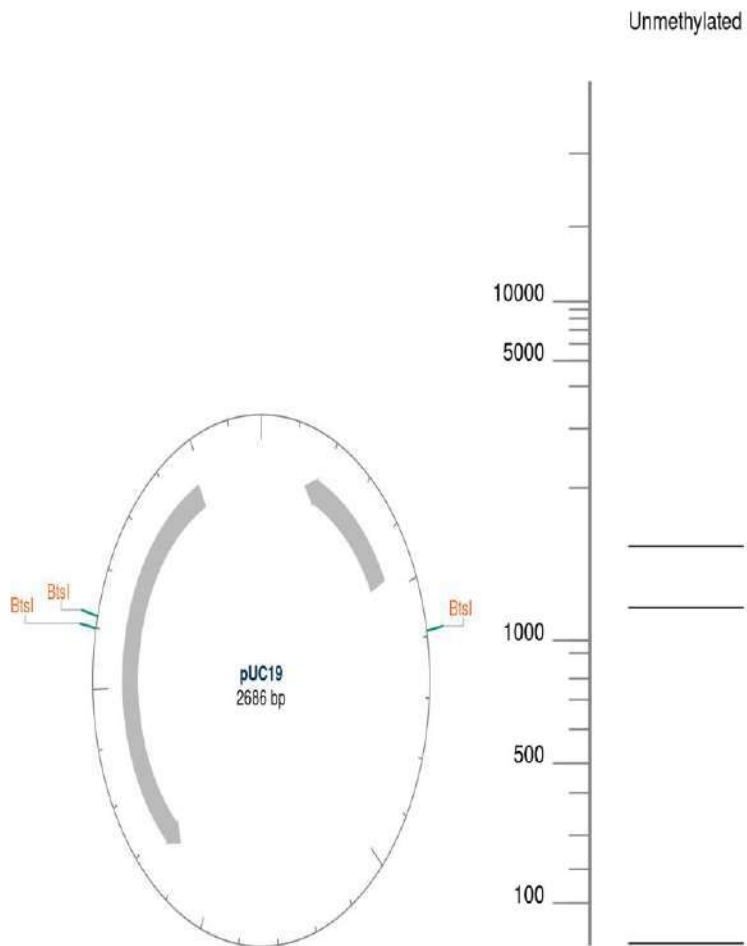
Semester: 1st

Discipline: *Honours*

Signature: *Sparsha Biswas*

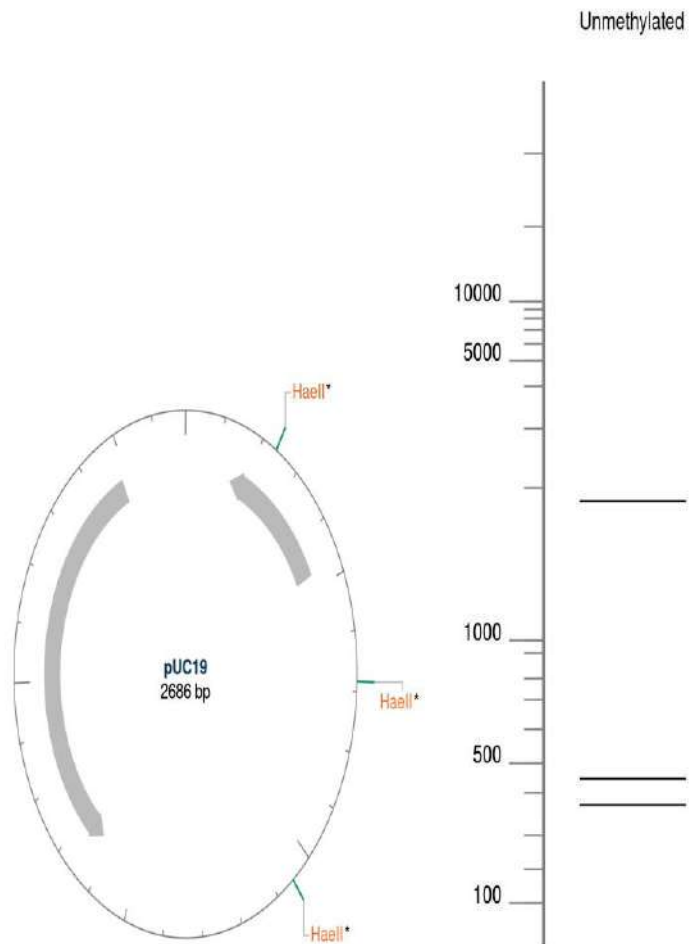


BtsI



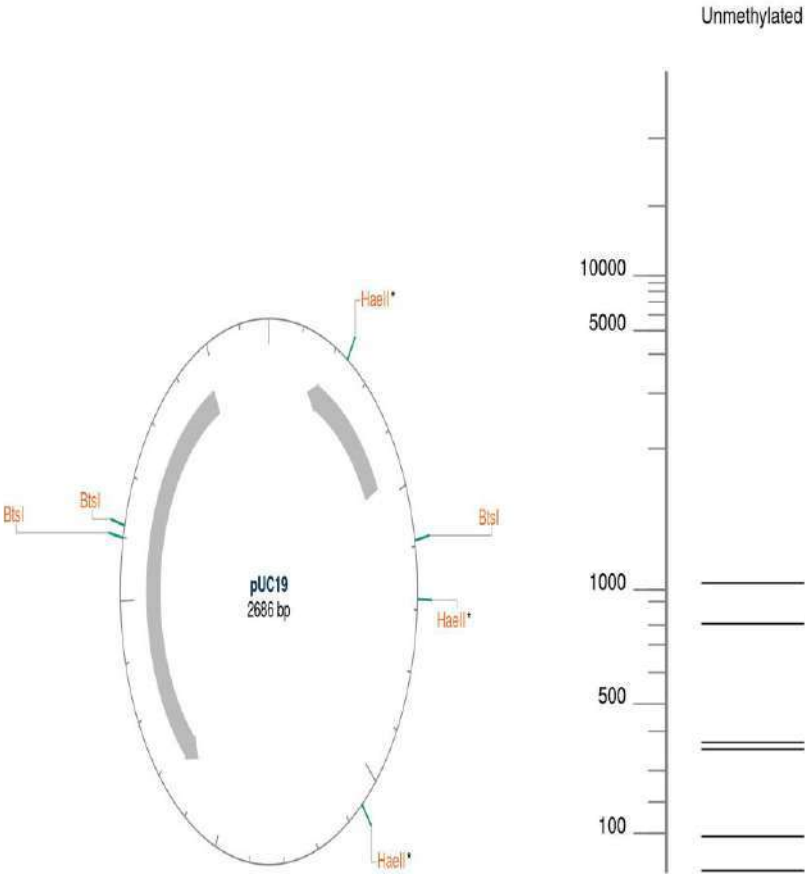
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	BtsI - BtsI	593-2099	1507	
2	BtsI - BtsI	2120-592	1159	
3	BtsI - BtsI	2100-2119	20	

Haell



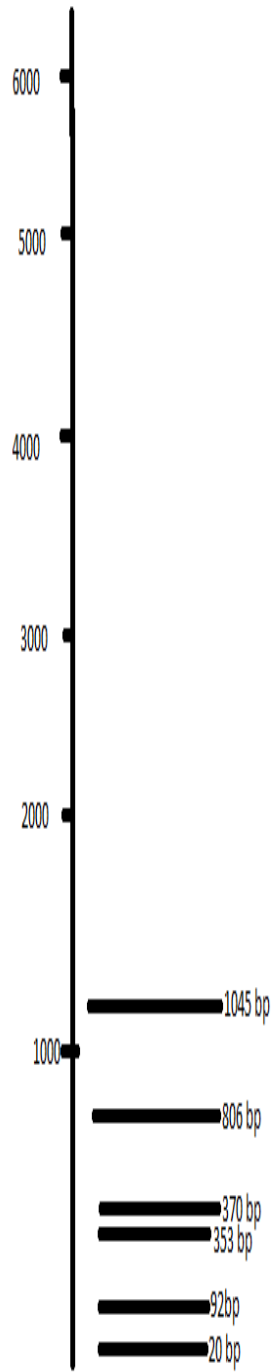
#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	Haell - Haell	1055-239	1871	CpG
2	Haell - Haell	240-684	445	CpG
3	Haell - Haell	685-1054	370	CpG

BOTH ENZYMES



#	Ends	Coordinates	Length (bp)	Affected by Methylation
1	HaeII - BtsI	1055-2099	1045	CpG
2	BtsI - HaeII	2120-239	806	CpG
3	HaeII - HaeII	685-1054	370	CpG
4	HaeII - BtsI	240-592	353	CpG
5	BtsI - HaeII	593-684	92	CpG
6	BtsI - BtsI	2100-2119	20	

Hand made





Government of West Bengal
Durgapur Government College
(Accredited by NAAC with "A" Grade)

J.N. Avenue, Durgapur, District-Paschim Bardhaman, West Bengal, Pin-713214

DBT Star College Scheme Sponsored

Two Days Workshop on

"VEGETATION MAPPING" for B.Sc. students



08/08/2023 & 10/08/2023

Organized by

Department of Botany and Geology
Durgapur Government College

Durgapur Government College
DURGAPUR – 713214
DIST. PASCHIM BARDHAMAN
WEST BENGAL

Attendance for participants of the event:
Vegetation Mapping using GIS – 8TH AUGUST 2023 under DBT STAR COLLEGE
SCHEME

Sl. No.	Name	Dept./Class	Signature
1	1 Parija Chakraborty	Botany, 5 th SEM	Parija Chakraborty
2	2 Usmila Mridha	Botany, 1st SEM	Usmila Mridha
3	3 Suparna Mondal	Botany, 1st sem	Suparna Mondal
4	4 Sussisa Bawui	Botany, 1st sem	Sussisa Bawui
5	5 Sayantika Gorai	Botany, 1st sem	Sayantika Gorai
6	Ayndrila Paramanik	Botany 1st sem	Ayndrila Paramanik
7	Spansha Biswas	Botany 1st sem	Spansha Biswas
8	Abhinaba Karmakar.	Botany 1st sem.	Abhinaba Karmakar.
9	SA Tahiro	Botany 1st Sem	S Tahiro
10	Samrat Sarder	Botany 1st Sem	Samrat Sarder
11	Koushik Sarkar	Geology 5 th sem	Koushik Sarkar
12	Supriya Das Kabiraj	Geology, 5 th Sem	Supriya Das Kabiraj
13	Sayan Kumar Das	Geology 5 th Sem	Sayan Kumar Das
14	Ahala Mondli	Botany 1st sem	Ahala Mondli
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Durgapur Government College
DURGAPUR – 713214
DIST. PASCHIM BARDHAMAN
WEST BENGAL

Attendance for participants of the event:
Vegetation Mapping using GIS – 10TH AUGUST 2023 under DBT STAR COLLEGE
SCHEME

Sl. No.	Name	Dept./Class	Signature
1	Tiyasha Chatterjee	Botany (1st yr)	Tiyasha Chatterjee
2	Ahala Mondal	Botany (1st yr)	Ahala Mondal
3	Suparna Mondal	Botany (1st Sem)	Suparna Mondal
4	Usmila Mridha	Botany (1st SEM)	Usmila Mridha
5	Parija Chakraborty	BOTANY 5 th SEM	Parija Chakraborty
6	Ayndrila Paramanik	Botany (1st sem)	Ayndrila Paramanik
7	Spandha Biswas	Botany (1st sem)	Spandha Biswas
8	Sayantika Ghorai	Botany (1st sem)	Sayantika Ghorai
9	Sudhisa Bhowi	Botany (1st sem)	Sudhisa Bhowi
10	Abhinaba Karmakar	Botany (1st Sem)	Abhinaba Karmakar
11	SK Tahiro	Botany 1 st Sem	SK Tahiro
12	Samarjit Sarder	Botany 1st sem	Samarjit Sarder
13	Koushik Sarkar	Geology, 5 th sem	Koushik Sarkar
14	Supriya Das Kabiraj	Geology, 5 th Sem	Supriya Das Kabiraj
15	Sayan Kumar Das	Geology 5 th Sem	Sayan Kumar Das
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OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE
J.N.Avenue,Durgapur,PaschimBardhaman713214

No.169

Date: 04-08-2023

NOTIFICATION

This is for information to all concerned that a two day workshop on "**Vegetation Mapping**" for B.Sc. students will be organized by Departments of Botany & Geology on **08-08-2023 and 10-08-2023** from 11:00 a.m.to 3 p.m. under the DBT STAR COLLEGE SCHEME of Durgapur Government College.

Departmental Coordinators of the DBT STAR COLLEGE SCHEME are requested to accordingly inform the respective students and confirm the student participation to Dr. Prosanta Saha (Departmental Coordinator of Botany)/Dr. Pinaki Roy (Departmental Coordinator of Geology).



Principal
Durgapur Government College

Copy forwarded for information and necessary action to

- 1. Departmental Coordinators of all participating departments under DBT STAR COLLEGE SCHEME*
- 2. All participating departments under DBT STAR COLLEGE SCHEME*
- 3. Notice Book, Office of the Principal*

PHOTOS OF VEGETATION MAPPING FIELD STUDY



REPORT FROM BOTANY & GEOLOGY DEPARTMENT

*Two day workshop on "Vegetation Mapping" for B.Sc. students organized by
Departments of Botany & Geology, under DBT Star College Scheme*

Date: 08/08/2023 & 10/08/2023

The floristic checklists of particular regions serve as the primary sources for botanical information. The variations in floristic compositions in different endogenous environments reflect the existence of various ecological conditions that promote both inter and intra-specific variation, rendering floristic composition, a significant floristic marker. The current study is representing a qualitative assessment of the Angiosperm flora in the vicinity of IQ city Hospital of Durgapur, Pashim Barddhaman district. During this floral exploration, a total of 68 species from 17 families were documented. Among these, 7 species from Monocotyledons and rest from Dicotyledons were recorded. Herbs emerged as the most frequently observed plant growth forms, followed by shrubs, trees and climbers. *Acacia auriculiformis* (Roxb) Willd. of the family Fabaceae (Mimosaceae) were found to be dominant.

S. No	Family	Species	Growth Forms
1	Annonaceae Juss.	<i>Annona squamosa</i> L.	Shrub
2	Violaceae Batsch	<i>Hybanthus enneaspermus</i> (L.) F.	Herb
3	Malvaceae Juss.	<i>Abutilon indicum</i> (L.) Sweet	Shrub
		<i>Hibiscus rosa-sinensis</i> L.	Shrub
		<i>Melochia corchorifolia</i> L.	Herb
		<i>Sida acuta</i> Burm.f.	Herb
		<i>Sida cordata</i> (Burm.f.) Borss.	Herb
4	Rutaceae Juss.	<i>Atalantia monophylla</i> DC.	Tree
5	Meliaceae Juss.	<i>Azadirachta indica</i> A. Juss	Tree
6	Papaveraceae Juss.	<i>Argemone mexicana</i> L.	Herb
7	Rhamnaceae Juss.	<i>Ziziphus jujuba</i> Mill.	Shrub
8	Fabaceae Linn.	<i>Cassia auriculata</i> L.	Shrub
		<i>Cassia occidentalis</i> L.	Herb
		<i>Crotalaria verrucosa</i> L.	Herb
		<i>Dalbergia coromandeliana</i> prain	Tree
		<i>Delonix elata</i> (L.) Gamble	Tree
		<i>Desmodium triflorum</i> (L.) DC.	Herb
		<i>Pongamia pinnata</i> (L.) Pierre	Tree
		<i>Tephrosia purpurea</i> (L.) Pers.	Herb
		<i>Acacia auriculiformis</i> (Roxb) Willd.	Tree
		<i>Acacia nilotica</i> (L.) Willd. ex Delile	Tree
		<i>Albiza lebbeck</i> (L.) Benth.	Tree
<i>Mimosa pudica</i> L.	Herb		

9	Myrtaceae Juss.	<i>Eucalyptus torelliana</i> F. Muell.	Tree
		<i>Syzygium cumini</i> (L.) Skeels	Tree

S.No	Family	Binomial name	Growth Forms
10	Rubiaceae Juss.	<i>Morinda coreia</i> Buch.-Ham.	Tree
		<i>Oldenlandia umbellata</i> L.	Herb
		<i>Polycarpaea corymbosa</i> (L.) Lam.	Herb
		<i>Randia dumetorum</i> (Retz.) poir.	Shrub
		<i>Spermacoce articularis</i> L.f	Herb
		<i>Spermacoce ocymoides</i> Burm.f.	Herb
11	Asteraceae Bercht. & J. Presl	<i>Acanthospermum hispidum</i> DC.	Herb
		<i>Ageratum conyzoides</i> L.	Herb
		<i>Parthenium hysterophorus</i> L.	Herb
		<i>Pentanema indicum</i> (L.) Y.Ling	Herb
		<i>Sphaeranthus indicus</i> L.	Herb
		<i>Synedrella nodiflora</i> (L.) Gaertn.	Herb
		<i>Tridax procumbens</i> L.	Herb
		<i>Vernonia cinerea</i> (L.) Less.	Herb
12	Scrophulariaceae Juss.	<i>Bacopa monnieri</i> (L.) Wettst.	Herb
		<i>Scoparia dulcis</i> L.	Herb
13	Asclepiadaceae Borkh.	<i>Calotropis gigantea</i> (L.) W.T. Aiton	Shrub
		<i>Calotropis procera</i> (Aiton) W.T. Aiton	Shrub
		<i>Gymnema sylvestre</i> (Retz.) R. Br. ex Sm.	Climber

14	Boraginaceae Juss.	<i>Coldenia procumbens</i> L.	Herb
		<i>Ehretia aspera</i> Willd.	Tree
		<i>Euploca ovalifolia</i> (Forssk.) Diane & Hilger	Herb
		<i>Trichodesma indicum</i> (L.) Sm.	Herb
15	Convolvulaceae Juss.	<i>Cuscuta chinensis</i> Lam.	Climber
		<i>Evolvulus alsinoides</i> (L.) L.	Herb
		<i>Ipomoea carnea</i> Jacq.	Shrub
		<i>Ipomoea pes-tigridis</i> L.	Climber
		<i>Merremia tridentata</i> (L.) Hallier f.	Climber
		<i>Rivea hypocrateriformis</i> (Desr) Choisy	Climber
16	Solanaceae Juss.	<i>Datura metel</i> L.	Herb
		<i>Physalis minima</i> L.	Herb
		<i>Solanum nigrum</i> L.	Herb
		<i>Solanum torvum</i> Sw.	Shrub

17	Poaceae Barnhart.	<i>Digitaria ciliaris</i> (Retz.) Koeler	Herb
		<i>Eleusine coracana</i> (L.) Gaertn.	Herb
		<i>Eragrostis japonica</i> (Thunb.) Trin.	Herb
		<i>Eragrostis tenella</i> (L.) P.Beauv. ex Roem. & Schult.	Herb
		<i>Paspalum scrobiculatum</i> L.	Herb
		<i>Perotis indica</i> (L.) Kuntze	Herb
		<i>Saccharum officinarum</i> L.	Herb

Comment:

The floristic exploration showed that this ecozone provides a diverse range of Angiosperms, with the overwhelming being wild species that are of the least concern. However frequent anthropogenic activities forced the area to deteriorate over the years.

Signature of participant: Ahale Navdi

Course: Hons./Program/UG:UG

Subject:Botany

Year/Semester: 1st Semester

The vegetation map has been prepared for the Study area with perimeter length nearly 5 Km and area measured as 1.46 sq.km. The study area is found to be dominated by the plant species *Acacia auriculiformis* among with scattered occurrences of other species that has been provided in the table.





Durgapur Government College

(Government of West Bengal)

Accredited by NAAC with "A" Grade in 2017

Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman West Bengal, India - 713214

DBT Star College Scheme Sponsored

**One Day Webinar Cum Workshop on
PCR and Techniques in Designing Primer
for UG Students**

Organized by

Department of Botany

Date : 09 May 2024, Thursday

Time : 12:00 noon Onwards



Resource Person

DR. PROSANTA SAHA

Assistant Professor of Botany

Department of Botany, Durgapur Government College

Registration link:

<https://forms.gle/UpvXYTuQKXErJUNJ8>



GOVERNMENT OF WEST BEGAL
OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE

J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 210

Date: 06-05-2024

NOTIFICATION

This is for information to all concerned that Department of Botany will conduct webinar cum workshop on "**PCR and Techniques in Designing Primer for UG students**" on **09-05-2024 from 12 noon onwards** under the DBT STAR COLLEGE SCHEME for students of all participating departments under the scheme.

The flyer of the event is enclosed herewith for registration details

All Departmental Coordinators are requested to inform all students of their respective departments to register and actively participate in the aforementioned event.

Nivedita Acharjee

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

Principal
Durgapur Government College

Copy forwarded for information and necessary action to

- 1. Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME*
- 2. All participating departments of DBT STAR COLLEGE SCHEME*
- 3. Notice Book, Office of the Principal*

Name	e mail	Department	Course	Semester
Debmalya Khan	debmalya2003@gmail.com	Zoology	Honors	4th
Akash Chakraborty	akashabhra06@gmail.com	Zoology	Honors	4th
Rakhi Singh	rakhijyotsna11@gmail.com	Botany	Honors	6th
Debanjana Das	debanjana652@gmail.com	Botany	Program	4th
Tithi Dey	tithitukudey17@gmail.com	Zoology	Program	4th
Arpan Bardhan	situbardhan76@gmail.com	Botany	Program	4th
SAMRIDDHA ROY	samriddha.roy2001@gmail.com	CHEMISTRY	Honors	2nd
Sujoy Paul	sujoypaulmmv@gmail.com	Chemistry	PG	2nd
Sneha Moshan	snehamoshan@gmail.com	Chemistry	Honors	2nd
SUBHADRA PAUL	subhadrapaul45@gmail.com	CHEMISTRY	Program	4th
Debam Ghosh	debamghosh53@gmail.com	Chemistry	Program	2nd
Sucharita Karmakar	sucharitakarmakar4@gmail.com	Botany	Program	4th
Manoj Pal	djmanojkgf10@gmail.com	Zoology	Under Graduate	2nd
Pratima Kumari	pratimaanil123@gmail.com	Botany	Program	4th
Abhinaba Karmakar	abhinabakarmakar006@gmail.com	Botany	Honors	2nd
Piu Debnath	piudebnath328@gmail.com	Botany	Honors	6th
Samrat Sardar	Sarders093@gmail.com	Botany	Honors	2nd
Syed Darakhshan	syeddarakhshan16@gmail.com	Zoology	Honors	2nd
Sekh Tahir	mr.tahir.sm@gmail.com	Botany	Program	2nd
Supriti Saini	supritisaini314@gmail.com	Zoology	Program	4th
Doly Dhibar	dolydhibar41@gmail.com	Botany	Program	2nd
Priti Ghosh	itsme.pritighosh@gmail.com	Botany	Program	2nd
Subham Ghosh	Subhamghosh6828@gmail.com	Botany	Honors	2nd
Ritika Dutta	ritika1892002@gmail.com	Botany	Program	4th
Laltu Roy	lalturoy543@gmail.com	Botany	Honors	4th
Tufan Gayen	tufangayen43@gmail.com	Zoology	Under Graduate	2nd
Sweta yadav	yadavsweta585@gmail.com	Chemistry	Program	4th
Debjeet Show	debjeet12show4321@gmail.com	Botany	Honors	2nd
Hritika Yadav	hritikayadav421@gmail.com	Zoology	Honors	2nd
Bristi Bhandari	bhandaribristi8@gmail.com	Botany	Program	2nd
Subhadip sam	samsubhadip@gmail.com	Botany	Program	6th
Sangeeta Tudu	sangeetatudu2610@gmail.com	Zoology	Program	6th
DEBANGONA DAS	dasdebangona9@gmail.com	Zoology	Program	4th
Rina Ruidas	moudas1034@gmail.com	Zoology	Honors	4th

Objectives of the workshop

The webinar cum online workshop on “PCR and techniques on primer designing for UG students” aims to teach participants about the working principle, components and variants of Polymerase chain Reaction, retrieve DNA sequence from online databases and the process of designing primers to amplify a target DNA sequence. The objectives further include disseminating knowledge to students about the criteria for designing effective primers (e.g., primer length, melting temperature, specificity).

