Programme outcome

DEPARTMENT OF MATHEMATICS

Session:July,2024 – June,2025

Title of the Programme	: Ramanujan Day Celebration
Date of Programme	: 03.01.2025

Introduction : The Department of Mathematics has always celebrated Ramanujan Day with great enthusiasm, organizing insightful seminars to honor the legendary mathematician. This year, however, the Department took an extraordinary step beyond the confines of the classroom—venturing into the heart of nature for an immersive Field Study. This initiative aimed to provide students with a firsthand experience of how mathematical and statistical principles are deeply embedded in the natural world.

Nature, with its intricate patterns, rhythmic cycles, and symmetrical designs, has long been a source of inspiration for mathematical discoveries. From the spirals in sunflower heads to the fractal patterns in tree branches, from the statistical models in biodiversity to the geometric beauty of symmetry in flowers—mathematics is present everywhere. This **field study** was a **pioneering endeavour** by the Department, going beyond the conventional university syllabus to **spark curiosity and exploration** among students.

On **03.01.2025**, students from the **1st**, **3rd**, **and 5th semesters** embarked on this fascinating journey to a **lush green garden in Duttapukur**, **24 Parganas** (**North**). Surrounded by **towering trees, vibrant flowers, serene ponds, and a tranquil village setting**, they spent the entire day **observing, analyzing, and appreciating the mathematical wonders hidden in nature**. The experience was both **educational and exhilarating**, leaving the students with a newfound appreciation for the seamless connection between **nature and mathematics**.

This initiative marks a **significant milestone** for the Department, reinforcing the idea that learning extends beyond textbooks. It was not just a field study—it was a celebration of **the beauty of mathematics in the world around us**.

Brief report on the programme (Different achievements and benefits of the programme)

Observations & Activities

Students from **1st**, **3rd**, **and 5th semesters** actively participated in the exploration, applying mathematical and statistical concepts to real-world observations. Some of the key highlights included:

- Fibonacci Patterns in Plants: Students observed spiral patterns in sunflower heads, pinecones, and leaf arrangements, demonstrating the Fibonacci sequence and the golden ratio.
- **Fractals in Nature:** Tree branches and river paths provided insights into self-replicating patterns, a fundamental concept in **fractal geometry**.
- **Symmetry and Geometry:** The symmetric structures of flowers and insects helped in understanding **geometry and symmetry principles**.
- **Probability in Wildlife Movement:** Observing bird flights and insect paths led to discussions on **random walks and probability theory**.
- **Statistics in Biodiversity:** Students collected data on the diversity of plants and animals in different areas, applying **statistical analysis** to draw meaningful conclusions.

Achievements & Benefits for Students

This field study provided **several learning outcomes and benefits** for the students, including:

- 1. **Hands-on Learning Experience:** Moving beyond textbooks, students witnessed mathematical concepts in action, making learning more **interactive and engaging**.
- 2. Enhanced Observational Skills: The study sharpened their ability to recognize patterns, structures, and relationships in nature.
- 3. **Practical Application of Theory:** By analyzing real-world examples, students gained a **deeper understanding of abstract mathematical principles**.
- 4. Teamwork and Collaboration: Working in groups encouraged peer learning, discussion, and cooperative problem-solving.
- 5. **Inspiration for Research:** The field visit sparked curiosity, motivating students to **explore further research topics** related to mathematics in nature.

Conclusion

The **Field Study on Mathematics in Nature** was a **unique and enriching experience** that went beyond traditional academic boundaries. Students not only enjoyed the exploration but also gained **valuable insights** into the real-world applications of **mathematics and statistics**. The event successfully **bridged the gap between theory and practice**, reinforcing the idea that **mathematics is everywhere around us**. This initiative marked a **new milestone** for the Department, setting the stage for **future interdisciplinary learning opportunities**.