Session I Seminar Lecture on PCR (12 noon to 2 pm):

The workshop commenced at 12:00 noon with the inaugural lecture by Dr. Debnath Palit, Principal, Durgapur Government College. This was followed by seminar lecture on Polymerase Chain Reaction and its variants by Dr. Prosanta Saha, Assistant Professor, Department of Botany, Durgapur Government College. The session had a participation of 35 students. The seminar covered various aspects of PCR from the basics. Some key topics covered in the lecture, are presented below -

1. Introduction to PCR:

- Basic method of DNA amplification was explained.
- The history of PCR was discussed

2. Understanding the Components and Steps of PCR and PCR variants:

- The components required for a PCR reaction (e.g., DNA template, primers, Taq polymerase, nucleotides) were explained elaborately.
- The steps involved in a typical PCR cycle (denaturation, annealing, extension) were explained.
- Various types of PCR techniques (e.g., standard PCR, real-time PCR, reverse transcription PCR nested PCR, inverse PCR, Anchored PCR, etc.) were explained along with their applications.

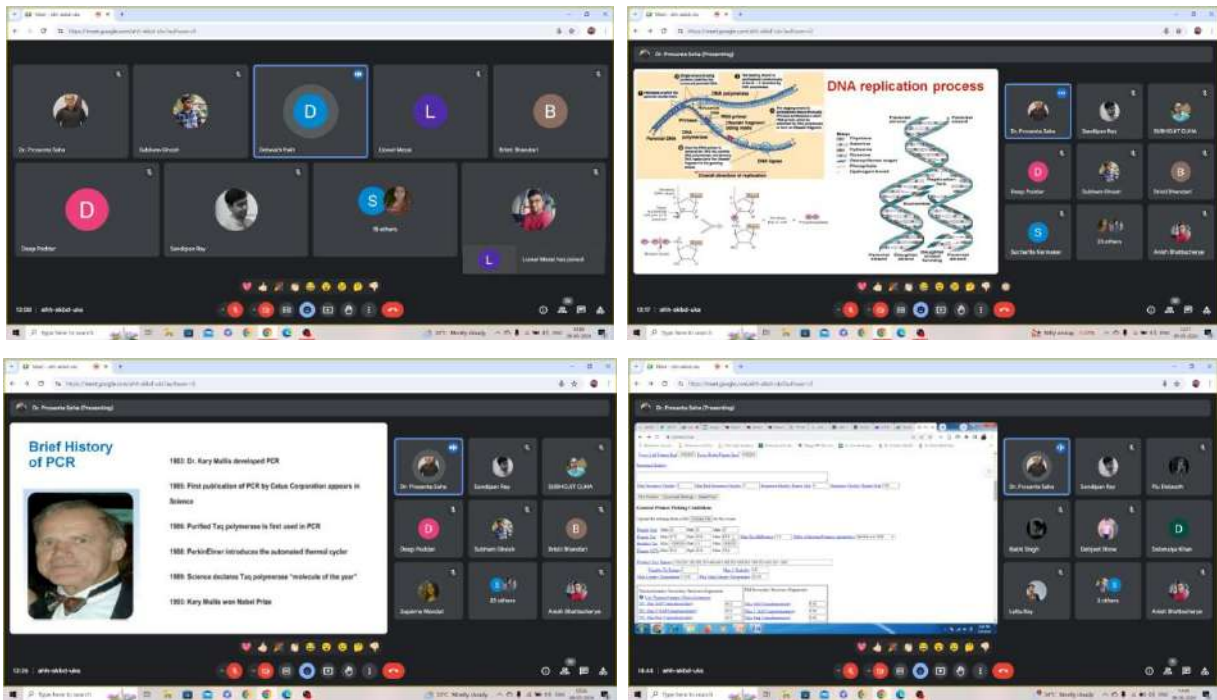
3. Application of PCR and Primers in Research:

- The concept of primers was introduced and their role in PCR was explained.
- Various applications of PCR in research and diagnostics (e.g., cloning, gene expression analysis, pathogen detection) were mentioned

Session II Technical session on Primer designing (2 pm to 3:30 pm):

This session of the workshop commenced at 02:00 p.m. following a 10 min lunch break. In this session, the resource person Dr. Prosanta Saha explained about the handling of online repositories and the web servers that are essential for retrieval of DNA sequences information and designing the primers for application in PCR. The students were demonstrated the processes of DNA sequence retrieval from NCBI databases, creating the FASTA files, and applying the later at Primer3 server for designing and selecting the appropriate primers for PCR experiments. The students were given assignments to design primers for effective amplification of their target DNA sequence using the web servers that were demonstrated. Some of the key areas of discussion in the session are mentioned below:

- Discussion on the criteria for designing effective primers (e.g., primer length, melting temperature, specificity).
- Providing an overview of various tools and software used for primer design (e.g., Primer3, BLAST).
- Demonstrating how to use these tools in practical scenarios.
- Demonstrating the participants the process of primer design using online tools or software.
- Identifying common problems encountered in PCR and primer design (e.g., non-specific amplification, primer-dimer formation).
- Offer practical solutions and tips for troubleshooting these issues.



Pictures of the seminar lecture and technical session of the workshop

Outcome of the workshop

The outcomes of this workshop on restriction mapping are listed below:

- Participants gained a solid grasp of the fundamental principles and steps involved in PCR.
- They understood different types of PCR techniques and their specific applications.
- Participants learned the criteria for designing effective primers.
- They were able to use various tools and software for primer design proficiently.
- Attendees will be capable of setting up and optimizing PCR reactions in a lab environment.
- They will be skilled at troubleshooting common PCR issues and designing primers that minimize errors.
- Participants will be able to apply their knowledge of PCR and primer design to their research projects involving gene amplification, cloning, or pathogen detection using the skills acquired.
- Enhanced ability to identify and solve problems related to non-specific amplification, primer-dimer formation, and other PCR-related challenges.
- Participants can effectively modify primer designs to suit specific experimental needs.

Name :- **Debmalya Khan**

Department :- **Zoology**

Discipline :- **Honours**

Semester :- **IV**

DNA Sequence for primer designing :-

Corchorus capsularis 4-coumarate:CoA ligase
350-1500 bp

NCBI
Website
Output

Nucleotide
Sequence

```
1 TCAAAATTAA CATTACAAAT TTAAGCCTGA AAAACTCACT TTCAAGCACA TAATTTTTTTT
61 TTGTTCTTTG AAGCTTTCCA TCTCAACTTC CAAATGGCAC CCCAAGCACC AGAATTGCCA
121 CAAGAAGATT TCATTTTTTCG ATCAAAACTT CCTGATATCT ATATTCCTAA GCATCTTCCT
181 TTACATTCAT ATTGCTTCGA AAACATTTC AAGGTCGCTT CTAAGCCTTG TTTGATCAAT
241 GGGACGACGG GTCAGATTTA TACTTACGAA GAAGTTGAAC TCACAGCTCG CCGAGTCGCC
301 GCTGGGCTTC ACAAACTCGG CGTTCAACAA CGTCAAGTTA TAATGCTTTT GTTACCCAAT
361 ACTCCCGAGT TTGTCCTTTC TTTCCCTCGGC GCTTCATTCC TCGGCGCCGT TTGCACGGCG
421 GCGAACCCAT TTTTCACCGC CCCGGAGGTT GCCAAGCAAG CCAAGGCTTC CAACGCCAGG
481 ATCATAATCA CGCAAGCTTC ATACGTCGAC AAAGTGAAGG AATTCGCTCA GGAAAATGTC
541 GATGTCAAGG TCATGTGCAT TGACTCAGCT CCGGAAGGTT GTTTACATTT CTCCGAGTTA
601 ACTCAAGCTG ACGAGAACGA TCTCCCGGAA GTCGAAATCA ATCCCGACGA CGTCGTTGCA
661 CTTCCCTTATT CGTCGGGAAC CACCGGGCTC CCCAAAGGTG TGATGTTAAC TCACAAGGGA
721 TTGGTTACCA GCGTGGCTCA ACAGGTCGAC GGTGAAAACC CAAATTTGTA TTTCCACAGC
781 GATGACGTCA TCTTGTGTAC TCTGCCCTTG TTCCATATCT ATGCCCTGAA CTCGATCATG
841 CTTTGCGGGC TTCGTGCCGG AGCTGCGATT TTGATCATGC AGAAGTTTGA AATCGGATTG
901 TTGTTGGATT TGATTCAGAA ATACAAAATT ACGATCGCTC CGATGGTGCC ACCCATAGTT
961 TTGGCTATTG CCAAGTCATC GGAAACTGAA AAATATGACT TGTCTTCGAT AAGGATGGTG
1021 AAATCCGGCG CCGCGCCGTT GGGTAAAGAG CTGGAAGATG CTGTAAGAGC CAAGTTTCCT
1081 GGTGCCAAAC TCGGTCAGGG ATATGGGATG ACAGAAGCAG GACCAGTTCT AGCAATGTGC
1141 TTGGGATTTG CCAAGGAACC ATTTGAAATF AAATCCGGGG CCTGCGGGAC GGTGGTTAGA
1201 AATGCCGAGA TGAAAATCGT TGACCCCGAC ACCGGTGCCT CACTTCCAAG AAACCAGGCT
1261 GGAGAGATTT GCATTAGAGG AGATCAGATC ATGAAAGGGT ACCTAAATGA CCCGGAGGCC
1321 ACAGTAGGA CCATTGACAA AGATGGGTGG CTCCACACGG GTGATATCGG TTACATTGAT
1381 GACGATGATG AACTCTTCAT CGTTGATCGT TTGAAGGAAT TGATCAAATA TAAGGTTTC
1441 CAGGTTGCTC CTGCTGAGCT TGAAGCCATG CTCATTGCC ACCCTGAGAT TATTGATGCT
1501 GCTGTCGTTG CAATGAAAAGA TGAGGTAGCT GGAGAAGTTC CTGTTGCATT TGTTGTGAAA
1561 TCAGAGAAAT CAGAAATCAC TGAGGATGAA ATCAAGCAAT ATATTTCTAA GCAGGTGGTG
1621 TTCTACAAGA GAATAAGCCG TGTGTTCTTC ATGGAAGCAA TTCCAAAGGC ACCCTCTGGG
1681 AAGATTTTGA GAAAGGAATT GAGAGCTAAA TTGGCTTCTG GAAACTACTG AAACTTTGT
1741 TCCAATTCCA AAAACTGCAA CAAAAAAAAA AAA
```

ACCESSION NUMBER :- GU942819

METHODOLOGY

Step 1 :- The Required section (350-1500 bp) of the DNA sequence (Corchorus capsularis 4-coumarate:CoA ligase) is copied and pasted in the Primer 3 website.

Step 2 :- The Appropriate primer picking conditions are selected before picking the primers

General Primer Picking Conditions

Upload the settings from a file No file chosen

Primer Size	Min	<input type="text" value="20"/>	Opt	<input type="text" value="22"/>	Max	<input type="text" value="23"/>
Primer Tm	Min	<input type="text" value="53.0"/>	Opt	<input type="text" value="55.0"/>	Max	<input type="text" value="57.0"/>
Product Tm	Min	<input type="text" value="-1000000"/>	Opt	<input type="text" value="0.0"/>	Max	<input type="text" value="1000000.0"/>
Primer GC%	Min	<input type="text" value="50.0"/>	Opt	<input type="text" value="60.0"/>	Max	<input type="text" value="70.0"/>

The aforementioned conditions are entered before picking the primers

Step 3 :- After Picking the primers, We will get a Primer 3 Output page with the all the possible primers that can be created with the Primer picking conditions that we selected.

Step 4 :- We will select a primer of our choice from those options


```

3 LEFT PRIMER      277  20  56.60  50.00  0.00  0.00  0.00  GGAAGTCGAAATCAATCCCG
RIGHT PRIMER      456  20  55.88  50.00  0.00  0.00  0.00  GGCAGAGTACACAAGATGAC
PRODUCT SIZE: 180, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00

4 LEFT PRIMER      120  20  56.36  50.00  0.00  0.00  0.00  CCAACGCCAGGATCATAATC
RIGHT PRIMER      296  20  56.60  50.00  0.00  0.00  0.00  CGGGATTGATTTGACTTCC
PRODUCT SIZE: 177, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00

```

Statistics

	con	too	in	in	not	no	tm	tm	high	high	high	high	high		
	sid	many	tar	excl	ok	bad	GC	too	too	any_th	3'_th	hair-	poly	end	
	ered	Ns	get	reg	reg	GC%	clamp	low	high	compl	compl	pin	X	stab	ok
Left	4153	0	0	0	0	2301	0	0	1780	0	0	11	19	0	42
Right	4201	0	0	0	0	2342	0	0	1805	0	0	9	3	0	42

Pair Stats:

considered 1330, unacceptable product size 1324, primer in pair overlaps a primer in a better pair 190, ok 6
libprimer3 release 2.4.0

My primer of Choice :-

[start](#) [len](#) [tm](#) [gc%](#) [any th](#) [3' th](#) [hairpin](#) [seq](#)

```

3 LEFT PRIMER      277  20  56.60  50.00  0.00  0.00  0.00  GGAAGTCGAAATCAATCCCG
RIGHT PRIMER      456  20  55.88  50.00  0.00  0.00  0.00  GGCAGAGTACACAAGATGAC

```

Why I chose this Primer ?

All the given Oligos have almost same Tm and Same GC %, but what we need to consider that the primers which have **G (Guanine)** or **C (Cytosine)** in the 3' end should be preferred above the primers which have any other bases at the 3' end other than G/C. This is because G and C are bound by three Hydrogen Bonds [**G ≡ C**] and a 3 Hydrogen bond is always stronger and makes the structure more stable and resistant.

Hence, the primer I chose is a better primer than the others.

Name- Debjeet Show

Department- Botany

Discipline- Science(UG Honours)

Semester - 2nd

DNA sequence- *Oryza sativa*

chitinase gene first

700 bp

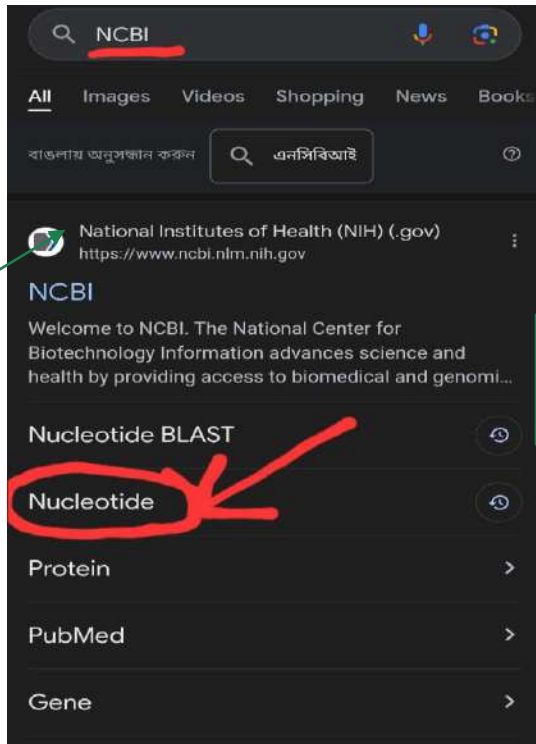
DNA sequence:

1 atgaaagcca cgacgacagc agtggccctc ctcgtggccg ccgcgccat ggtggcgag
61 gtagtcgccg agcagtgtgg ctgcaggcc ggtggggcgc tgtgccgaa ctgcctctgc
121 tgcagctcct acggctggg cggctccact tccgactact gcggtgacgg ctgccagagc
181 cagtgcgatg gctgcggcgg cggaggaggt ggccggcggc ggggcggcgg tggaggtggt
241 ggtggcggc cggtgaggc ggtcgtgtc aaggagctct tcgagcagct gctgctccac
301 cgcaacgacg cggcgtgcc ccagagggg ttctacact acgacgctt cgtcacagcc
361 gccgccgct tcccggagtt cggcgcgac ggagacgac aggcgcgcaa gcgtgaggtc
421 gccgcttc tcggcagac ctcccagag accacgggcg ggtgggcgac cgcgccgac
481 ggcccctact cgtggggcta ctgctcaag gaggagatcg gcgccacggc ctctactgc
541 gtcgccagc cagagtggc gtgcgcccc gacaagaagt acttcggccg cggccccatc
601 caactctct agtaagcaca tcatatcaa gctaggttcc attttttt atcaaattct
661 cagcgcgata agaatggtt tgatcaact ttgatgatc gatctctag caactacaac
721 tacgggccgg cgggggaggc catcggcgag gacctctga acaaccgga gctggtggcg
781 tcggaccgg tggtgtcgt caagacggc ctgtggttct ggatgaccc gcagtcgccg
841 aagcgtcgt gccacgacgt gatcacgggg cagtggacgc cgagctcggg ggacatcgcg
901 gccggcggg tgccgggta cggcgtgatc accaacaatca tcaacggcgg gttggagtgc
961 gggttcggc ccgacgacc ggtggcgaac cggatcggct tctaccagc ctactcgac
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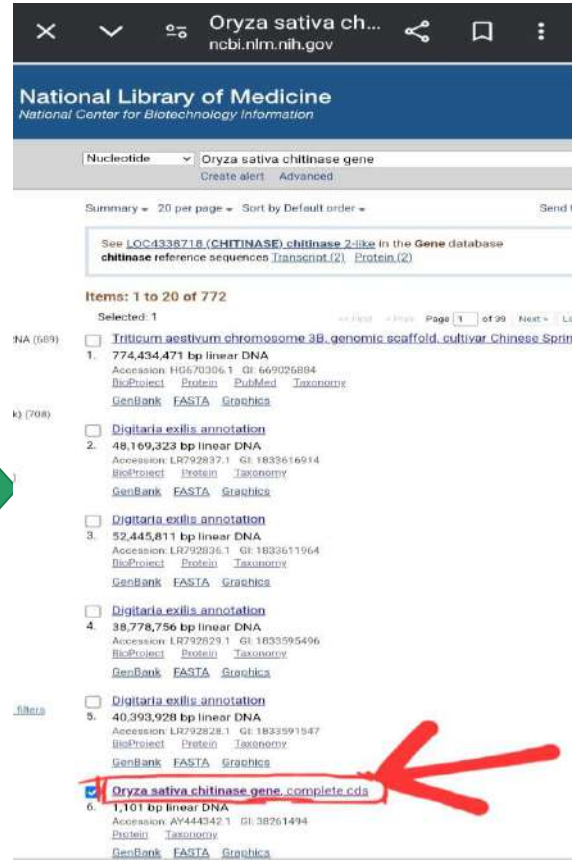
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ACCESSION No : AY444342

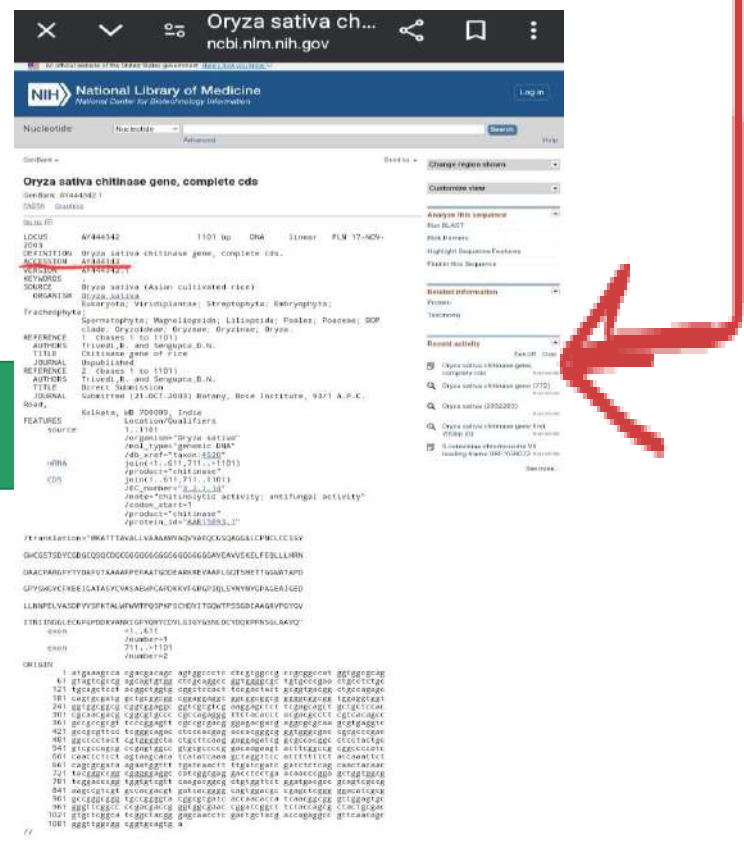
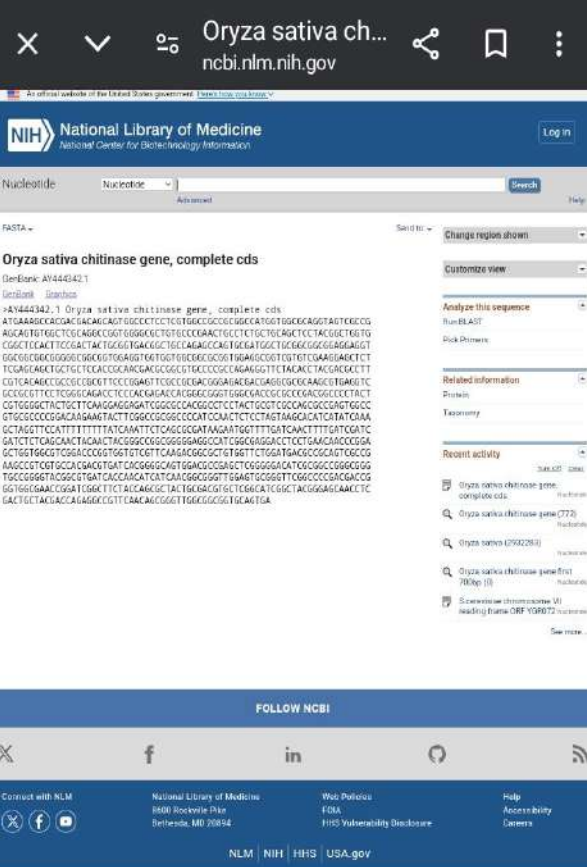
Methodology:



Step-1: Type NCBI in google. Then click on the "Nucleotide".



Step 2: Then choose Oryza sativa chitinase gene, complete cds and click on this link. The Oryza sativa chitinase gene, complete cds page will open.



Primer Output:

No mispriming library specified

Using 1-based sequence positions

OLIGO start len tm gc% any 3' seq

LEFT PRIMER 353 21 79.99 76.19 6.00 0.00 tcacagccgcccgcggtcc

RIGHT PRIMER 570 20 80.64 85.00 4.00 2.00 ccggggcgccagccactcg

SEQUENCE SIZE: 699

INCLUDED REGION SIZE: 699

PRODUCT SIZE: 218, PAIR ANY COMPL: 6.00, PAIR 3' COMPL: 3.00

1 atgaaagccacgacgacagcagtcagtgccctcctcgtggccgccgcccggccatggtggcgag

61 gtagtcgccgagcagtggtgctgcaggccggtggggcgctgtgccgaactgcctctgc

121 tgcagtcctacggctggtgcggctccacttccgactactgcggtgacggctgccagagc

181 cagtgcgatggctgcggcggcggaggagggtggcggcggcggggcgccggcggagggtggt

241 ggtggcggcggcggaggcggcgtgctgcaaggagctcttcgagcagctgctgctccac

>>>> left primer

<<<<< right primer

ADDITIONAL OLIGOS

start len tm gc% any 3' seq

1 LEFT PRIMER 360 20 78.97 80.00 6.00 2.00 cgccgccggttcccggagt

RIGHT PRIMER 570 20 80.64 85.00 4.00 2.00 ccggggcgccacggccactcg

PRODUCT SIZE: 211, PAIR ANY COMPL: 6.00, PAIR 3' COMPL: 3.00

2 LEFT PRIMER 354 20 78.88 80.00 6.00 0.00 cacagccgcccgccggttc

RIGHT PRIMER 570 20 80.64 85.00 4.00 2.00 ccggggcgccacggccactcg

PRODUCT SIZE: 217, PAIR ANY COMPL: 6.00, PAIR 3' COMPL: 3.00

3 LEFT PRIMER 42 21 79.86 76.19 8.00 0.00 cgccggccatggtggcgaggt

RIGHT PRIMER 202 21 80.01 76.19 5.00 1.00 cgccgccgagccatcgact

PRODUCT SIZE: 161, PAIR ANY COMPL: 6.00, PAIR 3' COMPL: 3.00

4 LEFT PRIMER 187 21 79.19 76.19 6.00 2.00 gatggctgcggcggcggagga

RIGHT PRIMER 370 20 79.61 80.00 6.00 2.00 acgcgccggcggctgtgacg

PRODUCT SIZE: 184, PAIR ANY COMPL: 6.00, PAIR 3' COMPL: 0.00

Statistics

con too in in no tm tm high high high

sid many tar excl bad GC too too any 3' poly end

ered Ns get reg GC% clamp low high compl compl X stab ok

Left 3747 0 0 0 148 0 198 93 11 3 0 344 2927

Right 4174 0 0 0 1127 0 195 75 0 4 0 310 2462

Pair Stats:

considered 794, unacceptable product size 762, high any compl 15, high end compl 8, ok 9

primer3 release 1.1.4

(primer3_results.cgi release 0.4.0)

Comment:

I choose 2 primers:

LEFT PRIMER 353 21 79.99 76.19 6.00 0.00 tcacagccgcccgcgttcc

RIGHT PRIMER 570 20 80.64 85.00 4.00 2.00 ccggggcgcacggccactcg

PRODUCT SIZE: 218, PAIR ANY COMPL: 6.00, PAIR 3' COMPL: 3.00

&

2nd primer from the additional OLIGOS -

2 LEFT PRIMER 354 20 78.88 80.00 6.00 0.00 cacagccgcccgcgttcc

RIGHT PRIMER 570 20 80.64 85.00 4.00 2.00 ccggggcgcacggccactcg

PRODUCT SIZE: 217, PAIR ANY COMPL: 6.00, PAIR 3' COMPL: 3.00

All the given OLIGOS have almost same T_m and same GC% but what we need to consider the primers which have G or C should be preferred of the above primers. I choose these two primers because there is gc in the 3' end in both the cases. As we know g means guanine, c means cytosine, a means adenine and t means thymine. Adenine forms two hydrogen bonds with Thymine. As the Guanine forms three hydrogen bonds with the Cytosine, so the $G \equiv C$ bonding is always stronger and makes the structure more stable and resistant.

Hence, the primer I choose is a better primer than the others.

Name - Akash Chakraborty

Department - Zoology

Discipline - Honours

Semester - IV

DNA Sequence for

Primer Design - *Arabidopsis thaliana*

DREB1A last 800bp

NucleotideSequence

```
1 atttttgagt gagaggagt cgctggctgg agagaaagag aggaaaggag tttcgaagtg
61 agagagaggg cgttgagatt gtggatcaac ttaatgtaat atgttctttt attaacattt
121 tctttttgtc atataactca aaccttttac tttttgttt cataaatcta acacacccca
181 ccatttgtta atgcatgatg gtagaaaata ttaaatataa ttaactactt ttatgtgatc
241 aaaattaggt ttcagactcg tttcgcgatc cgatctacaa ttacaactgc atgcttctaa
301 ttgatctaaa ttctaaattt tttatacata ttaaaaaaac aactttttgt taaattctca
361 atcatcattt ttgtgattaa caatttttta taactctaaa ccaataatat ttgattattt
421 attttatatg tataatgatg attgagaatt ttaattagca gtctatttag ggttttctca
481 aagttacaat atgttgttac cttctagtt aaattttcca aaataccata tttcataact
541 tttcaaaactg tttattaatt caaccgtaaa aagcactaaa atgttacatt tgatcattca
601 cccaaattaa attcaaaagt ttttccgcca aaactacttg gtgacttacg tgcttatata
661 cggacgacta ttattatggt ctatactttt ttatactttg ttgcacaaat atctactctc
721 ccaattcata ttctagaagg atgtgctata agaatgggag aaattacaca agaagagcat
781 ctttaaatat cctctcacia tctttatgtc taatacacgg gtgaacaatt aacgacaatt
841 tctttattca ggaatataat aatgaataac ggttacccta cacctagtag actaaatcct
901 taacagccac acattcatal gcaaagagtt tataaaactc ataaaggtag aataataacg
961 agtgaataag tcaaaaaaag tcttctctgg acacatggca gatcttaatg agtgaatcct
1021 taaactactc attttacaat tgcttcgctg tgtatagttt acgtggcatt accagagaca
1081 caaactccgt cttcgccttt tcttttgctt ctaaaatatac ttccgccatt ataaaacagc
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1741 ggcttcgaca tggaggagac gttggtggag gctatttaca cggcggaaca gagcgaaaat
1801 gcgttttata tgcacgatga ggcgatgttt gagatgccga gtttggtggc taatatggca
1861 gaagggatgc ttttgccgct tccgtccgta cagtggaatc ataactatga agtcgacggc
1921 gatgatgacg acgtatcgtt atggagttat taaaactcag attattattt ccatttttag
1981 tacgatactt tttattttat tattattttt agatcctttt ttagaatgga atcttcatta
2041 tgtttgtaaa actgagaaac gagtgtaaat taaattgatt cagtttcagt ataagtgtgg
2101 gctattctta aatgcaagta tttttagagc agtaacaaaa aaatgttggt taaattagag
2161 tataaaaccg aaacaaccga ttcagcaaaa cctccaataa tagaccgtac accataaaca
2221 gaaatatggg tcccacaaga gagcactgtc cgtagcttcc ccttcattgg ccctctacgt
2281 ggctcctctt gtaaccaatg tcatgtcatt ttcaagtttt actttctttt tttatactaa
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2581 atccttgggc ttaaaccagt ttttatttag taaattttat gctcctgtat tattatctgg
2641 aagtattttt ctccgaaata tatgagtcga gtttaaggaa tatataagcg aaaaaccnca
2701 aattatataat ataagcgggg ttaatagatc accacaatca atttaatttg gactttagaa
2761 ttaataaaat tgtttcttcg taattattat ttttttggtt gttctggcaa atctgataat
2821 ccagattatt attagacaag tagcgaaggg acgggtgaaca tttatgattt taatttgat
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2941 gaaaactcaa ctacaggtgg cgtccggcga gttttcagac caaaaagaag gttggaagaa
3001 atgaagatga agaggagagg acaaaagata gagatggtgg ttgaacaaaa gaagagtaaa
3061 gaggacgaag acgctctaag tctaagccaa ggggggagaag aagagaagag gtatgaggag
3121 gaaccatact tttgttagag agatgctgga aattgtgatc aactacatgc aaaatgtctt
3181 ttcgcctaac cacttaccat atttgatatt ttccttttgc caaattacac aaaccctatc
3241 ttgtctctca catatatatc caattaatac acccctgcc aattgtaatt ctcgaccatg
3301 tatgtatact tatgtaaaga atatccaaaa gctt
```

METHODOLOGY

Step 1 :- The Required section (2535-3334 bp) of the DNA sequence (*Arabidopsis thaliana* DREB1A) is copied from ncbi website in FASTA format and pasted in the Primer 3 website.

Step 2 :- The Appropriate primer picking conditions are selected before picking the primers

General Primer Picking Conditions

Primer Size	Min	<input type="text" value="21"/>	Opt	<input type="text" value="23"/>	Max	<input type="text" value="25"/>
Primer Tm	Min	<input type="text" value="50.0"/>	Opt	<input type="text" value="55.0"/>	Max	<input type="text" value="60.0"/>
Product Tm	Min	<input type="text" value="-1000000"/>	Opt	<input type="text" value="0.0"/>	Max	<input type="text" value="1000000"/>
Primer GC%	Min	<input type="text" value="50.0"/>	Opt	<input type="text" value="60.0"/>	Max	<input type="text" value="70.0"/>

The aforementioned conditions are entered before picking the primers

Step 3 :- After Picking the primers, We will get a Primer 3 Output page with the all the possible primers that can be created with the Primerpicking conditions that we selected.

Step 4 :- We will select a primer of our choice from those options

ADDITIONAL OLIGOS

	<u>start</u>	<u>len</u>	<u>tm</u>	<u>gc%</u>	<u>any th</u>	<u>3' th</u>	<u>hairpin</u>	<u>seq</u>
1 LEFT PRIMER	569	22	57.07	50.00	0.00	0.00	0.00	GAGAAGAGGTATGAGGAGGAAC
RIGHT PRIMER	747	22	59.31	50.00	0.00	0.00	0.00	GTGGCAGGGGTGTATTAATTGG
PRODUCT SIZE: 179, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								
2 LEFT PRIMER	406	21	59.40	52.38	8.50	1.73	0.00	GGAAACTCAACTCACGGTGG
RIGHT PRIMER	587	22	56.80	50.00	0.00	0.00	0.00	CCTCCTCATACCTCTTCTCTTC
PRODUCT SIZE: 182, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								
3 LEFT PRIMER	298	22	59.84	50.00	0.00	0.00	0.00	TTAGACAAGTAGCGAAGGGACG
RIGHT PRIMER	590	22	57.07	50.00	0.00	0.00	0.00	GTTCCTCCTCATACCTCTTCTTC
PRODUCT SIZE: 293, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								

Statistics

	con	too	in	in	not	no	tm	tm	high	high	high	high	high	
	sid	many	tar	excl	ok	bad	GC	too	too	any_th	3'_th	hair-	poly	
	ered	Ns	get	reg	reg	GC%	clamp	low	high	compl	compl	pin	X	
	ok												end	
													stab	
Left	3341	25	0	0	0	3047	0	0	212	0	0	2	22	0
Right	3341	25	0	0	0	3035	0	0	220	0	0	10	22	0

Pair Stats:

considered 3581, unacceptable product size 3577, primer in pair overlaps a primer in a better pair 1412, ok 4
 libprimer3 release 2.4.0

My primer of Choice :-

	<u>start</u>	<u>len</u>	<u>tm</u>	<u>gc%</u>	<u>any th</u>	<u>3' th</u>	<u>hairpin</u>	<u>seq</u>
3 LEFT PRIMER	298	22	59.84	50.00	0.00	0.00	0.00	TTAGACAAGTAGCGAAGGGACG
RIGHT PRIMER	590	22	57.07	50.00	0.00	0.00	0.00	GTTCCTCCTCATACCTCTTCTTC

Why I chose this Primer ?

All the given Oligos have almost same Tm and Same GC %, but what we need to consider that the primers which have **G (Guanine)** or **C (Cytosine)** in the 3' end should be preferred above the primers which have any other bases at the 3' end other than G/C. This is because G and C are bound by three Hydrogen Bonds [**G ≡ C**] and a 3 Hydrogen bond is always stronger and makes the structure more stable and resistant.

Hence, the primer, I chose is a better primer than the others.

Durgapur Government College

Name: Sekh Tahir

Department: Botany

Sem: 2nd

discipline: programme

DNA Sequence for primer designing:

Oryza sativa chitinase gene last 700bp

```
1 atgaaagcca cgacgacagc agtggccctc ctctgtggccg ccgcggccat ggtggcgcag
 61 gtagtcgccg agcagtggtg ctgcgaggcc ggtggggcgc tgtgcccga a ctgcctctgc
121 tgcagctcct acggctggtg cggctccact tccgactact gcggtgacgg ctgccagagc
181 cagtgcgatg gctgcggcgg cggaggaggt ggcggcggcg ggggcggcgg tggaggtggt
241 ggtggcggcg cgggtggaggc ggtcgtgtcg aaggagctct tcgagcagct gctgctccac
301 cgcaacgacg cggcgtgccc cgccagaggg ttctacacct acgacgcctt cgtcacagcc
361 gccgcccgtt tcccggagtt cgccgcgacg ggagacgacg aggcgcgcaa gcgtgaggtc
421 gccgcttcc tcgggcagac ctcccacgag accacgggcg ggtgggcgac cgcgcccgac
481 ggcccctact cgtggggcta ctgcttcaag gaggagatcg gcgccacggc ctctactgc
541 gtcgccagcg ccgagtggcc gtgcgccccg gacaagaagt acttcggcgg cggccccatc
601 caactctcct agtaagcaca tcatatcaa gctaggttcc attttttttt atcaaattct
661 cagcgcgata agaatggttt tgatcaactt ttgatcgatc gatctctcag caactacaac
721 tacgggcccg cgggggaggc catcggcgag gacctcctga acaaccgga gctggtggcg
781 tcggaccggt tgggtgctgt caagacggcg ctgtggttct ggatgacgcc gcagtcgccc
841 aagccgtcgt gccacgacgt gatcacgggg cagtggacgc cgagctcggg ggacatcgcg
901 gccgggcccg tgccggggta cggcgtgatc accaacatca tcaacggcgg gttggagtgc
961 gggttcggcc ccgacgaccg ggtggcgaac cggatcggct tctaccagcg ctactgcgac
1021 gtgctcggca tcggctacgg gagcaacctc gactgctacg accagaggcc gttcaacagc
1081 gggttggcgg cgggtgcagtg
```

ACCESSION: AY444342, highlighted sequence is assigned sequence.

Methodology:

1. In laptop or tablet open any browser then search NCBI then click on nucleotide then search accession number (AY444342) or oryza sativa chitinase gene then you will get this....

The screenshot shows the NLM website interface for the gene 'Oryza sativa chitinase gene, complete cds'. It includes a search bar, navigation tabs, and detailed genomic data such as coordinates on chromosome 11 and sequence alignments. A 'FOLLOW LINKS' section is visible at the bottom of the main content area.

2. Understand CDS according to your specimen...

The screenshot shows a feature table for a chitinase gene. The 'CDS' feature is highlighted with a red 'X', indicating an issue. The table includes the following information:

```

/organism="Oryza sativa"
/moi_type="genomic DNA"
/db_xref="taxon:4530"
join(<1..611,711..>1101)
/product="chitinase"
join(1..511,11..1101)
/EC="3.2.1.14"
function="chitinolytic activity; antifungal activity"
codon_start=1
product="chitinase"
/protein="chitinase"
/translation="MTTAVALLVAAAAMVAQVVAEQCGSQAGGALCPNLCSSSY
GWCSTSDYCGDCC...CGGGGGGGGGGGGGGGGAVEAVVSKELFEQLLHRN
DAACPARGFYTYDAFVTA...PEFAATGDDEARKREVA AFLGQTSHETGGWATAPD
PYSWGYCFKEETGATASYLPSAEWPCAPDKKYFGRGPIQLSYNNYGPAGEATGED
NNPELVASDPVVSFKTALWFMTQSPKPSCHDVI TGGWTPSSGDI AAGRVPYGVV
TNTTNGCL EFCGDNHVAHPTGEVNRVYVH CTGCGEM DRYNDDREDCI AAMV"

```

A 'See more...' link is visible to the right of the feature table.

5. Again search Primer3 and click to open it then paste the copied sequence in the blank space...

Primer3web version 4.1.0 - Pick primers from a DNA sequence. [disclaimer](#) [code](#)
[cautions](#)

Select the **Task** for primer selection [generic ▾]

[Template masking before primer design \(available species\)](#)

Select [Nucleotides to mask in 5' direction](#)
 Primer [Nucleotides to mask in 3' direction](#)

Paste a string of ACGTNacgtn – other letters treated as N – numbers and blanks ignored. FASTA format sequence (vector, ALUs, LINEs, etc.) or use a [Mispriming Library \(repeat library\)](#).
 NONE

Pick left primer, or use left primer below Pick hybridization probe (internal oligo), or use oligo below Pick right primer, or use right primer below (5' to 3' on opposite strand)

[Sequence Id](#) A string to identify your output.

6. Then set primer size (max 30) & primer GC% then click on pick primers option....

General Primer Picking Conditions

Upload the settings from a file No file chosen

Primer Size	Min <input type="text" value="23"/>	Opt <input type="text" value="25"/>	Max <input type="text" value="28"/>		
Primer Tm	Min <input type="text" value="57.0"/>	Opt <input type="text" value="59.0"/>	Max <input type="text" value="62.0"/>	Max Tm Difference <input type="text" value="5.0"/>	Ta <input type="text" value="Sa"/>
Product Tm	Min <input type="text" value="-1000000.0"/>	Opt <input type="text" value="0.0"/>	Max <input type="text" value="1000000.0"/>		
Primer GC%	Min <input type="text" value="40"/>	Opt <input type="text" value="50.0"/>	Max <input type="text" value="60"/>		

[Product Size Range](#)

ADDITIONAL OLIGOS

	<u>start</u>	<u>len</u>	<u>tm</u>	<u>gc%</u>	<u>any th</u>	<u>3' th</u>	<u>hairpin</u>	<u>seq</u>
1 LEFT PRIMER	142	20	59.83	60.00	0.00	0.00	0.00	GGCTCCACTTCCGACTACTG
RIGHT PRIMER	351	21	59.53	52.38	0.00	0.00	0.00	GAAGGCGTCGTAGGTGTAGAA
PRODUCT SIZE: 210, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								
2 LEFT PRIMER	1	20	61.29	55.00	0.00	0.65	0.00	ATGAAAGCCACGACGACAGC
RIGHT PRIMER	161	20	59.83	60.00	0.00	0.00	0.00	CAGTAGTCGGAAGTGGAGCC
PRODUCT SIZE: 161, PAIR ANY_TH COMPL: 22.22, PAIR 3'_TH COMPL: 14.09								

LEFT PRIMER	331	21	59.53	52.38	0.00	0.00	0.00	TTCTACACCTACGACGCCTTC
RIGHT PRIMER	520	23	60.24	52.17	0.00	0.00	0.00	CGATCTCCTCCTTGAAGCAGTAG

AT 3' position c is present & length,tm and GC% is perfect then other primers so I choose it.

Thank you

Name :- Rina Ruidas

Department :- Zoology

Discipline :- Honours

Semester :- IV

DNA Sequence for primer designing :-

Arabidopsis thaliana DREB1A first 500bp

1	GCCACACATT	CATACGCAA	GAGTTTATA	AACTCATAAA	GGTATAATAA	TAACGAGTGA
61	ATAAGTCAAA	AAAAGTCTTC	TCTGGACACA	TGGCAGATCT	TAATGAGTGA	ATCCTTAAAC
121	TACTCATT	ACAATTGCTT	CGCTGTGTAT	AGTTTACGTG	GCATTACCAG	AGACACAAAC
181	TCCGTCTTCG	CCTTTTCTTT	TGCCTCTAAA	ATATCTTCCG	CCATTATAAA	ACAGCATGCT
241	CTCACTCCAA	CTTTTATTTA	TCTACAAAACA	TTAAATCCAC	CTGAACTAGA	ACAGAAAAGAG
301	AGAGAAACTA	TTATTTTCAGC	AAACCATAACC	AACAAAAAAG	ACAGAGATCT	TTTAGTTACC
361	TTATCCAGTT	TCTTGAAACA	GAGTACTCTT	CTGATCAATG	AACTCATTTT	CTGCTTTTTTC
421	TGAAATGTTT	GGCTCCGATT	ACGAGTCTTC	GGTTTCCTCA	GGCGGTGATT	ATATTCCGAC
481	GCTTGCGAGC	AGCTGCCCCA	AGAAACCGGC	GGGTCGTAAG	AAGTTTCGTG	AGACTCGTCA
541	CCCAATATAC	AGAGGAGTTC	GTCGGAGAAA	CTCCGGTAAG	TGGGTTTGTG	AGGTTAGAGA
601	ACCAAAACAAG	AAAACAAGGA	TTTGCTCGG	AACATTTCAA	ACCGTGAGA	TGGCAGCTCG
661	AGCTCACGAC	GTTGCCGCTT	TAGCCCTTCG	TGGCCGATCA	GCCTGTCTCA	ATTTGCTGA
721	CTCGGCTTGG	AGACTCCGAA	TCCCAGAAATC	AACTTGCGCT	AAGGACATCC	AAAAGGCGGC
781	GGCTGAAGCT	GCGTTGGCGT	TTCAGGATGA	GATGTGTGAT	GCGACGACGG	ATCATGGCTT
841	CGACATGGAG	GAGACGTTGG	TGGAGGCTAT	TTACACGGCG	GAACAGAGCG	AAAATGCGTT
901	TTATATGCAC	GATGAGGCGA	TGTTTGAGAT	GCCGAGTTT	TTGGCTAATA	TGGCAGAAGG
961	GATGCTTTTG	CCGCTTCCGT	CCGTACAGTG	GAATCATAAT	CATGAAGTCG	ACGGCGATGA
1021	TGACGACGTA	TCGTTATGGA	GTTATTAAAA	CTCAGATTAT	TATTTCCATT	TTTAGTACGA
1081	TACTTTTTTAT	TTTATTATTA	TTTTTAGATC	CTTTTTTAGA	ATGGAATCTT	CATTATGTTT
1141	GTA AAAACTGA	GAAACGAGTG	TAAATTA AAT	TGATTCAGTT	TCAGTATAAG	TGTGGGCTAT
1201	TCTTAAATGC	AAGTATTTTT	AGAGCAGTAA	CAAAAAAATG	TTGTTTAAAT	TAGAGTATAA
1261	AACCGAAACA	ACCGATTCAG	CAAAACCTCC	AATAATAGAC	CGTACACCAT	AAACAGAAAT
1321	ATGGGTCCCA	CAAGAGAGCA	CTGTCCGTAG	CTTCCCCTTC	ATTGGCCCTC	TACGTGGCTC
1381	CTCTTGTAAC	C				

ACCESSION NUMBER :- NM_118680

SCHEMATIC METHODOLOGY

Step 1 :- I copied the first 500 bp of the given DNA sequence (Arabidopsis thaliana DREB1A) pasted it in the Primer 3 website.

Step 2 :- The Appropriate primer picking conditions are selected before picking the primers

General Primer Picking Conditions

Upload the settings from a file No file chosen

Primer Size	Min	<input type="text" value="22"/>	Opt	<input type="text" value="23"/>	Max	<input type="text" value="24"/>
Primer Tm	Min	<input type="text" value="57.0"/>	Opt	<input type="text" value="59.0"/>	Max	<input type="text" value="62.0"/>
Product Tm	Min	<input type="text" value="-1000000"/>	Opt	<input type="text" value="0.0"/>	Max	<input type="text" value="1000000.0"/>
Primer GC%	Min	<input type="text" value="40.0"/>	Opt	<input type="text" value="50.0"/>	Max	<input type="text" value="60.0"/>

The aforementioned conditions are entered before picking the primers

Step 3 :- After Picking the primers, I obtained a Primer 3 Output page with the all the possible primers that can be created with the Primer picking conditions that has been selected.

Step 4 :- I picked a primer of my choice from the obtained results

Primer of Choice :-

start len tm gc% any th 3' th hairpin seq

2 LEFT PRIMER	200	23	58.87	43.48	0.00	0.00	0.00	TTGCCTCTAAAATATCTTCCGCC
RIGHT PRIMER	442	23	58.34	43.48	0.00	0.00	0.00	GTAATCGGAGCCAAACATTCAG

Comments :-

Among all the obtained primers I preferred the primers which have G (Guanine) or C (Cytosine) in the 3' end over those primers which have any other bases at the 3' end other than G/C because G and C are bound by three Hydrogen Bonds

[G ≡ C] and a 3 Hydrogen bond is always stronger and makes the structure more stable and resistant. As a result the primer is a better one.