Video link (youtube): None

Text file link in college portal (Flyers/report etc)



Attach image files (Flyers, Geotag Images of the programme)





GOVERNMENT OF WEST BENGAL BARASAT GOVERNMENT COLLEGE DEPARTMENT OF MATHEMATICS

ACCREDITED 'A' GRADE, DST-FIST SPONSORED & ISO 9001 : 2015, 14001 : 2015, 50001 : 2018 CERTIFIED COLLEC

10, K.N.C. Road, Barasat, Kolkata - 700124, West Bengal, India Phone : (033) 2552 3365, Fax : (033) 2562 5053, Website : www.bgc.ac.in, E-mail : mathematics@bgc.ac.in

To The Principal Barasat Govt. College Barasat, 24 Pgs(N) Kol-124



Subject: Request for Permission for Field Study on Geometry and Statistical Phenomena in Nature

Respected Sir,

We plan to organize a field study for our Honours students on the topic "Geometry and Statistical Phenomena in Nature". This study aims to bridge their understanding of mathematics with its applications in the natural world.

We have chosen Duttapukur as our study location and propose to conduct this activity on **3rd January 2025**. This initiative will provide students with an invaluable opportunity to explore how mathematical principles manifest in the natural environment, fostering a deeper appreciation for the interconnectedness of mathematics, nature, and the cosmos.

Such an experience will not only enrich their academic learning but also inspire them to investigate the unexplored aspects of Earth's phenomena and the complex nature of the universe. The hands-on exposure from this study is critical for their growth as inquisitive and analytical thinkers.

We kindly seek your permission to proceed with this event and your guidance to ensure its success. Your approval will greatly motivate us to make this educational endeavour fruitful and memorable for our students.

Thank you for considering our request.

Yours sincerely,

Associate Professor & Head Department of Mathematics. Barasat Govt College

Nisith Chandra Das



SL No	Name	Signature
1	MAHENDRA KUMAR BAR	Signature
2	MOHIT BALA	Mary Dr.
3	BISHAL HALDER	Plant Bala
4	SOHAM SARDAR	Bighal Halder
5	PAH III BISWAS	p. 1 P. p. a.
6	PRODVUGNA PALI	Ranut Casedes
7	RIPON GHOSH	Dian Chiel
8	SAVAN PALLI	Cayan Paul
9	SUDIP KARMAKAR	Se lin Researcher
10	AKASH GHOSH	Akan Glav
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18	ANWESHA MONDAL	Amagene Mondal
19	ANKITA SAHA	Ankita Jaha.
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21	APARAJITA DEY	Aparquita Dey
22	SUVRATI DAS	-Supati De
23	SHAMAYITA DEY	Shamauda Deu
24	BRITIPAUL	Briti Paul.
25	PUJA KUN DU	Pela Kunde
26	DIPIKA PAU L	Dipika Paul
27	RICHA SAHA	Richa Saha
28	AFREEN FARHANAH	Afronn Harranah.
29	JU HITA PERVI N	
30	SALMA SULTANA 🗸	John Sultang.
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Sem-5 (Hons)