Name – Laltu Roy

Department - Botany

Discipline - Honours

Semester - IV

DNA Sequence for

Primer Design - *Arabidopsis thaliana*

DREB1A 300-1200bp

NucleotideSequence

```
1 atttttgagt gagaggagtg cgctggctgg agagaaagag aggaaaggag tttcgaagtg
61 agagagaggg cgttgagatt gtggatcaac ttaatgtaat atgttctttt attaacattt
121 tctttttgtc atataactca aaccttttac tattttgttt cataaatcta acacacccca
181 ccatttgtta atgcatgatg gtagaaaata ttaaatataa ttaactactt ttatgtgatc
241 aaaattaggt ttcagactcg tttcgcgatc cgatctacaa ttacaactgc atgcttctaa
301 ttgatctaaa ttctaaattt tttatacata ttaaaaaaac aactttttgt taaattctca
361 atcatcattt ttgtgattaa caatttttta taactctaaa ccaataatat ttgattattt
421 atttttatag tataatgatg attgagaatt ttaattagca gtctatttag ggttttccta
481 aagttacaat atgttgttac cttctagttt aaattttcca aaataccata tttcataact
541 tttcaaaactg tttattaatt caaccgtaaa aagcactaaa atgttacatt tgatcattca
601 cccaaattaa attcaaaagt ttttcgcca aaactacttg gtgacttacg tgcttatata
661 cggacgacta ttattatggt ctatactttt ttatactttg ttgcacaaat atctactctc
721 ccaattcata ttctagaagg atgtgctata agaatgggag aaattacaca agaagagcat
781 ctttaaatat cctctcaca tctttatgtc taatacacgg gtgaacaatt aacgacaatt
841 tctttattca ggaatataat aatgaataac ggttacccta cacctagtac actaaatcct
901 taacagccac acattcatac gcaaagagtt tataaaactc ataaaggat aataataacg
961 agtgaataag tcaaaaaaag tcttctctgg acacatggca gatcttaatg agtgaatcct
1021 taaactactc attttacaat tgcttcgctg tgtatagttt acgtggcatt accagagaca
1081 caaactccgt cttcgccttt tcttttgctt ctaaaatatac ttccgccatt ataaaacagc
1141 atgctctcac tccaactttt atttatctac aaacattaaa tccacctgaa ctagaacaga
1201 aagagagaga aactattatt tcagcaaacc ataccaacaa aaaagacaga gatcttttag
1261 ttaccttatac cagtttcttg aaacagagta ctcttctgat caatgaactc attttctgct
1321 ttttctgaaa tgtttggtc cgattacgag tcttcggttt cctcaggcgg tgattatatt
1381 cgcagcttg cgacagctg ccccaagaaa cggcggggtc gtaagaagt tctgagact
1441 cgtcacccaa taticagagg agttcgtcgg agaaaactccg gtaagtgggt ttgtgaggtt
1501 agagaaccaa acaagaaaac aaggatttgg ctcggaacat tcaaacccg tgagatggca
1561 gctcgagctc acgacgttgc cgctttagcc cttcgtggcc gatcagcctg tctcaatttc
1621 gctgactcgg cttggagact ccgaatcccg gaatcaactt gcgctaagga catccaaaag
1681 gcggcggtg aagctgcgtt ggcgtttcag gatgagatgt gtgatgcgac gacggattat
1741 ggcttcgaca tggaggagac gttggtggag gctatttaca cggcggaaca gagcgaaaat
1801 gcgttttata tgcacgatga ggcgatgttt gagatgccga gtttgttggc taatatggca
1861 gaagggatgc ttttgccgct tccgtccgta cagtggaaac ataactcatga agtcgacggc
1921 gatgatgacg acgtatcgtt atggagttat taaaactcag attattattt ccatttttag
1981 tacgatactt tttattttat tattattttt agatcctttt ttagaatgga atcttcatta
2041 tgtttgtaaa actgagaaac gagtgtaaat taaattgatt cagtttcagt ataagtgtgg
2101 gctattctta aatgcaagta tttttagagc agtaacaaaa aaatgttggt taaattagag
2161 tataaaaccg aaacaaccga ttcagcaaaa cctccaataa tagaccgtac accataaaca
2221 gaaatatggg tcccacaaga gagcactgtc cgtagcttcc ccttcattgg ccctctacgt
2281 ggctcctctt gtaaccaatg tcatgtcatt ttcaagtttt actttctttt tttatactaa
2341 tatcttgttt gtcgttttct gtaccttaag gtccctaaacc actttctttc gcgcaccatt
2401 cttgtcgtta ttatttctcc gaatatgtca ataccgtgag acgacaattg atagcgagag
2461 gtacgcgagag agagaaaactg tcggtgtgaa gatattttat tgctgttgtt gagattgaga
2521 tattttatag ctattattgg aatttgaaag tgatgtataa cttgctacta tatcggctaa
2581 atccttgggc ttaaaccagt ttttatttag taaattttat gctcctgtat tattatctgg
2641 aagtattttt ctccgaaata tatgagtcga gtttaaggaa tatataagcg aaaaaccnca
2701 aattatataat ataagcgggg ttaatagatc accacaatca atttaatttg gacttttagaa
2761 ttaataaaat tgtttcttcg taattattat ttttttggtt gttctggcaa atctgataat
2821 ccagattatt attagacaag tagcgaaggg acgggtgaaca tttatgattt taatttgtat
2881 gttgtaagga aaacaaaaca aataagttct gtaaaaaagg tttacctttc tactttgccc
2941 gaaaactcaa ctacgggtgg cgtccggcga gttttcagac caaaaagaag gttggaagaa
3001 atgaagatga agaggagagg acaaaagata gagatgggtg ttgaacaaaa gaagagtaaa
3061 gaggacgaag acgctctaag tctaagccaa gggggagaag aagagaagag gtatgaggag
3121 gaaccatact tttgttagag agatgctgga aattgtgatc aactacatgc aaaatgtctt
3181 ttcgcctaac cacttaccat atttgatatt ttccttttgc caaattacac aaaccctatc
3241 ttgtctctca catatatata caattaatac acccctgcca cttgttaatt ctcgaccatg
3301 tatgtatact tatgtaaaga atatccaaaa gctt
```

ACCESSION NUMBER :- AB013815

METHODOLOGY

Step 1 :- The Required section (300-1200 bp) of the DNA sequence (*Arabidopsis thaliana* DREB1A) is copied from ncbi website in FASTA format and pasted in the Primer 3 website.

Step 2 :- The Appropriate primer picking conditions are selected before picking the primers

General Primer Picking Conditions

<u>Primer Size</u>	Min	<input type="text" value="20"/>	Opt	<input type="text" value="22"/>	Max	<input type="text" value="23"/>
<u>Primer Tm</u>	Min	<input type="text" value="57.0"/>	Opt	<input type="text" value="59.0"/>	Max	<input type="text" value="62.0"/>
<u>Product Tm</u>	Min	<input type="text" value="-1000000"/>	Opt	<input type="text" value="0.0"/>	Max	<input type="text" value="1000000."/>
<u>Primer GC%</u>	Min	<input type="text" value="40.0"/>	Opt	<input type="text" value="50.0"/>	Max	<input type="text" value="60.0"/>

Step 3 :- After Picking the primers, We will get a Primer 3 Output page.

Step 4 :- We will select a primer of our choice from those options

<<<<<< right primer

ADDITIONAL OLIGOS

	<u>start</u>	<u>len</u>	<u>tm</u>	<u>gc%</u>	<u>any th</u>	<u>3' th</u>	<u>hairpin</u>	<u>seq</u>
1 LEFT PRIMER	333	22	59.37	45.45	0.00	0.00	0.00	actacttggtgacttacgtgct
RIGHT PRIMER	708	22	58.12	45.45	0.00	0.00	0.00	ttaagatctgccatgtgtccag
PRODUCT SIZE: 376, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								
2 LEFT PRIMER	514	22	58.01	40.91	0.00	0.00	0.00	tacacgggtgaacaattaacga
RIGHT PRIMER	853	22	58.66	45.45	28.27	9.12	0.00	ggagtgagagcatgctgtttta
PRODUCT SIZE: 340, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								
3 LEFT PRIMER	439	23	57.51	43.48	0.00	0.00	0.00	ggatgtgctataagaatgggaga
RIGHT PRIMER	768	22	58.74	45.45	0.00	0.00	0.00	tgccacgtaaactatacacagc
PRODUCT SIZE: 330, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								
4 LEFT PRIMER	336	22	57.73	40.91	0.00	0.00	0.00	acttggtgacttacgtgcttat
RIGHT PRIMER	701	21	59.72	52.38	0.00	0.00	0.00	ctgccatgtgtccagagaaga
PRODUCT SIZE: 366, PAIR ANY_TH COMPL: 0.00, PAIR 3'_TH COMPL: 0.00								

Statistics

	con	too	in	in	not	no	tm	tm	high	high	high	high	high	
	sid	many	tar	excl	ok	bad	GC	too	too	any_th	3'_th	hair-	poly	end
	ered	Ns	get	reg	reg	GC%	clamp	low	high	compl	compl	pin	X	stab
ok														
Left	2392	0	0	0	0	2124	0	169	1	0	0	21	4	0
73														
Right	2390	0	0	0	0	1734	0	294	19	0	0	17	4	0
322														

Pair Stats:

considered 3481, unacceptable product size 3474, primer in pair overlaps a primer in a better pair 2332, ok 7

libprimer3 release 2.4.0

My Choice is :-

	<u>start</u>	<u>len</u>	<u>tm</u>	<u>gc%</u>	<u>any th</u>	<u>3' th</u>	<u>hairpin</u>	<u>seq</u>
3 LEFT PRIMER	439	23	57.51	43.48	0.00	0.00	0.00	ggatgtgctataagaatgggaga
RIGHT PRIMER	768	22	58.74	45.45	0.00	0.00	0.00	tgccacgtaaactatacacagc

Reason

We need to consider that the primers which have G (Guanine) or C (Cytosine) in the 3' end should be preferred above the primers which have any other bases at the 3' end other than G/C. This is because G and C are bound by three Hydrogen Bonds [G ≡ C] and a 3 Hydrogen bond is always stronger and makes the structure more stable and resistant.



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Organized by Department of Botany, Durgapur Government College

This is to certify that **Debmalya Khan** of 4th Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored One days Webinar cum Workshop on "PCR and Techniques in Designing Primer for UG students" for B.Sc. students on 09.05.2024.

Dr. Debnath Palit
Principal
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Dr. Nivedita Acharjee
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This is to certify that **Akash Chakraborty** of 4th Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored One days Webinar cum Workshop on "PCR and Techniques in Designing Primer for UG students" for B.Sc. students on 09.05.2024.

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This is to certify that *Shek Tahir* of 2nd Semester of of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored One days Webinar cum Workshop on "PCR and Techniques in Designing Primer for UG students" for B.Sc. students on 09.05.2024.

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This is to certify that **Rina Ruidas** of 4th Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored One days Webinar cum Workshop on "PCR and Techniques in Designing Primer for UG students" for B.Sc. students on 09.05.2024.

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Organized by Department of Botany, Durgapur Government College

This is to certify that **Debjeet Show** of 2nd Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored One days Webinar cum Workshop on "PCR and Techniques in Designing Primer for UG students" for B.Sc. students on 09.05.2024.

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This is to certify that **Subham Ghosh** of 2nd Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored One days Webinar cum Workshop on "PCR and Techniques in Designing Primer for UG students" for B.Sc. students on 09.05.2024.

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This is to certify that **Laltu Roy** of 4th semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored One days Webinar cum Webinar cum Workshop on "PCR and Techniques in Designing Primer for UG students" for B.Sc. students on 09.05.2024.

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Report of One Day Workshop on “Collection and Preservation of Pteridophytic germplasm”

Pteridophytes are first land vascular plants arrived on earth almost 430 million years ago. Till then they are surviving in almost every corner of earth (mostly in tropical region) and standing on the 2nd position when it comes to the number of species present on earth after angiosperm. Most of the species favour undisturbed and shady condition but some can withstand disturbances like urbanization and habitat destruction. Pteridophytic species generally have two systems one is the above ground part that is generally represented by either erect branch or frond another one is the rhizome (either erect or prostrate). Former one is annual in nature and the later one is perennial. The above ground part contains structure that contains the reproductive unit called spores. So, if we one to study those structures then either we have study it immediately after collection or we have to preserve it for later use. The parts of pteridophytes that can be used as germplasm for further use are spores, rhizomes etc.

But, before preserving that we must know the proper way of identification of those species. Hence, the Department of Botany of Durgapur Government College organized a workshop on 24th February, 2024 from 1 p.m. onwards, on the above mentioned topic to first identify and then preserve the specimen mainly focusing on Herbarium techniques that is more suitable for students as well as other researchers. The official notice for the above mentioned activity is given below –

OFFICE OF THE PRINCIPAL DURGAPUR GOVERNMENT COLLEGE

J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 071

Date: 20-02-2024

NOTIFICATION

This is for information to all concerned that Department of Botany will organize one day workshop on "*Collection and Preservation of pteridophytic germplasm*" under the DBT STAR COLLEGE SCHEME on **Saturday, 24-02-2024 from 1 pm onwards.**

Departmental Coordinators of all participating departments are requested to inform the respective students to participate in the aforementioned experiment.

Nivedita Acharjee

Dr. Nivedita Acharjee

Coordinator, DBT STAR COLLEGE SCHEME
Durgapur Government College



Principal

Durgapur Government College

Copy forwarded for information and necessary action to

1. *Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME*
2. *All participating departments of DBT STAR COLLEGE SCHEME*
3. *Notice Book, Office of the Principal*

Resource Persons – Dr. Ashoke Bhattacharya (HOD) and Prof. Anish Bhattacharya

No. of Participants – 38 (UG students from department of Botany, Zoology and Chemistry)

DBT Star College Scheme

Workshop on Collection and Preservation of Pteridophytic germplasm

24.12.24

Attendance Sheet

Sl no.	Name	Semster	HONS/PROG/ MAJOR (HONS/UG) MINOR (HONS/UG)	SIGNATURE
1.	Huipiko Yadav	1st	ZOOLOGY (HONS)(MINOR)	Huipiko Yadav
2.	SHAHNAAZ BANO	1st	ZOOLOGY (HONS.) / MINOR	Shahnaaz Bano
3.	Usumila Misidha	1st	Botany (HONS) / MAJOR	Usumila Misidha
4.	Sussisa Bora	1st	Botany (UG) / MAJOR	Sussisa Bora
5.	Ayudhula Paromoni	1st	Botany (Hons) / Major	Ayudhula Paromoni
6.	Krishna Rangar	1st	Zoology (Hons) (Minor)	Krishna Rangar
7.	Barsha Mondal	1st	Zoology (UG) (Minor)	Barsha Mondal
8.	Suparna Sarkar	1st	Zoology (Hons) (Minor)	Suparna Sarkar
9.	Tufan Goyen	1st	Zoology (UG) (Minor)	Tufan Goyen
10.	Sebam Ghosh	1st	Chemistry (UG) (Minor)	Sebam Ghosh
11.	Alina Bhattacharya	1st	Botany (UG) (Major)	Alina Bhattacharya
12.	Bismiti Bhandari	1st	Botany (UG) (Major)	Bismiti Bhandari
13.	Tijasha Chatterjee	1st	Botany (UG) (Major)	Tijasha Chatterjee
14.	Jaly Shikar	1st	Botany (UG) (Major)	Jaly Shikar
15.	Priti Ghosh	1st	Botany (UG) (Major)	Priti Ghosh
16.	Sayantika Gera	1st	Botany (UG) (Major)	Sayantika Gera
17.	SAMRAT SARDAR	1st	Botany (Hons) (Major)	Samrat Sardar
18.	Sekh Tahiri	1st	Botany (UG) (Major)	Sekh Tahiri
19.	Subham Ghosh	1st	Botany (Hons) (Major)	Subham Ghosh
20.	ABHINAV KARNAR	1st	Botany (Hons) (Major)	Abhinav Karnar
21.	Robin Singh	1st	Botany (UG) (Major)	Robin Singh
22.	Debjit Shaw	1st	Botany (Hons) (Major)	Debjit Shaw
23.	Alakananda Mukherjee	1st	Zoology (Hons.) / Minor	Amukherjee

Total = 23

DBT Star College Scheme
Workshop on Collection and Preservation of Pteridophytic germplasm

24.12.24

Attendance Sheet

Sl no.	Name	Semster	HONS/PROG/ MAJOR (HONS/UG) MINOR (HONS/UG)	SIGNATURE
01.	Debanjana Das	4th	Program (Botany)	Debanjana Das
02.	SK Niyamat	4th	Program (Zoo)	SK Niyamat
03.	Lithi Dey	4th	Program (Zoo)	Lithi Dey
04.	Subhadra Paul	4th	Program (chem)	Subhadra Paul
05.	Debangana Das	4th	Program (zoology)	Debangana Das
06.	Sucharita Karmakar	4th	Program (Botany)	Sucharita Karmakar
07.	Aparna Bardhan	4th	Program (Botany)	Aparna Bardhan
08.	Supriya Saini	4th	Program (zoology)	Supriya Saini
09.	Sweta Yadav	4th	Program (Chem)	Sweta Yadav
10.	Samriddha Roy	1st	Chemistry (HONS) Minor	Samriddha Roy
11.	Suparna Mandal	1st	Zoology Hons (Minor)	Suparna Mandal
12.	Sayandip Das	1st	zoology (program) minor	Sayandip Das
13.	Manoj Pal	1st	Zoology (prog) minor	Manoj Pal
14.	Kishor Kumar	1st	zoology (Honours)	Kishor Kumar
15.	Snaha Mishra	1st	Chemistry (Honours) Minor	Snaha Mishra

Total = 15

Event Pictures

Workshop topic introduction HOD Dr. Ashoke Bhattacharya



Specimen identification and Herbarium sheet preparation demonstration by Prof. Anish Bhattacharya



Student Interaction





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“Collection and Preservation of Pteridophytic Germplasm”

Organized by Department of Botany, Durgapur Government College

This is to certify that **Hritika Yadav** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February, 2024

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This is to certify that **Shahnaaz Bano** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Gcermplasm” on 24th February 2024

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This is to certify that **Urmila Mridha** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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This is to certify that ***Sussisa Bauri*** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Ayndrila Paramanik** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Krishna Dangar** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Barsha Mandal** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Suparna Sarkar** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Tufan Gayen** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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This is to certify that **Debam Ghosh** of 1st Semester of Department of Chemistry, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Arina Bhattacharya** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that ***Bristi Bhandari*** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Tiyasha Chatterjee** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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Principal
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This is to certify that ***Doly Dhibar*** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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Principal
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This is to certify that ***Priti Ghosh*** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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“Collection and Preservation of Pteridophytic Germplasm”

Organized by Department of Botany, Durgapur Government College

This is to certify that **Sayantika Gorai** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

Dr. Debnath Palit
Principal
Durgapur Government college

Dr. Nivedita Acharjee (DBT Coordinator)
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Organized by Department of Botany, Durgapur Government College

This is to certify that **Samrat Sarder** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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Organized by Department of Botany, Durgapur Government College

This is to certify that ***Sekh Tahir*** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Subham Ghosh** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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Organized by Department of Botany, Durgapur Government College

This is to certify that **Abhinaba Karmakar** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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Organized by Department of Botany, Durgapur Government College

This is to certify that **Robin Singh** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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Organized by Department of Botany, Durgapur Government College

This is to certify that **Debjeet Show** of 1st Semester of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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This is to certify that ***Alokananda Mukherjee*** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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Organized by Department of Botany, Durgapur Government College

This is to certify that **Debanjana Das** of 4th Semester (Program) of Department of Botany , Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Sk Niyamat** of 4th Semester (Program) of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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Organized by Department of Botany, Durgapur Government College

This is to certify that ***Tithi Dey*** of 4th Semester (Program) of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Subhadra Paul** of 4th Semester (Program) of Department of Chemistry, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Debangona Das** of 4th Semester (Program) of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that ***Sucharita Karmakar*** of 4th Semester (Program) of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Arpan Bardhan** of 4th Semester (Program) of Department of Botany, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Supriti Saini** of 4th Semester (Program) of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Sweta Yadav** of 4th Semester (Program) of Department of Chemistry, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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Organized by Department of Botany, Durgapur Government College

This is to certify that **Samriddha Roy** of 1st Semester of Department of Chemistry, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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This is to certify that **Suparna Mondal** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Sayandip Das** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that **Manoj Pal** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in DBT Star College Scheme Sponsored an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

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This is to certify that ***Kishore Kr. Das*** of 1st Semester of Department of Zoology, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on **“Collection and Preservation of Pteridophytic Germplasm”** on 24th February 2024

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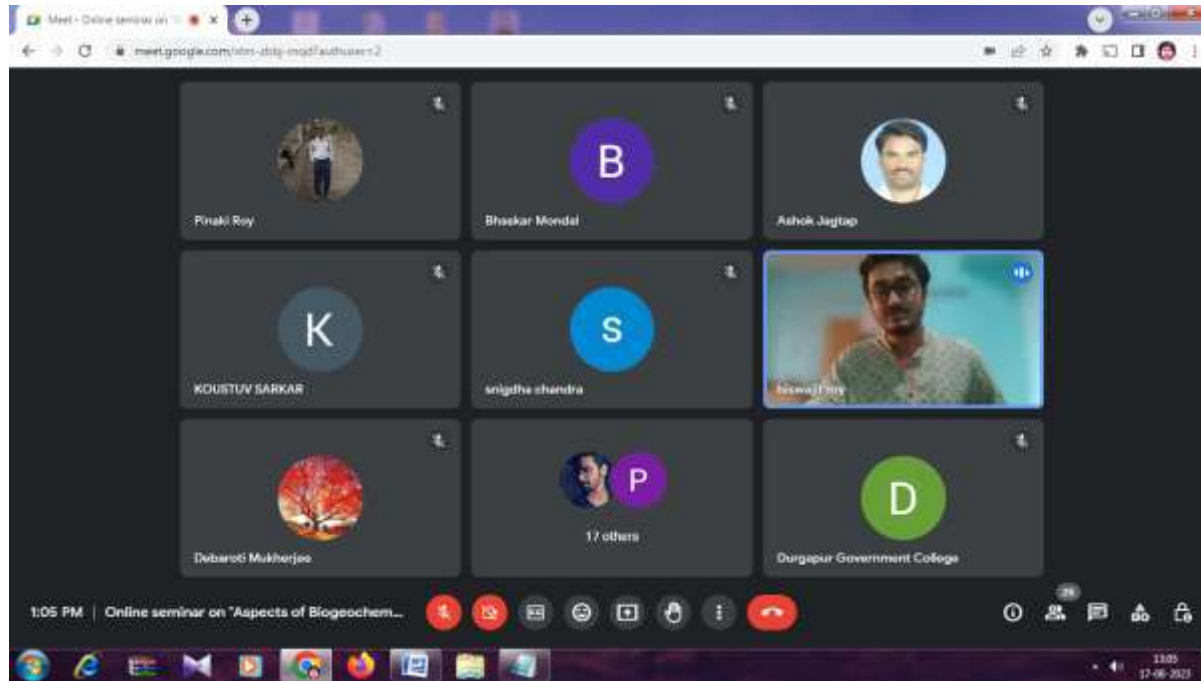
This is to certify that **Sneha Moshan** of 1st Semester of Department of Chemsirty, Durgapur Government College, Jawaharlal Nehru Avenue, Durgapur, Paschim Bardhaman, West Bengal, India – 713214 has successfully participated in **DBT Star College Scheme Sponsored** an one day workshop on “Collection and Preservation of Pteridophytic Germplasm” on 24th February 2024

Dr. Debnath Palit
Principal

Durgapur Government college

Dr. Nivedita Acharjee (DBT Coordinator)
Durgapur Government college

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR COLLEGE SCHEME



Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR COLLEGE SCHEME

The screenshot shows a Google Meet interface during an online seminar. The main window displays a presentation slide with the following content:

- Title:** "Aspects of Biogeochemistry"
- Subtitle:** Tools to trace *Carbon cycle* in terrestrial systems
- Presenter:** Dr Biswajit Roy, DST-INSPIRE Faculty, Past Climate and Ocean Sciences Division, biswajit@ncpor.res.in
- Logos:** inspire, Ministry of Science and Technology, ESSO, Ministry of Earth Sciences, National Centre for Polar and Ocean Research, and Indian Gateway to the Polar Regions.

The meeting controls at the bottom show the time as 1:06 PM and the title as "Online seminar on 'Aspects of Biogeochem...". The participant list on the right includes:

- biswajit roy (Presenting)
- Pinaki Roy
- Bhaskar Mondal
- Koustuv Sarkar
- anigtha chandra
- samita mondal
- biswajit roy joined

The Windows taskbar at the bottom shows the system tray with the date 17-06-2023 and time 1:06.

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR COLLEGE SCHEME

The oldest know cycle

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

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

Indian Gateway to the Polar Regions

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

11:07 17-06-2021

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR COLLEGE SCHEME

The screenshot shows a Google Meet interface during an online seminar. The main content area displays a presentation slide with the following elements:

- Title:** Truly an interdisciplinary world
- Text:** Biogeochemical cycle on Mars could be cycling without any life involved.
- Diagram:** A central image of Earth is surrounded by four quadrants representing different scientific disciplines:
 - Top Left:** Biology (Ecology, Microbiology, Molecular Biology)
 - Top Right:** Chemistry (Analytical, Organic, Inorganic, Physical)
 - Bottom Left:** Geology (Mineralogy, Petrology, Sedimentology, Environmental)
 - Bottom Right:** Social Science (Human Geography, Environmental, Development)
- Image:** A portrait of Vladimir Vernadsky with the caption: "Vladimir Vernadsky, founder of biogeochemistry 1926 book *The Biosphere*".
- Footer:** Indian Gateway to the Polar Regions

On the right side of the screen, a grid of participants is visible, including:

- blawajit roy (Presenting)
- Pinaki Roy
- Bhaskar Mondal
- Debjay Show
- anigtha chandra
- asmita mondal

At the bottom of the screen, a system tray shows the time as 1:10 PM and the date as 17-06-2021. A notification at the bottom right indicates "Someone wants to join this call".

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR COLLEGE SCHEME

The screenshot shows a Google Meet interface during an online seminar. The main window displays a presentation slide titled "Types of biogeochemical cycles". The slide content includes:

- Types of biogeochemical cycles**
- Biogeochemical cycles important to living organisms include the water, carbon, nitrogen, phosphorus, and sulfur cycles.
- Three of the reservoirs**
- Lithosphere:** Provides minerals
- Hydrosphere:** Provides water
- Atmosphere:** Provides gases like O₂, CO₂, N₂, etc.
- Carbon:** is found in all organic macromolecules and is also a key component of fossil fuels.
- Nitrogen:** is needed for our DNA, RNA, and proteins and is critical to human agriculture.
- Phosphorus:** is a key component of DNA, RNA and is one of the main ingredients—along with nitrogen—in artificial fertilizers used in agriculture.
- Sulfur:** is key to protein structure and is released to the atmosphere by volcanic and anthropogenic emissions.