Ramanujan Day Celebration Attendance Sheet SEM-V

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SI.No	Name		Signature	
1	SAPTARSI SARKAR			1.
2	SAMBHUNATH SAHA		Sambhunath Saha	0+4
3	SANDIP SAHA		Sandip Saha	9.80
4	PRITOM MONDAL			0
5	SUBHA GAIN		Subha Grain	221
6	SOUMYA MANDAL		Socemya Mandal.	
7	SOUBHAGYA MONDAL		,	
8	SUBHADIP DAS		Subhadip Das	
9	PROMIT CHAKRABORTY		Poronit Chaboabarty.	
10	AKASHDEEP CHOWDHURY		Akashdeep Choudhwey.	
11	PRITAM SARKAR		Poitam Sarkar	
12	MAHABIR PAUL			
13	PRITAM SARDAR		Proitam Sandare	
14	RAKESH BHOWMICK	~	Rokesh Bhowmiele	
15	INDRANIL AICH		Indranil Arch	
16	SHUBHAJIT ROY		Shubhazit Roy.	
17	ABIR GHOSH	N	Alsin Ghosh	
18	MD TOUFIQUE MONDAL			
19	SK SAMIN		SK samin	
20	SK MOHAMMAD TARIEF		SK Mohammad Tarriep	
21	MD AL SHAHID HASAN		Md Alshahid Hosan!	
22	KOYEL SARKAR	V	Koyel Somkon	
23	SNEHA SAHA	\sim	Snehn Sahn	
24	SNEHA TALUKDER	1	Sneha Talukdeb	
25	PARIJAT NATH	~	Parijat Nath	
26	NANDITA GHOSH	~	Nandita Gcherh.	
27	ANUSHKA GHOSH	Actes	Junshka bihash	
28	RIMIKA MANDAL	~	Rimika Mandal	
29	DISHA GON	~	Disha Gon	
30	SOUMITA GHOSH	V	loumita Ghosh	
31	TANISHA PAUL		Tanisha Pacel.	
32	ASMITA DUTTA		42.	
33	ISHITA NATH			
34	TRISHA GHOSH			
35	PRANTIKA BAKSHI	-	Isantika Bakeli	
36	SRISTI KUNDU 🔨		Spisti Kundu	
37	ANKITA SIL	-	Andreter Sel.	
38	AYANTIKA HALDER		Ayantika Stalder.	
39	DIYA GHOSH	~	aleya Schosh	
40	ARBINA YASMIN	-	Asibina asmin	
41	ARPITA PARVIN		1	

	Sem-	1 (Hens)	Attendance Sheet SFM-I
	-	Field	Study 52101120
	Ge	ometry and Statistic	Al Phenomena in Nature
SL No	RollNo	Student Name	Signature
1	2415001	SAYAN MONDAL	Sumana Glach
2	2415002	ΤΑΝΜΟΥ ΒΗUINYA	Trans M Bhuenner (25)
3	2415003	RITU SARDAR	Rifu Sardan
4	2415004	MD RAHISUL AMIN	AD
5	2415005	SWAPNADIP MUKHERJEE	Swappazip cluber top
6	2415006	SOUVIK DEY	BOUNK DELL
7	2415007	RUPANKAR ROY	Rupankan Roy
8	2415008	CHOYAN PAUL	
9	2415009	SAYAK GHOSH	Rayerk GINOSh
10	2415010	ESANUR RASID	
11	2415012	TUSAR MONDAL	
12	2415013	SHANTA DEY	
13	2415014	SHARODIYO DUTTA	
14	2415015	SURAJ BISWAS	Suraj Bizwaz
15	2415016	SOUVIK NANDI	
16	2415017	BIPASHA MONDAL	Bibucha Mondal.
17	2415018	NAMRATA MONDAL	Spect war a consider
18	2415019	ISHAN GHOSH	
19	2415028	ANISHA DAS	Anisha Das
-20	2415029	MD RAKIBUL ISLAM	
20	2415020	KANKAN TIKADAR	
22	2415030	TRISHA DAS	
22	2415031	SAIKAT MISTRI	
2.5	2415032		Chami Mondal
24	2415035		Shweld mangapadhyay
25	2415035		Atiiana Matta
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27	2415038	SAH RIIWAN AHMED	
20	2415030	ANIRBAN DAS	Animbran Dal
30	2415041		THURDOWN JANS
31	2415041	BORNITA KUNDU	
31	2415042	MD ASIE UL HAQUE	
32	2415043		
33	2415045	MAHDEE HASAN	
35	2415046	SUBIR GOLDER	Sulain Golden.
36	2415047	TUHINISLAM	Tichim Islam
37	2415048	SUBHAYAN KARMAKAR	Suldenie viewakog
38	2415049	DIPAN MONDAI	Dizan Mondal
30	2415050	SUME MONDAL	Signa Mandal
40	2415050		Bund Mandal
40	61		NUT U I WARK
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43	62	ISHITA BISWAS	1 Calita Biguas
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