The slide also features a diagram of a DNA double helix and a small image of a person. The Meet interface shows a grid of participants, including the presenter (blasjit roy) and several other attendees. The bottom of the screen displays the system tray with various application icons and the time 1:12 PM on 17-06-2023.

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR COLLEGE SCHEME

Carbon biogeochemical cycles

•Carbon is an essential element in the bodies of living organisms.

•Slow geological processes contribute to the carbon cycle over long timescales.

•Carbon dioxide—from the atmosphere is taken up by photosynthetic organisms and used to make organic molecules, which travel through food chains.

Indian Gateway to the Polar Regions

Participants: Pooja Roy, Pinal Roy, smita mondal, Bhaskar Mondal, Debjeet Show, snigdha chandra, 23 others, Durgapur Government ...

1:14 PM | Online seminar on "Aspects of Biogeochemi..."

1354 17-06-2021

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR COLLEGE SCHEME

blawajit roy (Presenting)

What biogenic signals does our river carries?

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

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

Indian Gateway to the Polar Regions
Galy et al., 2011

Participants: blawajit roy, Pinaki Roy, asmita mondal, Bhaskar Mondal, Debjeet Show, Sourav Mukhopadhyay, 22 others, Durgapur Government...

1:21 PM | Online seminar on "Aspects of Biogeochemi..."
17-06-2021

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR
COLLEGE SCHEME

Timestamp	Email address	Name of the participant	Institution (Please write the name of College/University/Research Institute)	Department (Please write the name of Department)
8-4-2023 9:40:14	nivchem@gmail.com	Dr. Nivedita Acharjee	Durgapur Government College	Chemistry
8-4-2023 10:10:38	kabirajsupriya729@gmail.com	Supriya Das Kabiraj	Durgapur government college	Geology
8-4-2023 10:11:03	subhankarbarman38@gmail.com	Subhankar barman	Durgapur govt college	Geology
8-4-2023 10:21:31	utshahazra19@gmail.com	Utsha Hazra	Durgapur Government College	Chemistry
8-5-2023 16:58:09	agarwalpayal280@gmail.com	Payal Agarwal	Durgapur Government College	Botany Department
8-5-2023 20:59:39	suchetasarkar56@gmail.com	Sucheta Sarkar	Durgapur Government College	Geology
8-8-2023 11:14:35	tahirsekh35346@gmail.com	Sekh Tahir	Durgapur government college	Botany
8-10-2023 21:31:22	hodgeologydgc@gmail.com	Associate Professor Subrata Ghosh	Durgapur Government College	Geology
8-11-2023 16:22:28	ankitkarmakar647@gmail.com	Ankit Karmakar	Durgapur government college	Geology
8-11-2023 16:26:59	asimmirda2002@gmail.com	Asim Mirda	Durgapur Government College	Geology
8-11-2023 19:27:44	harrypotter017272@gmail.com	ANASUYA SAMADDER	DURGAPUR GOVERNMENT COLLEGE	GEOLOGY
8-11-2023 20:37:07	kousarkar1234sarkar@gmail.com	Koustuv Sarkar	Durgapur government college	Geology
8-11-2023 21:06:10	shankhadeepsmk@gmail.com	Shankhadeep Ghosal	Durgapur Government College	Geology
8-11-2023 21:08:55	ghosalsoumyadip9@gmail.com	Soumyadip Ghosal	Durgapur Government College	GEOLOGY
8-11-2023 22:22:31	mihir500dan@gmail.com	Sayan Kumar Dan	Durgapur government college	Geology
8-12-2023 10:07:37	ankitsengupta55002@gmail.com	Ankit Sengupta	Durgapur Government College	Geology
8-12-2023 17:18:25	skaminurahaman2002@gmail.com	SK AMINUR RAHAMAN	DURGAPUR GOVERNMENT COLLEGE	GEOLOGY
8-12-2023 18:51:01	animeshruidas99@gmail.com	Animesh Ruidas	Durgapur Government College	Geology
8-12-2023 23:20:06	pages6700@gmail.com	Bhaskar Mondal	Durgapur Government College	Chemistry
8-13-2023 20:10:23	kunaldeasi0107@gmail.com	Kunal Deasi	Durgapur Government College	Geology (1st year)
8-13-2023 20:45:27	dhrubamandal9999@gmail.com	Dhruba Mandal	Durgapur Government College	GEOLOGY
8-14-2023 8:31:52	rahuldicv16@gmail.com	Rahul Mondal	Durgapur Government College	Geology
8-14-2023 8:58:23	mandaldebojyoti13@gmail.com	Debojyoti Mandal	Durgapur Government College	Geology
8-14-2023 9:56:51	pinakeroy@gmail.com	Pinaki Roy	Durgapur Government College	Geology
8-14-2023 11:17:24	ballavkabiraj1976@gmail.com	Srayan Kabiraj	Durgapur Government College	Geology

Seminar on Aspects of Biogeochemistry Organized by Department of Botany, Geology and Chemistry, Durgapur Government College under DBT STAR
COLLEGE SCHEME

8-14-2023 12:09:48	asmitamndl@gmail.com	Asmita Mondal	Durgapur Government College	Chemistry
8-14-2023 13:45:47	hossainasif2876@gmail.com	Asif hossain	Durgapur government college	Geology
8-14-2023 14:57:29	ranasadhu09@gmail.com	Rana Sadhu	Durgapur government college	Geology
8-14-2023 16:31:25	shreyaruidas03@gmail.com	Shreya Ruidas	Durgapur government college	Geology
8-14-2023 20:09:45	laxmirani5473@gmail.com	Laxmirani Mahata	Durgapur Government College	Geology
8-15-2023 13:59:29	santudas021998@gmail.com	SANTU DAS	DURGAPUR GOVERNMENT COLLEGE	CHEMISTRY
8-16-2023 17:53:14	rakhijyotsna11@gmail.com	Rakhi Singh	Durgapur government college	Botany
8-16-2023 17:55:37	mondalsnigdha360@gmail.com	Snigdha Mondal	Durgapur Government College	Geology
8-16-2023 18:38:08	arijit2020pal@gmail.com	Arijit Pal	Durgapur Government College	Botany Honours
8-16-2023 18:57:03	sparshabiswas445599@gmail.com	Sparsha Biswas	Durgapur government college	Botany
8-16-2023 19:31:52	achintyadgp6@gmail.com	Ayndrila Paramanik	Durgapur government college	Botany
8-16-2023 21:24:27	debbeet12show4321@gmail.com	Debbeet Show	Durgapur Government College	Botany
8-16-2023 23:07:39	bubul.saha@gmail.com	Dr. Prosanta Saha	Durgapur Government College	Botany
8-17-2023 11:15:43	kananmukherjee6@gmail.com	Debaroti Mukherjee	Durgapur Government College	Chemistry
8-17-2023 11:21:07	bpal89446@gmail.com	BISHNUPRIYA PAL	Durgapur government college	Chemistry
8-17-2023 11:34:08	taniyashyam848@gmail.com	Tania shyam	Durgapur Government College	Chemistry
8-17-2023 11:50:17	sulochan5528@gmail.com	Sulochan Das Mohanta	Durgapur Government college	Chemistry department
8-17-2023 11:57:40	rajashreemaji22@gmail.com	Rajashree Maji	Durgapur Government College	Chemistry Department

**DBT STAR COLLEGE SCHEME
DURGAPUR GOVERNMENT COLLEGE**

J.N. Avenue, Durgapur, PaschimBardhaman 713214

**Workshop on Calibration and basic applications of Water Analyzer
Friday, 01-09-2023 from 12 noon**

Sl. No.	Name	Roll Number	Semester	Honours/Programme	Department	Signature
1.	DIRUBAJYOTI AKHILI	22CEMH01	3 rd	Honours	Chemistry	Dirubajyoti Akhili
2.	Rajdip Patra	22CEMH 015	3 rd	Honours	Chemistry	Rajdip Patra
3.	Prachi Bhattacharya	21CEMH 018	3 rd	Honours	Chemistry	Prachi Bhattacharya
4.	Susovan Das	22CEMH 014	3 rd	Honours	Chemistry	Susovan Das
5.	Sanal Mandi	22CEMH 009	3 rd	Honours	Chemistry	Sanal Mandi
6.	TANIA SHYAM	23CEMH 008	1 st	Honours	Chemistry	Tania Shyam
7.	RAJASHREE MAJI	23CEMH 001	1 st	Honours	Chemistry	Rajashree Maji
8.	DEBARATI MUKHERJEE	23CEMH 004	1 st	Undergraduate	Chemistry	Debarati Mukherjee
9.	DIPANJAN SANJKARY	23CEMH 002	1 st	Undergraduate	Chemistry	Dipanjana Sanjary
10.	BISHWAPRIYA SARDAR	23CEMU 021	1 st	Undergraduate	Chemistry	Bishwapriya Sardar
11.	Jyoti Rakshit	23CEMU 001	1 st	Undergraduate	Chemistry	Jyoti Rakshit
12.	SUBHAJIT KAR	23CEMH 013	1 st	Honours	Chemistry	Subhachit Kar
13.	PRIZABRATA SAHA	23CEMH 017	1 st	Undergraduate	Chemistry	Prizabrata Saha
14.	ANKIT MUKHERJEE	23CEMU 015	1 st	Undergraduate	Chemistry	Ankit Mukherjee







GPS Map Camera



Google

Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal
713214, India
Lat 23.542252°
Long 87.327°
01/09/23 01:29 PM GMT +05:30



GPS Map Camera




Google

Durgapur, West Bengal, India
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713214, India
Lat 23.542252°
Long 87.327°
01/09/23 01:32 PM GMT +05:30







 **GPS Map Camera**



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713214, India

Lat 23.542325°

Long 87.327027°

01/09/23 02:11 PM GMT +05:30

DEPARTMENT OF CHEMISTRY DURGAPUR GOVERNMENT COLLEGE

Established in 1972 to offer undergraduate chemistry programmes, Department of Chemistry, is presently a well established learning centre of chemistry at the undergraduate and postgraduate levels. The 50 year old chequered history of the department has witnessed several eminent teachers and produced brilliant graduates and dedicated researchers to prove its accountability. The perfect blend of experienced and young faculty members reaches its planned goals of student outcome through team work. Our students have been placed for higher studies in IITs, IISER and other institutes of national repute. The Department has recently received grants under the DBT STAR COLLEGE SCHEME, which will include several activities to promote undergraduate teaching with student-centric mechanism such as workshops, hands on training programmes, visits to research laboratories, new open ended experiments , more availability of equipment for students, invited lecture series, collaborations with other institutes etc.



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

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DBT STAR COLLEGE SCHEME

Seminar Cum Workshop

September 22, 2023

***"Nanotechnology for Sustainable Development:
Clean Energy and Environment"***

Professor Amit K Chakraborty

Department of Physics

National Institute of Technology, Durgapur

***"Elementary Concepts of Solid State
Chemistry"***

Professor Bidyut Saha

Department of Chemistry

The University of Burdwan

Organized by

Department of Chemistry

Durgapur Government College

OBJECTIVES

This seminar cum workshop is intended to introduce the elementary concepts of nanotechnology and Solid State Chemistry for undergraduate students

The event aims to impart the knowledge of basic principles and research fundamentals among the students in line with the objectives of the DBT Star College Scheme

SCHEDULE

11.00am to 12.30 pm: Seminar cum workshop session to be conducted by Professor Amit K Chakraborty

1 pm to 2.30 pm: Seminar cum workshop session to be conducted by Professor Bidyut Saha



Durgapur Government College
J.N. Avenue, Durgapur, District-Paschim Bardhaman, West Bengal, Pin-713214
Website: <https://www.durgapurgovtcollege.ac.in/>
E-mail: dggovtcollege@gmail.com

DBT STAR COLLEGE SCHEME

Seminar cum workshop

on

**"Nanotechnology for Sustainable Development: Clean Energy and Environment"
and "Elementary Concepts of Solid State Chemistry"**

September 22, 2023

[Organized by Department of Chemistry]

ATTENDANCE SHEET

Sl. No.	Name of the Student	Department	UG/PG	Semester	Signature of the Student
1.	Kiran Rajbhar	Chemistry	UG	I	Kiran Rajbhar
2.	Jyoti Rakshit	Chemistry	UG	1st	Jyoti Rakshit
3.	RAJASHREE MAJI	chemistry	UG (H)	1st	Rajashree Maji
4.	Sulochan Das Mohanta	chemistry	ug	1st	Sulochan Das Mohanta
5.	Dipanjana Sankarany	chemistry	UG	1st	Dipanjana Sankarany
6.	Samriddha Roy	Chemistry	UG	I	Samriddha Roy
7.	Rudra Maji	chemistry	UG	1st	Rudra Maji
8.	Subhadra Kar	chemistry	UG	1st	Subhadra Kar



Durgapur Government College

J.N. Avenue, Durgapur, District-Paschim Bardhaman, West Bengal, Pin-713214

Website: <https://www.durgapurgovtcollege.ac.in/>

E-mail: dpggovtcollege@gmail.com

DBT STAR COLLEGE SCHEME

Seminar cum workshop

on

**"Nanotechnology for Sustainable Development: Clean Energy and Environment"
and "Elementary Concepts of Solid State Chemistry"**

September 22, 2023

[Organized by Department of Chemistry]

ATTENDANCE SHEET

Sl. No.	Name of the Student	Department	UG/PG	Semester	Signature of the Student
9	PRIYABRATA SAHA	CHEMISTRY	UG	1st	Priyabrata Saha
10	DEBAROTI MUKHERJEE	CHEMISTRY	UG	1st	Debaroti Mukherjee
11	TANIA SHYAM	CHEMISTRY	UG	1st	Tania Shyam
12	BIDISHA SINGHA	CHEMISTRY	UG	1st	Bidisha Singha
13	BISHNUPRIYA PAL	Chemistry	UG	1st	Bishnupriya Pal
14	ANANYA KONAR	Chemistry	UG	5th	Ananya Konar
15	DEBAN GHOSH	chemistry	UG	1st	Deban Ghosh
16	SOUVIK MUKHERJEE	chemistry	UG	1st	Souvik Mukherjee



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J.N. Avenue, Durgapur, District-Paschim Bardhaman, West Bengal, Pin-713214

Website: <https://www.durgapurgovtcollege.ac.in/>

E-mail: dggovtcollege@gmail.com

DBT STAR COLLEGE SCHEME

Seminar cum workshop

on

**"Nanotechnology for Sustainable Development: Clean Energy and Environment"
and "Elementary Concepts of Solid State Chemistry"**

September 22, 2023

[Organized by Department of Chemistry]

ATTENDANCE SHEET

Sl. No.	Name of the Student	Department	UG/PG	Semester	Signature of the Student
1	Mousmi Narayan Kar	Chemistry	PG	3rd	Mousmi Narayan Kar
2	Anindita Dasgupta	Chemistry	PG	3rd	Anindita Dasgupta
3	Pathakrit Pal	Chemistry	Ph	3rd	Pathakrit Pal
4	SANTU DAS	Chemistry	PG	3rd	Santu Das



Durgapur Government College

J.N. Avenue, Durgapur, District-Paschim Bardhaman, West Bengal, Pin-713214

Website: <https://www.durgapurgovtcollege.ac.in/>

E-mail: dpggovtcollege@gmail.com

DBT STAR COLLEGE SCHEME

Seminar cum workshop

on

**"Nanotechnology for Sustainable Development: Clean Energy and Environment"
and "Elementary Concepts of Solid State Chemistry"**

September 22, 2023

[Organized by Department of Chemistry]

ATTENDANCE SHEET

Sl. No.	Name of the Student	Department	UG/PG	Semester	Signature of the Student
1.	DHRUBAJYOTI AKHULI	Chemistry	UG	3 rd	Dhrubajyoti Akhuli
2.	PRACHI BHATTACHARYA	Chemistry	UG	3 rd	Prachi Chattacharya
3.	SUSOVAN DAS	Chemistry	UG	3 rd	Susovan Das
4.	Bhaswar Mondal	Chemistry	PhD		Bhaswar Mondal
5.	Asmita Adak	Chemistry	UG	3 rd	Asmita Adak
6.					




 GPS Map Camera

Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal 713214, India
Lat 23.542314°
Long 87.326989°
22/09/23 11:21 AM GMT +05:30



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 GPS Map Camera

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G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal 713214, India

Lat 23.542272°

Long 87.32696°

22/09/23 01:09 PM GMT +05:30



Google



GOVERNMENT OF WEST BEGAL
OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE

J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 130

Date: 23-03-2024

NOTIFICATION

This is for information to all concerned that Department of Chemistry in collaboration with Departments of Botany, Zoology, Geology, Physics and Mathematics, will conduct two day workshop through online mode on "**Bioactivity through computation**" for all science students of the Institution on **27-03-2024 (Wednesday) and 28-03-2024 (Thursday) from 6 pm onwards** under the DBT STAR COLLEGE SCHEME. The workshop is intended to introduce software applications for determination of bioactviity of chemical compounds.

The link to join the aforementioned workshop is

<https://meet.google.com/gmw-ovtn-ysb>

All Departmental Coordinators are requested to inform students of their respective departments to join the aforementioned workshop and make it a grand success.

Nivedita Acharjee

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

Principal
Durgapur Government College

Copy forwarded for information and necessary action to

- 1. Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME*
- 2. All participating departments of DBT STAR COLLEGE SCHEME*
- 3. Notice Book, Office of the Principal*



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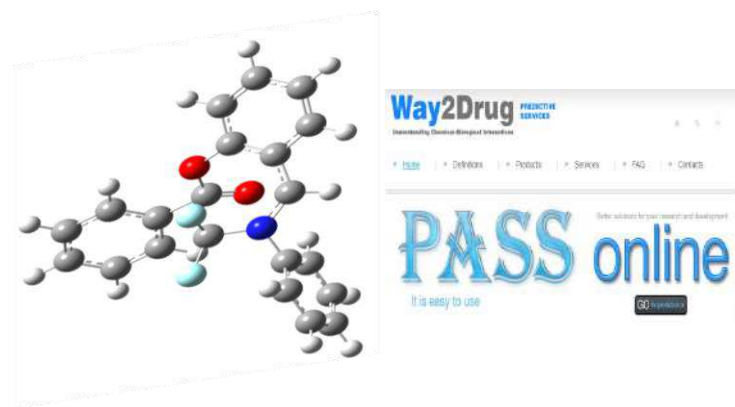
Two Day Online Workshop on "Bioactivity through Computation"

March 27-28, 2024



Organized by

Departments of Chemistry, Botany and Zoology
Durgapur Government College



**REGISTRATION FORM FOR WORKSHOP ON "BIOACTIVITY THROUGH COMPUTATION" ORGANIZED BY DEPARTMENT OF CHEMISTRY,
BOTANY AND ZOOLOGY UNDER DBT STAR COLLEGE SCHEME, MARCCH 27-28, 2024**

Timestamp	Username	Name of the Student	Contact Number of Student	Level	Department	Semester
2024/03/06 8:05:29 PM GMT+5:30	sujoypaul28699@gmail.com	Sujoy Paul	7407303254	PG	Chemistry	I
2024/03/06 8:07:47 PM GMT+5:30	snehashismondal2636@gmail.com	Snehashis Mondal	7477527283	UG	Chemistry	VI
2024/03/06 8:21:56 PM GMT+5:30	dhrubaakhuli@gmail.com	Dhrubajyoti Akhuli	9732665532	UG	Chemistry	IV
2024/03/06 8:43:14 PM GMT+5:30	rajdipatra42@gmail.com	Rajdip Patra	7384412170	UG	Chemistry	IV
2024/03/06 8:43:46 PM GMT+5:30	sanatmandi2005@gmail.com	Sanat Mandi	9933465820	UG	Chemistry	IV
2024/03/06 8:55:48 PM GMT+5:30	snehamoshan@gmail.com	Sneha Moshan	8250860953	UG	Chemistry	I
2024/03/06 9:24:09 PM GMT+5:30	kingakashay3333@gmail.com	Akash Kabiraj	9883056949	PG	Chemistry	III
2024/03/06 9:26:44 PM GMT+5:30	debamghosh53@gmail.com	DEBAM GHOSH	6295053395	UG	Chemistry	I
2024/03/06 9:35:42 PM GMT+5:30	sulochan5528@gmail.com	Sulochan das mohanta	7811934650	UG	Chemistry	I
2024/03/06 9:40:10 PM GMT+5:30	nribika29@gmail.com	Ribika Naru	7001307978	PG	Chemistry	I
2024/03/06 9:43:16 PM GMT+5:30	karmousmi22@gmail.com	Mousmi Narayan Kar	75014 97136	PG	Chemistry	II
2024/03/06 9:49:03 PM GMT+5:30	bpal89446@gmail.com	Bishnupriya Pal	8927928978	UG	Chemistry	I
2024/03/06 10:12:37 PM GMT+5:30	subhajitk279@gmail.com	Subhajit kar	9382452395	UG	Chemistry	I
2024/03/06 10:46:20 PM GMT+5:30	suheritashyam2002@gmail.com	Suherita Shyam	8944948899	PG	Chemistry	I
2024/03/06 10:50:15 PM GMT+5:30	priyabratasaha111@gmail.com	Priyabrata saha	9475957926	UG	Chemistry	I
2024/03/07 7:57:04 AM GMT+5:30	rajashreemaji22@gmail.com	RAJASHREE MAJI	9907764155	UG	Chemistry	I
2024/03/07 8:05:36 AM GMT+5:30	tewarysujata533@gmail.com	Sujata Tewary	7001849420	UG	Chemistry	I
2024/03/07 8:10:02 AM GMT+5:30	pathikritdurgapur@gmail.com	Pathikrit Pal	9647535776	PG	Chemistry	IV
2024/03/07 8:14:57 AM GMT+5:30	arati7987@gmail.com	Payel Ruidas	7031583479	UG	Chemistry	VI
2024/03/07 9:00:02 AM GMT+5:30	kb4598595@gmail.com	Kiran Rajbhar	7029590896	UG	Chemistry	I
2024/03/07 9:47:35 AM GMT+5:30	samriddha.roy2001@gmail.com	SAMRIDDDHA ROY	6294367732	UG	Chemistry	I
2024/03/07 10:09:44 AM GMT+5:30	jashsuvrajit068@gmail.com	Suvrajit Jash	7908815987	PG	Chemistry	IV
2024/03/07 10:18:49 AM GMT+5:30	somaligoswami6294@gmail.com	Somali Goswami	6294372899	PG	Chemistry	IV

2024/03/07 10:20:42 AM GMT+5:30	utshahazra19@gmail.com	UTSHA HAZRA	9474545883	UG	Chemistry	VI
2024/03/07 10:22:27 AM GMT+5:30	tirthamukherjee27@gmail.com	Tirtha Mukherjee	8918121172	PG	Chemistry	IV
2024/03/07 10:44:23 AM GMT+5:30	pramanikkushal2@gmail.com	Kushal Pramanik	7029231058	UG	Chemistry	IV
2024/03/07 10:52:20 AM GMT+5:30	santudas021998@gmail.com	SANTU DAS	9064637611/7797781912	PG	Chemistry	IV
2024/03/07 1:58:54 PM GMT+5:30	sinhasucharita2002@gmail.com	SUCHARITA SINHA	8670075042	PG	Chemistry	I
2024/03/07 2:04:53 PM GMT+5:30	adakasmitta123@gmail.com	Asmita Adak	9064323648	UG	Chemistry	IV
2024/03/07 2:11:54 PM GMT+5:30	susovan.das790@gmail.com	Susovan Das	9832149263	UG	Chemistry	IV
2024/03/07 4:01:47 PM GMT+5:30	taniashyam2006@gmail.com	Tania shyam	9749878305	UG	Chemistry	I
2024/03/08 10:59:02 AM GMT+5:30	subhankarbarman38@gmail.com	Subhankar Barman	8167344589	UG	Geology	VI
2024/03/08 10:59:05 AM GMT+5:30	guhasoumya2001@gmail.com	Soumya Guha	8927694141	PG	Chemistry	I
2024/03/08 1:50:06 PM GMT+5:30	prachibhattacharaya223@gmail.com	Prachi Bhattacharya	9064445105	UG	Chemistry	IV
2024/03/08 4:14:49 PM GMT+5:30	ratri sengupta46411@gmail.com	Ratri Sengupta	8637311870	PG	Chemistry	IV
2024/03/08 9:52:28 PM GMT+5:30	tinabiharpur@gmail.com	NIKITA PAL	7872577330	UG	Mathematics	VI
2024/03/09 8:55:18 AM GMT+5:30	vyotirakshit9@gmail.com	Jyoti Rakshit	8597683905	UG	Chemistry	I
2024/03/09 8:01:02 PM GMT+5:30	manasdutta463@gmail.com	Manas Dutta	9883370364	UG	Mathematics	VI
2024/03/11 7:56:12 PM GMT+5:30	ghosh.namrata1991@gmail.com	Namrata Ghosh	7001017199	PG	Conservation Biology	VI
2024/03/13 8:51:35 PM GMT+5:30	myself.aninditapathak@gmail.com	Anindita Bagdi	6291027885	PG	Chemistry	IV
2024/03/14 11:06:13 AM GMT+5:30	sancharisarkar.apple@gmail.com	SANCHARI SARKAR	7908861270	PG	Conservation Biology	VI
2024/03/14 1:09:15 PM GMT+5:30	moralib9@gmail.com	Morali Biswas	7908436364	PG	Conservation Biology	VI
2024/03/19 10:08:02 AM GMT+5:30	kananmukherjee6@gmail.com	Debaroti Mukherjee	9883808181	UG	Chemistry	I
2024/03/29 10:00:45 PM GMT+5:30	abhinabakarmakar006@gmail.com	Abhinaba Karmakar	6296452472	UG	Botany	I



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Student Project on "Bioactivity through Computation" under the DBT STAR COLLEGE SCHEME Project Completion Requirement (to Obtain Certificate)

INSTRUCTIONS

1. Students should submit the following summary sheet along with the final project report.
2. The project summary (**ANNEXURE I**) must be limited to 2000 words plus a maximum number of 6 figures, tables and schemes together. The total report should be within 6 pages in Times New Roman font with 12 font size and 1.5 spacing.
3. Feedback form must be submitted as "**ANNEXURE II**" along with the final report.
4. "Self-Evaluation Sheet" (**ANNEXURE III**)

Name of the student	Summary of the project	Feedback Form	Self-Evaluation Sheet
Susovan Das	(Annexure I)	(Annexure II)	(Annexure III)



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ACKNOWLEDGEMENT

I am pleased to express my deepest sense of gratitude and regards to my respected project co-ordinators, Dr. Snigdha Chandra, Associate Professor and Head, Department of Chemistry, Durgapur Government College and Dr. Nivedita Acharjee, Department of Chemistry, Durgapur Government College for their guidance and kind cooperation in completing the term paper project on:

Title of the Project: *Studying the Bioactivity of Cannabidiol and Chloroquine through Computation.*

I am also grateful to the Principal, Durgapur Government College, Durgapur Government College, for active cooperation.

I am very thankful to the Research Scholars Asmita Mondal, (UGC Junior Research Fellow, Department of Chemistry, Durgapur Government College) and Barsali Banerjee, (Ph.D. Research Scholar, Department of Chemistry, Durgapur Government College/and HOD, Department of Chemistry, Hem Sheela Model School), who have provided me with their pleasant guidance, help, and encouragement

Name of the student: Susovan Ds

E-mail: susovan.das790@gmail.com

Phone no: 9832149263

Department of Chemistry
Durgapur Government College
Durgapur, 713214, India



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Project summary Contents

Sl. No.		Page Number
1	Title: Studying the bioactivity of Cannabidiol and Chloroquine through Computation	4
2	Introduction	4-5
3	Objectives	5
4	Methodology	6-8
5	Main Findings	9-10
6	Conclusion	11
7	Future Perspective	11
8	References	11
9	Feedback Form	12-13
10	Evaluation and Recommendation of the Student	14-15

Workshop on “MATLAB: An introduction to beginners” on 09.08.2023

OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE
Accredited by NAAC with "A" Grade (2017)
J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 167

Date: 03-08-2023

NOTIFICATION

This is for information to all concerned that Department of Mathematics will organize a one day workshop on "**MATLAB: An Introduction to Beginners**" under the DBT STAR COLLEGE SCHEME on **09-08-2023** from **10 am onwards**.

Departmental coordinators of all participating departments are requested to inform the students for participation in the aforementioned workshop.



Dr. Roll Shukla Ray
Coordinator, DBT STAR COLLEGE SCHEME
Durgapur Government College



Principal
Durgapur Government College

Copy forwarded for information and necessary action to

- 1. Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME*
- 2. All participating departments of DBT STAR COLLEGE SCHEME*
- 3. Notice Book, Office of the Principal*

DEPARTMENT OF MATHEMATICS DURGAPUR GOVERNMENT COLLEGE

The Department of Mathematics is one of the oldest departments for undergraduate education of Durgapur Government College and has always shared the vision in striving for excellence in teaching and research activities. Over the years, the department has produced many outstanding graduate students, who have taken their career in further studies including research and also hold reputed positions in different fields. The perfect blend of experienced and young faculty members reaches its planned goals of student outcome through team work. Our students have been placed for higher studies in IITs, NITs and other institutes of national repute. The Department has recently received grants under the DBT STAR COLLEGE SCHEME, which will include several activities to promote undergraduate teaching with student-centric mechanism such as Add on Courses, hands on training programmes, visits to higher educational institutes, invited lecture series, collaborations with other institutes etc.



Durgapur Government College

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UGC-2(B) and 12(B) Recognized College

DBT STAR COLLEGE SCHEME

One day workshop

on

"MATLAB: An Introduction to Beginners"
August 09, 2023

RESOURCE PERSONS

Dr. Hrishikesh Mondal
Assistant Professor
Department of Physics
Durgapur Government College

TARGET AUDIENCE

All UG students of science
departments

Organized by
Department of Mathematics
Durgapur Government College

ABSTRACT OF THE WORKSHOP



SCHEDULE

10:00 am to 10:30 am:
Welcome Speech by
Principal, Durgapur Government College
Objective of the lecture series by
Coordinator, DBT Star College Scheme,
Durgapur Government College

10:30 am to 1:00 pm
Lecture on "**MATLAB: An Introduction to
Beginners**"
Dr. Hrishikesh Mondal, Department of
Physics,
Durgapur Government College followed by
Interactive Session with participants

1:00 pm Vote of thanks by Head, Department
of Mathematics, Durgapur Government
College

Attendance sheet for one day workshop on "MATLAB: An introduction to Beginners" under the DBT STAR COLLEGE SCHEME on 09-08-2023 from 10:00 AM onwards.

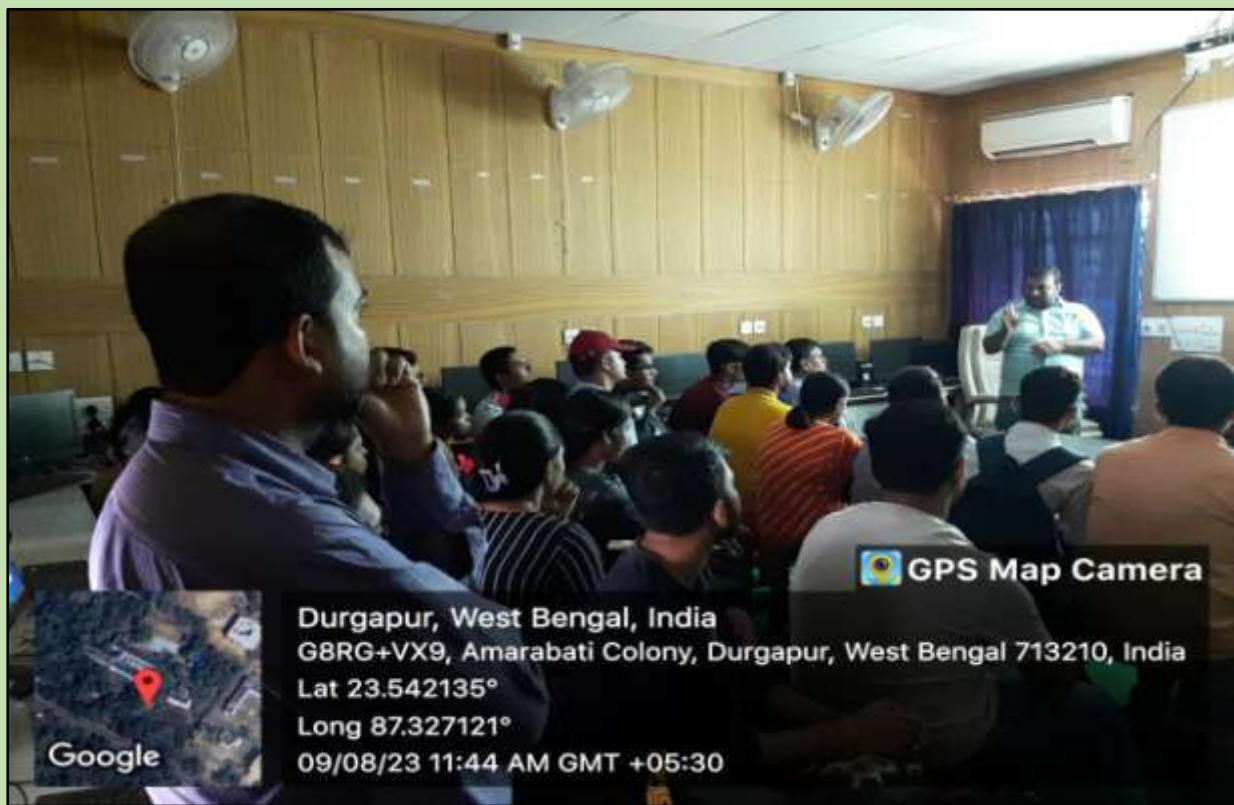
Sl. No.	Name of participant	Department	Semester	Signature
1.	Arina Bhattacharya	Botany	1st	Arina Bhattacharya
2.	Moumila Dora	Mathematics	5th	Moumila Dora
3.	Bina Poddar	Mathematics	5th	Bina Poddar
4.	Tanvi BASURI	MATHEMATICS	5th	Tanvi Basuri
5.	Shakhi Roy	Mathematics	5th	Shakhi Roy
6.	NIKITA PAL	Mathematics	5th	Nikita Pal
7.	MANAS DUTTA	Mathematics	5th	Manas Dutta
8.	SUBHOJYOTI GHOSH	MATHEMATICS	5th	Subhojyoti Ghosh
9.	Rahul Mandal	Geology	1st	Rahul Mandal
10.	SK Niyamat	Zoology	2nd	SK Niyamat
11.	Deep Saha	Chemistry	2nd	Deep Saha
12.	Anjan Bardhan	Botany	2nd	Anjan Bardhan
13.	Ankit Sengupta	Geology	1st	Ankit Sengupta
14.	Sayantini Chatterjee	Mathematics	1st	Sayantini Chatterjee
15.	Brusti Bhandari	Botany	1st	Brusti Bhandari
16.	Ahala Maudh	Botany	1st	Ahala Maudh
17.	Arundula Paramanik	Botany	1st	Arundula Paramanik
18.	Shreya Dey	Mathematics	1st	Shreya Dey
19.	Sayantika Gorai	Botany	1st	Sayantika Gorai
20.	Sussisa Bausei	Botany	1st	Sussisa Bausei
21.	Spandha Biswas	Botany	1st	Spandha Biswas
22.	Dhruba Mandal	Geology	1st	Dhruba Mandal
23.	Debojyoti Mandal	Geology	1st	Debojyoti Mandal
24.	Srujan Kabiraj	Geology	1st	Srujan Kabiraj
25.	Roma Sodhu	Geology	1st	Roma Sodhu
26.	Utkarsh Kumar	Mathematics	1st	Utkarsh Kumar
27.	Sunajit Dey	Mathematics	1st	S. Dey
28.	Snigdha Mandal	Geology	1st	S. Mandal
29.	Shreya Ruidas	Geology	1st	Shreya Ruidas
30.	Asif Hossain	Geology	1st	Asif Hossain
31.	Rajat Singh	Geology	1st	Raj Singh

Attendance sheet for one day workshop on "MATLAB: An introduction to Beginners" under the DBT STAR COLLEGE SCHEME on 09-08-2023 from 10:00 AM onwards.

Sl. No.	Name of participant	Department	Semester	Signature
32.	Shankhadeep Ghosal	Geology	Ist	Shankhadeep Ghosal
33.	Ankit Karmaakar	Geology	1st	Ankit KARMAAKAR
34.	Animesh Ruidas	Geology	1st	Animesh Ruidas
35.	Subrata Ghosh	Geology	HOD	S. Ghosh 09.08.23
36.	Amiya Biswas	Mathematics	Faculty	A. Biswas 09.08.23
37.	Hrishikesh Mondal	Physics	"	H. Mondal 09.08.23
38.	Soumendu Nandy	Mathematics	"	S. Nandy 09.08.23
39.	Sibaji Roy	"	"	S. Roy 09.08.23
40.	Amitava Samanta	"	"	A. Samanta 09.08.23







Report: This event has been organised by the department of Mathematics under the DBT Star College Scheme of this department. Dr Hrishikesh Mondal, Assistant Professor, Department of Physics, Durgapur Government College delivered a lecture on this topic for our UG students on August 9, 2023. MATLAB is a software widely used in today's research and educational fields. We will organise a few more events for the hands-on training of this software to make our students more comfortable.

Workshop on “Basics of MATHEMATICA and Graphical demonstration using Mathematica” on 16.08.2023

OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE
 J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 176A

Date: 14-08-2023

NOTIFICATION

This is for information to all concerned that Department of Mathematics will organize a one day workshop on "*Basics of Mathematica and Graphical Demonstration using Mathematica*" under the DBT STAR COLLEGE SCHEME on 16-08-2023 from 10.30 am onwards.

Departmental coordinators of all participating departments are requested to inform the students for participation in the aforementioned workshop.



Principal
 Durgapur Government College

Copy forwarded for information and necessary action to

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2. All participating departments of DBT STAR COLLEGE SCHEME
3. Notice Book, Office of the Principal

DEPARTMENT OF MATHEMATICS DURGAPUR GOVERNMENT COLLEGE	 Durgapur Government College <i>Accredited by NAAC with "A" Grade in 2017</i> <small>Affiliated to East Nepal University UGC 20 and 12(B) Recognized College</small>	ABSTRACT OF THE WORKSHOP
The Department of Mathematics is one of the oldest departments for undergraduate education of Durgapur Government College and has always shared the vision in striving for excellence in teaching and research activities. Over the years, the department has produced many outstanding graduate students, who have taken their career in further studies including research and also hold reputed positions in different fields. The perfect blend of experienced and young faculty members reaches its planned goals of student outcome through team work. Our students have been placed for higher studies in IITs, NITs and other institutes of national repute. The Department has recently received grants under the DBT STAR COLLEGE SCHEME, which will include several activities to promote undergraduate teaching with student-centric mechanism such as Add on Courses, hands on training programmes, visits to higher educational institutes, invited lecture series, collaborations with other institutes etc.	DBT STAR COLLEGE SCHEME One day workshop on <i>"Basics of Mathematica and Graphical Demonstration using Mathematica"</i> August 16, 2023	 MATHEMATICA
	RESOURCE PERSON Speaker: Dr. Pratikshan Mondal Assistant Professor, Department of Mathematics, Durgapur Government College, Durgapur - 713214, West Bengal	SCHEDULE
	TARGET AUDIENCE All UG students of science departments	10.30 am to 11.00 am: Welcome Speech by: Dr. Debnath Paul, Principal, Durgapur Government College Objective of the lecture series by Dr. Nivedita Acharjee, Coordinator, DBT Star College Scheme, Durgapur Government College From 11.00 am Lecture on " FIRST STEP IN MATHEMATICA " Dr. Pratikshan Mondal Assistant Professor, Department of Mathematics, Durgapur Government College, Durgapur - 713214, West Bengal followed by <i>Interactive Session with participants</i> Note of thanks by Prof. Anurupa Sawanta, Head, Department of Mathematics, Durgapur Government College
	Organized by Department of Mathematics Durgapur Government College	

Attendance Sheet

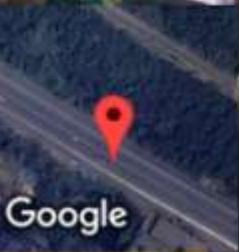
Attendance sheet for new experiment on graphical demonstrations using MATHEMATICA on
16.08.2023

Sl. No.	Name (Block Letters)	Semester	Roll Number	Signature
1	TITHI BASURI	V	21MTMH021	<i>Tithi Basuri</i>
2	BINA PODDAR	V	21MTMH025	<i>Bina Poddar</i>
3	MANAS DUTTA	V	21MTMH022	<i>Manas Dutta</i>
4	SUVOJIT DEY	I	23MTMH019	<i>S Dey</i>
5	JOYJIT PAL	I	23MTMU018	<i>Joyjit Pal</i>
6	UTTKARSH KUMAR	I	23MTMU007	<i>Utkarsh</i>
7	SACHIN KUMAR	I	23MTMH014	<i>Sachin K.</i>
8	Subhajit Saha Mondal	I	23MTMH004	<i>Subhajit Saha Mondal</i>
9	Rabi Rajak	I	23MTMH012	<i>Rabi Rajak</i>
10	Alokesh Malo	I	23MTMU005	<i>Alokesh Malo</i>
11	ANKIT KUMAR JHA	I	23MTMH002	<i>Ankit K. Jha</i>
12	Shreya Dey	I	23MTMU014	<i>Shreya Dey</i>
13	SHREEMA MAJHI	I	23MTMH011	<i>Shreema Majhi</i>
14	POMI MONDAL	I	23MTMH005	<i>Pomi Mondal</i>
15	PARBATI MURMU	I	23MTMH010	<i>Parbati Murmu</i>
16	Mistu Borat (MISTU BARAT)	I	23MTMH001	<i>Mistu Borat</i>
17	SNEHASREE SAHA	I	23MTMH008	<i>Snehasree Saha</i>
18	KOYEL KARMAKAR	I	23MTMH023	<i>Koyel Karumakar</i>

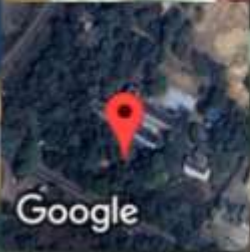
19	SAYANTINI CHATTERJEE	I	23MTMH017	<i>Sayantini Chatterjee</i>
20	ASHITA MONDAL	Ph. D.	—	<i>Asmita Mondal</i>
21	BHASKAR MONDAL	Ph. D.	—	<i>Bhaskar Mondal</i>
22	Amitava Samant	H.O.D. Math.		<i>AA</i>
23	NIVEDITA ACHARJEE	Faculty Member		<i>Nivedita Acharjee</i>
24	Pratiksha Mondal	Faculty		<i>Pratiksha</i>
25				



GPS Map Camera



Durgapur, West Bengal, India
G88J+2RM, Industrial Area, Durgapur, West Bengal 713201, India
Lat 23.51606°
Long 87.331582°
16/08/23 10:45 AM GMT +05:30



Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal 713214, India
Lat 23.54239°
Long 87.326766°
16/08/23 10:45 AM GMT +05:30

GPS Map Camera



16/08/23 11:53 AM GMT +05:30

GPS Map Camera



Report: Mathematica software is acquired by the department of Mathematics from non-recurring grant of the DBT Star College Scheme of the department. This event has been conducted by Dr Pratikshan Mondal, Assistant Professor of Mathematics, Durgapur Government College. Learning a software is a continuous process, and we will organise a few more lectures and hands-on trainings for this software in the future. Students will be able to learn different topics in mathematics using this software.

Workshop on "First Step in Mathematica" on 26.08.2023

<p>OFFICE OF THE PRINCIPAL DURGAPUR GOVERNMENT COLLEGE <i>Accredited by NAAC with "A" Grade (2017)</i> J.N. Avenue, Durgapur, Paschim Bardhaman 713214</p>	
No. 182	Date: 23-08-2023
NOTIFICATION	
<p>This is for information to all concerned that Department of Mathematics will organize a one day workshop on "First Step in Mathematica" under the DBT STAR COLLEGE SCHEME on 26-08-2023 from 11 am onwards. Dr. Haradhan Kundu, Assistant Professor of Mathematics, Bankura Zilla Saradamani Mahila Mahavidyapith, will be resource person of the aforementioned workshop.</p> <p>Departmental coordinators of all participating departments are requested to inform the students for participation in the aforementioned workshop.</p>	
 Dr. Nivedita Acharjee Coordinator, DBT STAR COLLEGE SCHEME Durgapur Government College	 Principal Durgapur Government College
<p><i>Copy forwarded for information and necessary action to</i></p> <ol style="list-style-type: none"> 1. Departmental Coordinators of all participating departments of DBT STAR COLLEGE SCHEME 2. All participating departments of DBT STAR COLLEGE SCHEME 3. Notice Book, Office of the Principal 	

<p style="text-align: center;">DEPARTMENT OF MATHEMATICS DURGAPUR GOVERNMENT COLLEGE</p>	 <p>Durgapur Government College <i>Accredited by NAAC with "A" Grade in 2017</i> Affiliated to Kazi Nazim University UGC 2(f) and 12(B) Recognized College</p>	<p>ABSTRACT OF THE WORKSHOP</p>
<p>The Department of Mathematics is one of the oldest departments for undergraduate education of Durgapur Government College and has always shared the vision in striving for excellence in teaching and research activities. Over the years, the department has produced many outstanding graduate students, who have taken their career in further studies including research and also hold reputed positions in different fields. The perfect blend of experienced and young faculty members reaches its planned goals of student outcome through team work. Our students have been placed for higher studies in IITs, NITs and other institutes of national repute. The Department has recently received grants under the DBT STAR COLLEGE SCHEME, which will include several activities to promote undergraduate teaching with student-centric mechanism such as Add on Courses, hands on training programmes, visits to higher educational institutes, invited lecture series, collaborations with other institutes etc.</p>	<p>DBT STAR COLLEGE SCHEME One day workshop on "FIRST STEP IN MATHEMATICA" August 26, 2023</p>	 <p>MATHEMATICA</p>
	<p>RESOURCE PERSON</p>	<p>SCHEDULE</p>
	<p>TARGET AUDIENCE</p>	<p>10.30 am to 11.00 am: Welcome Speech by Dr. Debmath Palit, Principal, Durgapur Government College</p> <p>Objective of the lecture series by Dr. Nivedita Acharjee, Coordinator, DBT Star College Scheme, Durgapur Government College</p> <p>From 11.00 am Lecture on "FIRST STEP IN MATHEMATICA" Dr. Haradhan Kundu, Department of Mathematics, Bankura Zilla Saradamani Mahila Mahavidyapith followed by Interactive Session with participants</p> <p>Vote of thanks by Prof. Anurupa Sananta, Head, Department of Mathematics, Durgapur Government College</p>
	<p>ALL UG students of science departments</p>	
	<p>Organized by Department of Mathematics Durgapur Government College</p>	



Durgapur Government College

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J.N. Avenue, Durgapur, District-Paschim Bardhaman, West Bengal, Pin-713214

Website: www.durgapurcollege.org

E-mail: dgcollege@gmail.com

DBT STAR COLLEGE SCHEME

One day workshop

on

"FIRST STEP IN MATHEMATICA"

August 26, 2023

[Organized by Department of Mathematics]

Attendance Sheet

Sl No.	Name	Designation	Signature
1	SUBHOJYOTI GHOSH (MATHS HONOURS)	STUDENT - 5th sem	Subhojyoti Ghosh
2	MANAS DUTTA (MATHS HONOURS)	STUDENT - 5th sem	Manas Dutta
3	SAHELI ROY (MATHS HONOURS)	STUDENT - 5th sem	Saheli Roy
4	TITHI BASURI (MATH HONOURS)	STUDENT - 5th sem	Tithi Basuri
5	MOUMITA DAS (MATH HONOURS)	STUDENT - 5th sem	Moumita Das
6	BINA PODDAR (MATH HONOURS)	STUDENT - 5th sem	Bina Poddar
7	Pomi Mondal (MATH HONOURS)	STUDENT - 1st sem	Pomi Mondal
8	SAYANTINI CHATTERJEE (Math honours)	STUDENT - 1st sem	Sayantini Chatterjee
9	Poibati Mucmu (Math honours)	STUDENT - 1st sem	Poibati Mucmu
10	SHREEMA MAJHI (Math honours)	STUDENT - 1st sem	Shreema Majhi
11	SHREYA DEY (MATH HONOURS)	STUDENT - 1st sem	Shreya Dey
12	KOYEL KARMAKAR (MATHS HONOURS)	STUDENT - 1st sem	Koyel Karmaakar
13	ALOKESH MALO (math pass course)	STUDENT - 1st sem	Alokesh Malo
14	ANKIT KUMAR JHA (MATHS HONOURS)	STUDENT - 1st sem	Ankit Kr. Jha
15	RABAR RAJAK (MATHS HONOURS)	STUDENT - 1st sem	Rabi Rajak
16	Surojit Dey (MATHS HONOURS)	STUDENT - 1st sem	Surojit Dey
17	Sachin kumar (MATHS HONS)	STUDENT - 1st sem	Sachin km.
18	Utkarsh Kumar (Maths Pass course)	Student - 1st sem	Utkarsh

"FIRST STEP IN MATHEMATICA"

August 26, 2023

[Organized by Department of Mathematics]

Attendance Sheet

Sl No.	Name	Designation	Signature
19	Shayan Ghosh (Math hono.)	Student - Sem III	Shayan Ghosh
20	Rima Chakraborty (Math Pass)	Student - Sem - I	Rima Chakraborty
21	Anita Mahata (Math hono)	Student - Sem - I	Anita Mahata
22	Dr. Prasanta Saha	Faculty - Botany Dept.	Dr. Saha
23	Armitava Samanta	Faculty - Dept. of Math	Armitava
24	Pratikshan Mondal	Faculty - Math	Pratikshan
25	Soumendu Nandy	Faculty - Math	Soumendu



GPS Map Camera

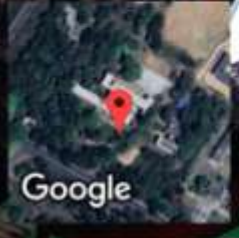


Google

Durgapur, West Bengal, India
G8RG+R9G, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal
713206, India
Lat 23.542144°
Long 87.326408°
26/08/23 11:05 AM GMT +05:30



GPS Map Camera



Google

Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal
713214, India
Lat 23.542344°
Long 87.326935°
26/08/23 11:10 AM GMT +05:30



GPS Map Camera



Google

Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal
713214, India
Lat 23.542289°
Long 87.327234°
26/08/23 11:53 AM GMT +05:30

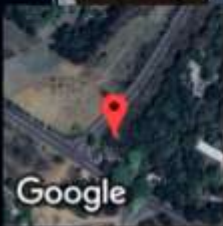
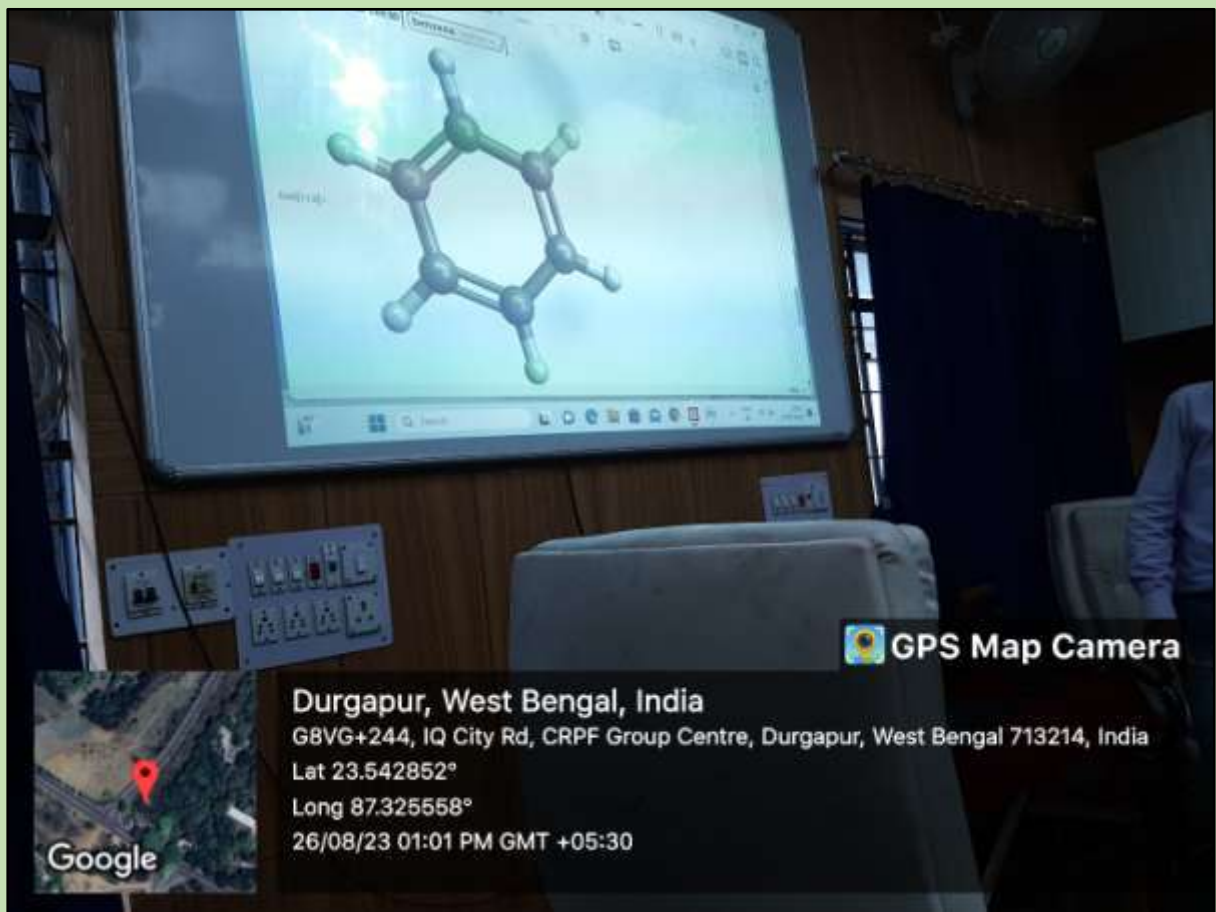


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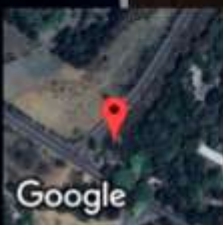
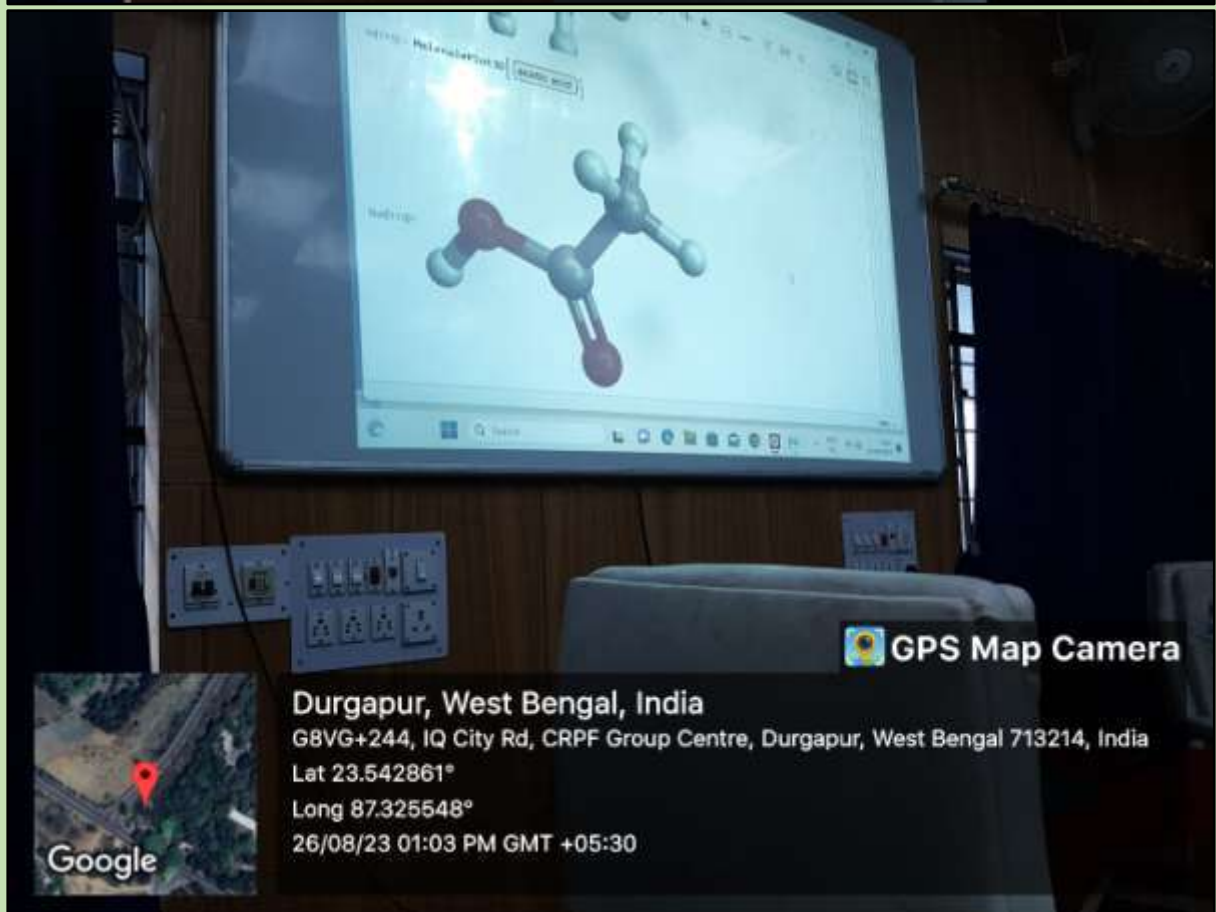


Google

Durgapur, West Bengal, India
G8RG+WXX, Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal
713214, India
Lat 23.542326°
Long 87.326881°
26/08/23 11:54 AM GMT +05:30



Durgapur, West Bengal, India
G8VG+244, IQ City Rd, CRPF Group Centre, Durgapur, West Bengal 713214, India
Lat 23.542852°
Long 87.325558°
26/08/23 01:01 PM GMT +05:30



Durgapur, West Bengal, India
G8VG+244, IQ City Rd, CRPF Group Centre, Durgapur, West Bengal 713214, India
Lat 23.542861°
Long 87.325548°
26/08/23 01:03 PM GMT +05:30



Report: As part of learning Mathematica software, we organised this invited lecture for all the students of the six participating departments. This lecture session has been conducted by Dr Haradhan Kundu, Assistant Professor of Mathematics, Bankura Zilla Saradamani Mahila Mahavidyapith, on August 26, 2023. This is a continuation of the event organised by our department on August 16, 2023.

Workshop on “Basics of LATEX” on 01.09.2023

OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE
J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 191

Date: 26-08-2023

NOTIFICATION

This is for information to all concerned that Department of Mathematics will conduct workshop on “Basics of LATEX” for B.Sc. students on Friday, 01-09-2023 from 1 pm onwards under the DBT STAR COLLEGE SCHEME. The workshop is intended to provide training to the undergraduate students on the basic applications of LATEX.

Departmental Coordinators are requested to inform the students of their respective departments for participation in the aforementioned workshop.

Nivedita Acharjee

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



Principal
Durgapur Government College

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2. All participating departments of DBT STAR COLLEGE SCHEME
3. Notice Book, Office of the Principal

DEPARTMENT OF MATHEMATICS DURGAPUR GOVERNMENT COLLEGE	 Durgapur Government College <i>Accredited by NAAC with "A" Grade in 2017</i> Affiliated to Kazi Nazim University UGC 2(B) and 12(B) Recognized College	ABSTRACT OF THE WORKSHOP:
The Department of Mathematics is one of the oldest departments for undergraduate education of Durgapur Government College and has always shared the vision in striving for excellence in teaching and research activities. Over the years, the department has produced many outstanding graduate students, who have taken their career in further studies including research and also hold reputed positions in different fields. The perfect blend of experienced and young faculty members reaches its planned goals of student outcome through team work. Our students have been placed for higher studies in IITs, NITs and other institutes of national repute. The Department has recently received grants under the DBT STAR COLLEGE SCHEME, which will include several activities to promote undergraduate teaching with student-centric mechanism such as Add on Courses, hands on training programmes, visits to higher educational institutes, invited lecture series, collaborations with other institutes etc.	DBT STAR COLLEGE SCHEME Workshop on "Basics of LATEX" September 01, 2023	To write articles having mathematical symbols, latex is used widely. In this talk, we will discuss how to write mathematical symbols, equations etc. and above all references using LATEX.
	RESOURCE PERSON Speaker: Dr. Pratikshan Mondal Assistant Professor, Department of Mathematics, Durgapur Government College, Durgapur – 713214, West Bengal.	SCHEDULE 12.30 pm to 1.00 pm: <i>Welcome Speech</i> by Dr. Debnath Palit, Principal, Durgapur Government College <i>Objective of the lecture series</i> by Dr. Nivedita Acharjee Coordinator, DBT Star College Scheme, Durgapur Government College From 1.00 pm onwards <i>Lecture on "Basics of Latex"</i> by Dr. Pratikshan Mondal Assistant Professor, Department of Mathematics, Durgapur Government College, Durgapur – 713214, West Bengal <i>Vote of thanks</i> by Prof. Amitava Samanta, Head, Department of Mathematics, Durgapur Government College.
	TARGET AUDIENCE All UG students of the Department of Botany, Chemistry, Gology, Organized by Department of Mathematics Durgapur Government College	



Durgapur Government College

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J.N. Avenue, Durgapur, District Paschim Bardhaman, West Bengal, Pin-713214

Website: www.durgapurcollege.ac.in

E-mail: principal@dgcollege.ac.in

DBT STAR COLLEGE SCHEME

One day Workshop
on

"Basics of LATEX"

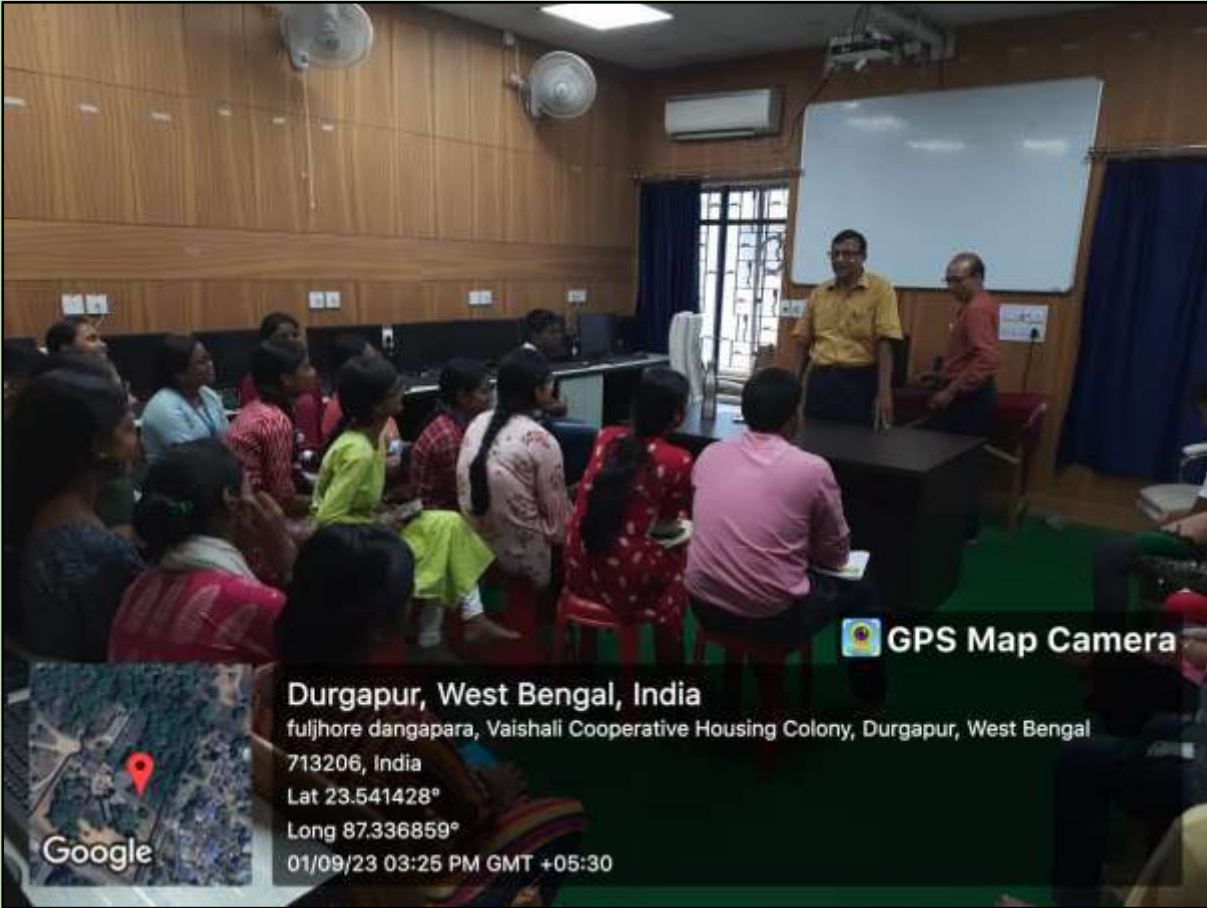
1st September, 2023

[Organized by Department of Mathematics]

Attendance Sheet

Sl No.	Name	Designation	Signature
1	Sachin Kumar	3 rd year of B.S.C Hon Maths	Sachin Kumar
2	SHREEMA MAJHI	1 st year Math Hon	Shreema Majhi
3	Rakhi Bohaduro	1 st year, Math Hon	Rakhi Bohaduro
4	Kayel Karmakar	1 st year, Math Hon	Kayel Karmakar
5	Sayantini Chatterjee	1 st year, Math Hon	Sayantini Chatterjee
6	Sulochan Das Mohanta	1 st Sem, Math ug.	Sulochan Das Mohanta
7	Borbali Murmu	1 st Sem, Math hon	Borbali Murmu
8	SHREYA DEY	1 st Sem, Math hon	Shreya Dey
9	Vinti Kumari	1 st Sem + Math hon	Vinti Kumari
10	POMI MONDAL	1 st Sem Math hon	Pomi Mondal
11	Rina Chakrabarti	3 rd Sem Math UG	Rina Chakrabarti
12	Anita Mahata	2 nd Sem Math hon	Anita Mahata
13	Manas Dutta	5 th Sem Math (Hon)	Manas Dutta
14	SUBHOJYOTI GHOSH	5 th Sem Math (Hon)	Subhojyoti Ghosh
15	NIKITA PAL	5 th Sem Math (Hon)	Nikita Pal
16	SAHELI ROY	5 th Sem Math (Hon)	Saheli Roy
17	TITHI BASURI	5 th Sem Math (Hon)	Tithi Basuri
18	Moumita Das	6 th Sem Math (Hon)	Moumita Das
19	BINA PODDAR	5 th Sem Math (Hon)	Bina Poddar

20	SUVOJIT DEY	1 st Sem Math (Hon)	SDe
21	Taruna Ruidas	3 rd Sem Math (Hon)	Taruna Ruidas
22	Tiya Ruidas	3 rd Sem Math (Hon)	Tiya Ruidas
23	Pritya Das	3 rd sem math (Hon)	Pritya Das
24	Arghunam Jana	3 rd Sem math (Hon)	Arghunam Jana
25	Shayan Ghosh	3 rd Sem Math (Hon)	Shayan Ghosh
26	Amitava Samanta	Faculty	A
27	Pratiksha Mondal	Speaker	Pratiksha
28	Amiya Biswas	Faculty	A



GPS Map Camera



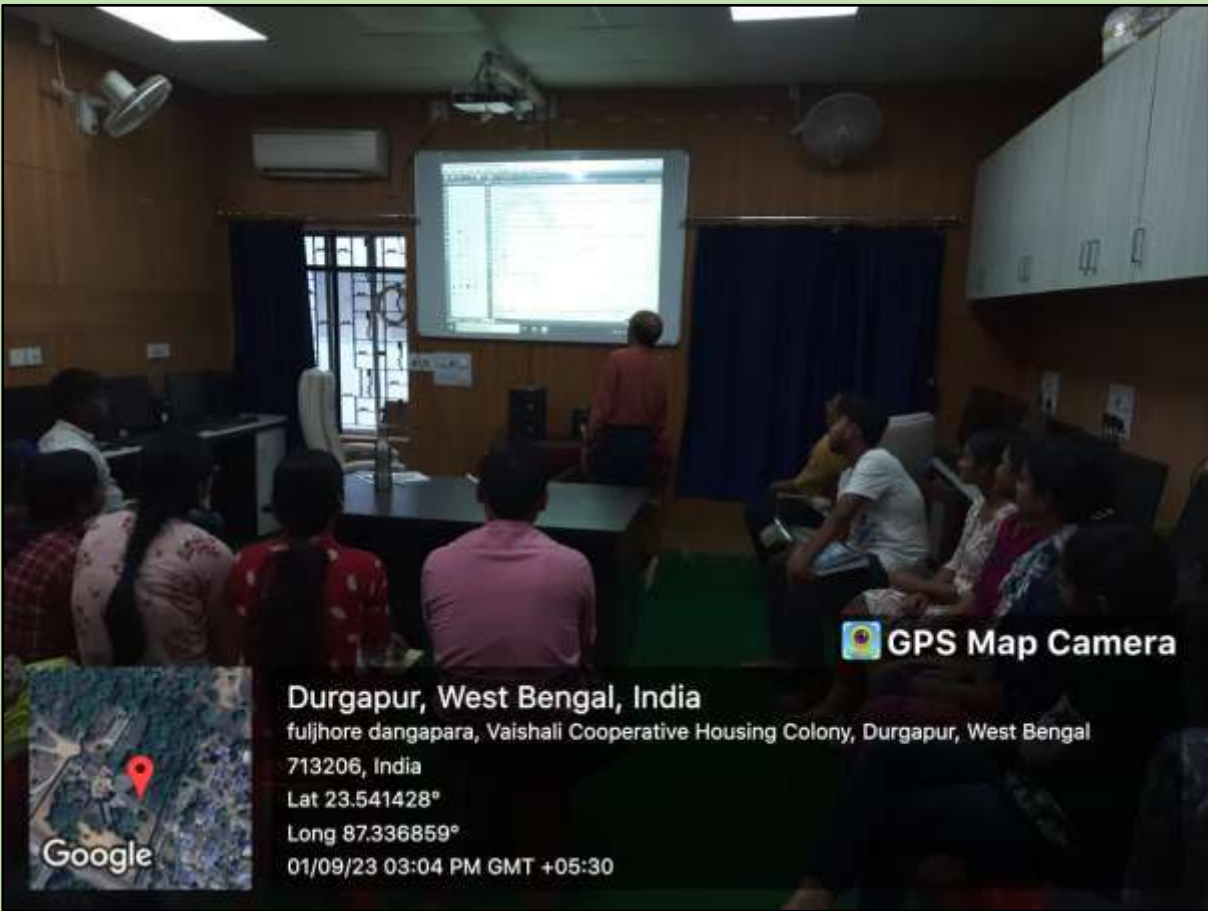
Durgapur, West Bengal, India
fuljhore dangapara, Vaishali Cooperative Housing Colony, Durgapur, West Bengal
713206, India
Lat 23.541428°
Long 87.336859°
01/09/23 03:25 PM GMT +05:30



GPS Map Camera



Durgapur, West Bengal, India
G8RG+VX9, Amarabati Colony, Durgapur, West Bengal 713210, India
Lat 23.542204°
Long 87.327398°
01/09/23 02:02 PM GMT +05:30



Durgapur, West Bengal, India
fuljhore dangapara, Vaishali Cooperative Housing Colony, Durgapur, West Bengal
713206, India
Lat 23.541428°
Long 87.336859°
01/09/23 03:04 PM GMT +05:30



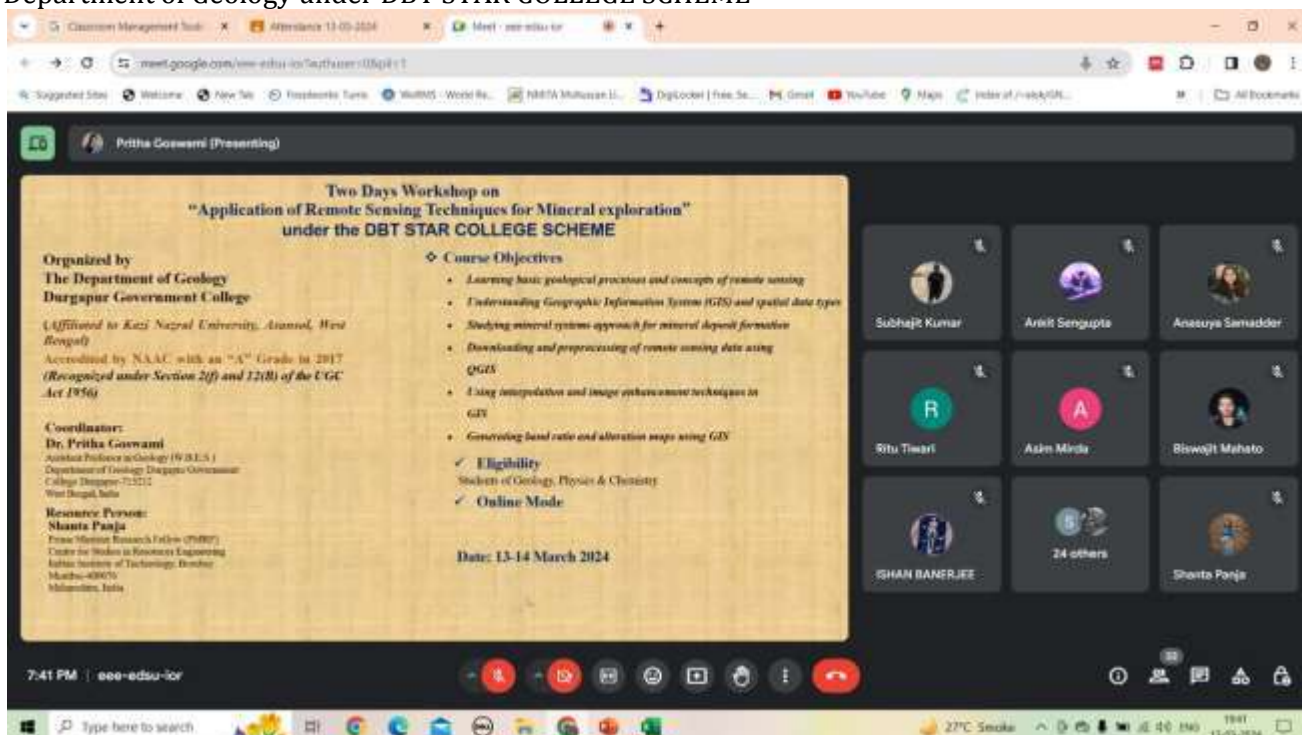
Durgapur, West Bengal, India
fuljhore dangapara, Vaishali Cooperative Housing Colony, Durgapur, West Bengal
713206, India
Lat 23.541428°
Long 87.336859°
01/09/23 03:05 PM GMT +05:30



Report: It is well known that MS Word is a writing tool. But if there are many mathematical symbols, it is better to use another writing tool "LATEX". To make our students familiar with this tool, our department organised a one-day workshop on "Basics of LATEX" on September 1, 2023. The lecture session has been conducted by Dr Pratikshan Mondal, Assistant Professor of Mathematics, Durgapur Government College.

March 13-14, 2024

Online Workshop on " Application of Remote Sensing Techniques for Mineral Exploration " organized by Department of Geology under DBT STAR COLLEGE SCHEME



March 16-17, 2024

Online Workshop on "Statistical Methods and Computer Applications in Natural Sciences" organized by Department of Geology under DBT STAR COLLEGE SCHEME

TWO DAYS WORKSHOP ON
"STATISTICAL METHODS AND COMPUTER APPLICATIONS IN
NATURAL SCIENCES (ONLINE)"

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

- Types of sampling
- Data analysis tool in Excel
- Univariate statistics
- Bivariate statistics
- Spatial statistics

Coordinators

- Dr. Saradee Sengupta
- Dr. Proloy Ganguly

Resource person
Dr. M. K. Devrajan
Senior Mineral Exploration Consultant

Date
16th & 17th March, 2024
(online mode)

Target Group
UG and PG students of Geology and UG students of Chemistry, Zoology, and Botany departments of Durgapur Government College

April 08, 2024

Workshop on " Haemoglobin Estimation from Human Blood Sample " (08-04-2024)

Organizing Department: Zoology; UNDER DBT STAR COLLEGE SCHEME



Patron

Dr. Debnath Palit
Principal, Durgapur Government College

Vice Patron

Prof. Subrata Ghosh, Coordinator, IQAC,
Durgapur Government College

Convener

Dr. Moitreyee Chakrabarty
Head, Department of Conservation Biology

Organizing Secretary

Dr. Tapajit Bhattacharya, Assistant Professor
Department of Conservation Biology

Members

Dr. Rajib Biswas, Assistant Professor
Dr. Sandip Majumder, Assistant Professor
Ms. Nazma Khatun, Assistant Professor
Dr. Alok Kumar Mukherjee, SACT-1
Shri Sanghamitra Sanyal, SACT-1
Department of Conservation Biology



Government of West Bengal
Durgapur Government College
(Accredited by NAAC with "A" Grade)

One Day Workshop

on

*“R Statistical Software:
Basic Knowledge”*

March 19, 2024, 11 hrs



Venue

**Nazrul Prekhagriho (Pran o
Poribesh Bhavan)**



Resource Person

Dr. Sourav Pal
Co-founder and Director
Estuarine Coastal Studies Foundation

Organized by

Department of Conservation Biology
In collaboration with IQAC
Durgapur Government College



GOVERNMENT OF WEST BENGAL
OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE

J.N. Avenue, Durgapur, Paschim Bardhaman 713214

No. 120

Date: 15-03-2024

NOTIFICATION

This is for information to all concerned that *Department of Conservation Biology, in collaboration with the Internal Quality Assurance Cell (IQAC), Durgapur Government College*, will organize one day workshop on “**R Statistical Software: Basic Knowledge**” by Dr. Sourav Pal, Co-founder and Director, Estuarine Coastal Studies Foundation, on **19-03-2024 from 11 am onwards**. The flyer is enclosed herewith.

The venue of the aforementioned event will be **Nazrul Prekkhagriha (Pran o Paribesh Bhavan)**.

All are cordially invited to attend the workshop to make it a grand success.

Principal
Durgapur Government College

Copy forwarded for information and necessary action to

- 1. All departments*
- 2. All faculty members*
- 3. Coordinator, IQAC*
- 4. Secretary, Teachers' Council*
- 5. Uploading to the college website*
- 6. Notice Book, Office of the Principal*

Patron

Dr. Debnath Palit
Principal, Durgapur Government College

Vice Patron

Prof. Subrata Ghosh, Coordinator, IQAC,
Durgapur Government College

Convener

Dr. Moitreyee Chakrabarty
Head, Department of Conservation Biology

Organizing Secretary

Dr. Tapajit Bhattacharya, Assistant Professor
Department of Conservation Biology

Members

Dr. Rajib Biswas, Assistant Professor
Dr. Sandip Majumder, Assistant Professor
Ms. Nazma Khatun, Assistant Professor
Dr. Alok Kumar Mukherjee, SACT-1
Shri Sanghamitra Sanyal, SACT-1
Department of Conservation Biology



Government of West Bengal
Durgapur Government College
(Accredited by NAAC with "A" Grade)

One Day Workshop

on

*“R Statistical Software:
Basic Knowledge”*

March 19, 2024, 11 hrs



Venue

**Nazrul Prekhagriho (Pran o
Poribesh Bhavan)**



Resource Person

Dr. Sourav Pal
Co-founder and Director
Estuarine Coastal Studies Foundation

Organized by

Department of Conservation Biology
In collaboration with IQAC
Durgapur Government College

Report on One Day Workshop on “R Statistical Software: Basic Knowledge”

Introduction

The Department of Conservation Biology, in collaboration with the Internal Quality Assurance Cell (IQAC) of Durgapur Government College, organized a one-day workshop titled "R Statistical Software: Basic Knowledge." The workshop was conducted by Dr. Sourav Pal, Co-founder and Director of the Estuarine Coastal Studies Foundation. This event aimed to equip participants with fundamental knowledge and skills in using R statistical software, which is widely used for data analysis and visualization in various fields, including conservation biology.

Time and Place

The workshop took place on 19th March 2024, from 11:00 AM onwards, at Nazrul Prekhhagriha (Pran o Paribesh Bhavan), Durgapur Government College.

Objective

The primary objective of the workshop was to provide participants with a basic understanding of R statistical software. Specific goals included:

- Introducing the interface and basic functionalities of R.
- Demonstrating data input and manipulation techniques.
- Teaching fundamental statistical analysis and graphical representation using R.
- Encouraging the use of R for academic and research purposes among students and faculty.

Proceedings

The workshop commenced with an inaugural session where Dr. Sourav Pal was introduced by the Head of the Department of Conservation Biology. Following the introduction, Dr. Pal began with an overview of R, its applications, and its significance in statistical analysis and data science.

The workshop was divided into several sessions:

1. **Introduction to R:** Installation and setup, basic commands, and interface navigation.
2. **Data Handling:** Techniques for importing, cleaning, and manipulating data in R.
3. **Statistical Analysis:** Basic statistical functions and tests, including descriptive statistics, correlation, and regression.
4. **Data Visualization:** Creating various types of graphs and plots to visualize data effectively.

Each session included hands-on practice, allowing participants to apply what they learned in real-time. Dr. Pal provided individual assistance and answered questions throughout the workshop.

Outcome

The workshop successfully introduced participants to the basics of R statistical software. By the end of the day, attendees were able to:

- Navigate the R interface confidently.
- Perform basic data manipulation and statistical analysis.
- Create visual representations of data.
- Understand the potential applications of R in their academic and research projects.

Student Feedback

Feedback from participants was overwhelmingly positive. Students appreciated the hands-on approach and the clarity of Dr. Pal's explanations. Many expressed interest in further, more advanced workshops on R and related statistical tools. Specific feedback highlighted:

- The usefulness of practical sessions.
- The relevance of R to their academic work.
- The approachable and engaging teaching style of Dr. Pal.

Conclusion

The one-day workshop on "R Statistical Software: Basic Knowledge" was a resounding success. It provided valuable insights and practical skills to students and faculty members, fostering a greater interest in statistical analysis and data science.







GOVERNMENT OF WEST BENGAL
OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE

J. N. Avenue, Durgapur, Paschim Bardhaman, Pin Code-713214

No. 222

Dated: 14-05-2024

NOTIFICATION

This is for information to all concerned that the Department of Conservation Biology, Durgapur Government College with Internal Quality Assurance Cell, Durgapur Government College will organise Seminar cum interactive session on Indian Knowledge System on "***Ethnomedicine: Relevance to Modern World***" on May18th 2024 from 04 PM onwards.

Two research scholars of Department of Conservation Biology working meticulously on this field will be sharing their view on the concept of ethnomedicine, their experience regarding use of traditional medicines among tribal population of West Bengal.

The Google meet link is: <https://meet.google.com/rro-deei-bpp?authuser=7>

The event is published in the National Digital Library of India (NDLI) Club Portal of the Institution. Please login as the Club Member to participate in the event.

Login to: <https://club.ndl.iitkgp.ac.in/sign-in>

with your username and password.

Click on the event and then on the top right hand side, click on "***Check Eligibility***" and then Click "***Participate***" to confirm participation.

Please note that confirming participation through NDLI portal is mandatory to get the certificate.

All are cordially invited to make the event a grand success.

Principal
Durgapur Government College

Copy forwarded for information and necessary action to:

- All Departments
- All faculty
- Coordinator, IQAC, Durgapur Government College
- Secretary, Teachers' Council, Durgapur Government College
- Uploading to college website
- Notice Book, office of the Principal



Government of West Bengal
Durgapur Government College
(Accredited by NAAC with "A" Grade in 2017)

SEMINAR CUM INTERACTIVE SESSION ON INDIAN KNOWLEDGE SYSTEM
ETHNOMEDICINE: RELEVANCE TO MODERN WORLD

ORGANIZED BY
DEPARTMENT OF CONSERVATION BIOLOGY
IN ASSOCIATION WITH
IQAC,
DURGAPUR GOVERNMENT COLLEGE

DATE: 18.05.2024
Time: 4PM

<https://meet.google.com/rro-deei-bpp?authuser=7>



Sharmila Soren
Research Scholar

Department of Conservation Biology



Sandipa Saha
Research Scholar

Department of Conservation Biology

Seminar cum Interaction on Indian Knowledge System

Ethnomedicine: Relevance to Modern World

As part of National Education Policy 2020, Indian Knowledge system is a part of our academic curriculum. Keeping this in mind, the department of Conservation Biology organized a seminar cum interactive session on Ethnomedicine to share the knowledge of traditional medicinal values of plants.

The program was inaugurated by our respected Principal Dr. Debnath Palit and patron of the event whose welcome address emphasized on the essentiality of the day and the need and importance of traditional knowledge and its sharing among common people especially tribal knowledge. Shri Subrata Ghosh, Coordinator, IQAC and Dr. Subhojit Ojha, TCS, Durgapur Government College also shared their views on the theme of the event.

Two research scholar Ms Sharmila Soren and Ms Sandipa Saha, exchanged their experience in working in the field of Ethnomedicine and Ethnobotany. Ms. Soren highlighted the interaction she had with local village people and how they use local plants as medicine in their own traditional way. Ms Saha enlightened us on the historical aspect of medicinal use of plants, its presence in vedas and Upanishads, how the concept was population and passed on to next generation through folklore and stories.

This overall session was interactive that generated inquisitiveness among the participants. Different insights were also shared by Dr. Rajib Biswas and Dr. Subhojit Ojha both from the field of Botany about the relevance of this concept and its importance in today's world.

Sandipa Saha (Presenting)

HISTORICAL CONCEPT

A variety of uses of plants are mentioned in the ancient Indian literature like:

- Rigveda
- Upanishads
- Mahabharata
- Puranas
- Sushruta Samhita
- Charaka Samhita

4:35 PM | Interactive Session on Indian Know...

meet.google.com/mn-derr-tpp?authuser=7

Sharmila Soren (Presenting)

INTRODUCTION

- According to the World Health Organization (WHO) approximately 80% of the world's population depends on traditional medicine for primary health care (Chowk, 2016; Sinhalakshmi and Banerjee, 2013; Chakrabarty and Paul, 2014).
- The knowledge of herbal medicine is documented from the Rig Veda, later many Maharshi as Charak and Sushruta worked different types of herbal plants for the human body. It gives a delicate description of over 700 herbs (Chakrabarty and Paul, 2014).
- In India most of the rural people especially tribal people are economically weaker and basically they are dependent on non-cultivated wild edible plants as a food supplement. So throughout the different parts of the country, wild animal plants are an important source of food. Not only that, wild food provides a major food supplement for health (Debnath, 2022).

4:19 PM

119KB/s

Done

Sharmila Soren

Department of C... Subrata Ghosh

Tapajit Bhattach... SUBHOJIT OJHA

Debnathya Khan Neha Dey

27 others NAZMA KHATUN

4:19 PM | Interactive Session on Indian Know...

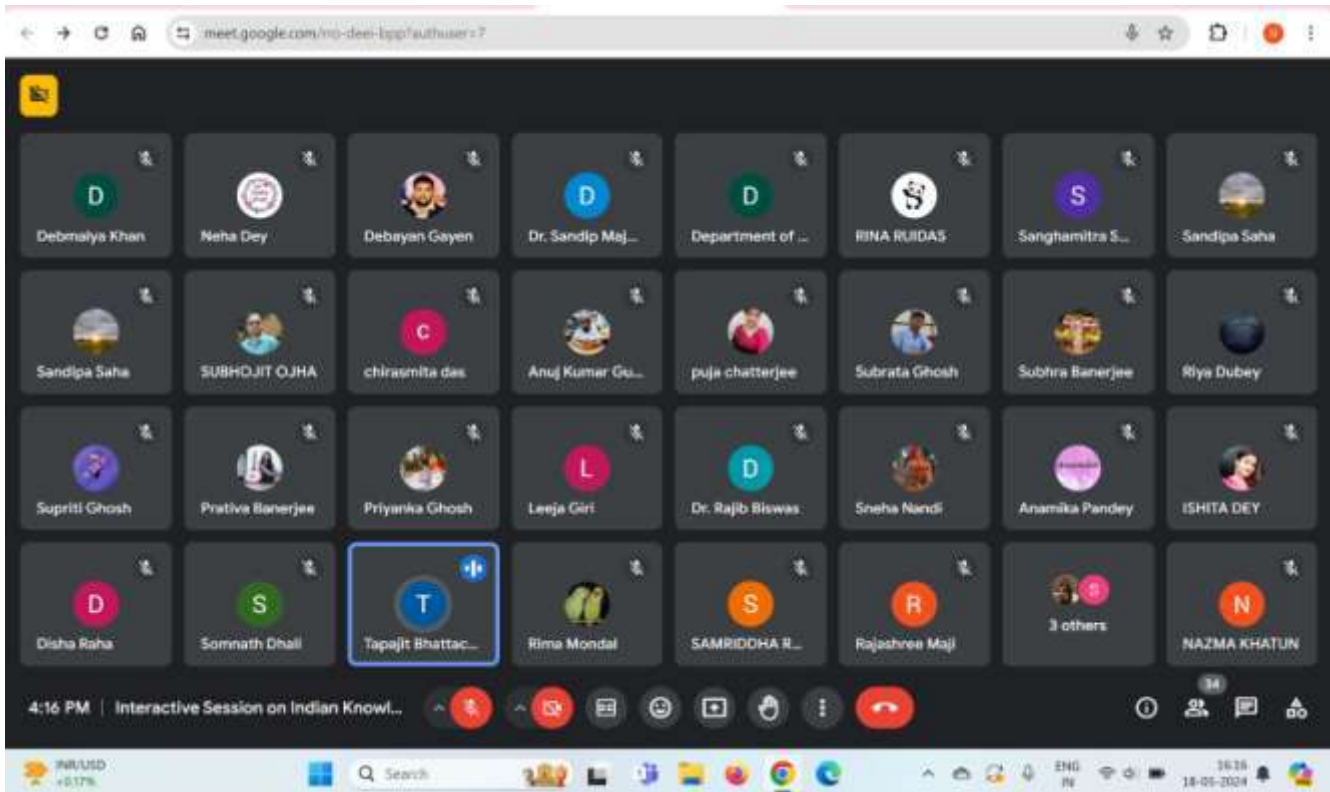
ATTENDANCE

Ethnomedicine: Relevance to Modern World

Seminar cum Interactive session on Indian Knowledge System

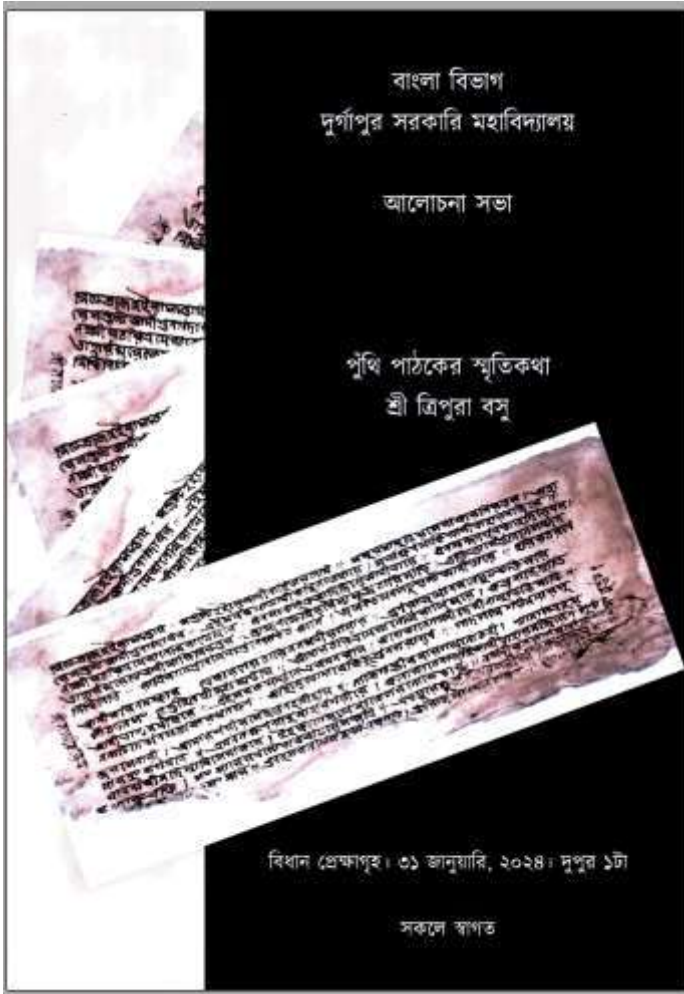
Department of Conservation Biology

Date: 11.05.2024



January 31, 2024

Seminar on "Punthi Pathaker Smritikatha" organized by Department of Bengali. The resource person of the seminar Shri Tripura Basu has been collecting several ancient Indian Bengali manuscripts. he explained the process of reading ancient Bengali manuscripts and also stated the significance of collection and reading of ancient Indian manuscripts.





OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE

Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal 713214

তারিখ: ২৯ জানুয়ারি, ২০২৪

বিজ্ঞপ্তি

আগামী ৩১ জানুয়ারি, ২০২৪ তারিখে বাংলা বিভাগের উদ্যোগে এক আলোচনাসভার আয়োজন করা হয়েছে। উক্ত দিনে মহাবিদ্যালয়ের বিধান প্রেক্ষাগৃহে বেলা একটায় বাংলা পুঁথি সাহিত্য বিষয়ে আলোচনা করবেন শ্রী ত্রিপুরা বসু। শ্রী বসুর বক্তৃতার শিরোনাম: "পুঁথি পাঠকের স্মৃতিকথা"। সকলের উপস্থিতি একান্ত কাম্য।

ধন্যবাদান্তে--

ড. দেবনাথ পালিত

অধ্যক্ষ, দুর্গাপুর সরকারি মহাবিদ্যালয়

Principal
Durgapur Govt. College



February 10, 2024

Seminar Lecture and Workshop on Translation organized by Equal Opportunity Cell in collaboration with the Department of English and the Department of Bengali

DURGAPUR GOVERNMENT COLLEGE
EQUAL OPPORTUNITY CELL
IN COLLABORATION WITH
THE DEPARTMENT OF ENGLISH
AND THE DEPARTMENT OF BENGALI

SEMINAR-LECTURE AND WORKSHOP ON TRANSLATION

SPEAKERS:

- PROFESSOR ABHISHEK BOSE, (DEPARTMENT OF COMPARATIVE INDIA'S LANGUAGE AND LITERATURE)
- PROFESSOR PAMPA HEMBRAM (HEAD, DEPARTMENT OF BENGALI, RANINDHIA DEBI GOVT GIRL'S COLLEGE, JHARGRAM)
- DR. SUBODH HANSDA (ACADEMICIAN AND SOCIAL WORKER)

DATE: 10TH FEBRUARY, 2024
TIME: 11.30A.M. ONWARDS
VENUE: BIDHAN PRAKASHANA (8TH FLOOR OF THE LIBRARY BUILDING)

Registration Link: <https://forms.gle/ksX8axjA9pY3K7t8>

COLLEGE



February 27, 2024

One Day seminar on "Bangla Sahityer Itihaser Itihas" organized by Department of Bengali

বাংলা বিভাগ
দুর্গাপুর সরকারি মহাবিদ্যালয়
আলোচনা সভা

বাংলা সাহিত্য-ইতিহাসের ইতিহাস
অধ্যাপক রাজীব চৌধুরী
সেন্ট জেভিয়ার্স কলেজ, কলকাতা

২৭ ফেব্রুয়ারি ২০২৪
বেলা বারোটা। বিধান প্রেক্ষাগৃহ।

সকলে স্বাগত



OFFICE OF THE PRINCIPAL
DURGAPUR GOVERNMENT COLLEGE

Jawahar Lal Nehru Road, Amarabati Colony, Durgapur, West Bengal 713214

তারিখ: ২১ ফেব্রুয়ারি, ২০২৪

বিজ্ঞপ্তি

আগামী ২৭ ফেব্রুয়ারী, ২০২৪ তারিখে বাংলা বিভাগের উদ্যোগে এক আলোচনাসভার আয়োজন করা হয়েছে। উক্ত দিনে মহাবিদ্যালয়ের বিধান প্রেক্ষাগৃহে বেলা বারো'টায় সাহিত্য-ইতিহাসের সংরচনা (Literary Historiography) প্রসঙ্গে আলোচনা করবেন সেন্ট জেভিয়ার্স কলেজের অধ্যাপক রাজীব চৌধুরী। অধ্যাপক চৌধুরীর বক্তৃতার শিরোনাম: "বাংলা সাহিত্য ইতিহাসের ইতিহাস"। সকলের উপস্থিতি একান্ত কাম্য।

ধন্যবাদান্তে--

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অধ্যক্ষ, দুর্গাপুর সরকারি মহাবিদ্যালয়



Principal
Durgapur Govt. College

Principal
Durgapur Govt. College

