PUNJAB ASSOCIATION'S

ANNA ADARSH COLLEGE FOR WOMEN
(RE-ACCREDITED BY NAAC WITH A+ GRADE)

DEPARTMENT OF MATHEMATICS

INFINITY
and beyond...

APRIL 2023, VOL. 2, ISSUE 2

IN THIS ISSUE

" AN EQUATION MEANS NOTHING UNLESS IT EXPRESSES A THOUGHT OF GOD. "

- SRINIVASA RAMANUJAN

MESSAGE FROM THE PROVOSTS

Principal's Message

The Post-Graduate Department of Mathematics has always contributed immensely in shaping the young minds of the future through their constant hardwork and dedication. I take pride to unravel "Infinity and beyond" Volume 2, Issue 2. This newsletter plays a key role in mirroring all the activities undertaken by the Department and also how the students have been developing their skills in and out of the college. I also congratulate the editorial board for their collaborative efforts behind this. It makes a new way for the future generations to actively participate in the extra curricular activities and also to excel in their academics.

Dr R.Shanthi
Principal

Vice Principal's Message

The Post-Graduate Department of Mathematics has always exhibited excellence in their work which gets reflected in each and every bit of their work that are carried out with utmost dedication and enthusiasm. I congratulate and salute the Department's progressive outlook in both Academics and in extra curricular activities which loudly explains the commitment of the faculty members. I wholeheartedly wish the Department success in all the future endeavours.

Dr. Anita Raman
Vice Principal & Dean of Academics

HOD's Message

The Post- graduate department of mathematics , Anna adarsh college is glad to release the Volume 2 Issue 2 of the newsletter "Infinity and beyond" which articulates the exhaustive information on the pursuit of the activities and achievements of the department. Like the crest of the peacock, so is mathematics as the head of all knowledge. Our fraternity is actively engaged in diverse fields of mathematical research in pure and applied mathematics.This newsletter provides a platform for the betterment of students to gain more knowledge as the sky is the only limit not the dreams. On this occasion, I congratulate the team members of the editorial board for bringing up this issue in a better shape.

Mrs J.Prabha
Head and Associate Professor
PG Department of Mathematics

PURSUITS

An Alumnae connect for the year 2023 was held by the Department of Mathematics on 25th March 2023, Saturday. The event was attended by the staff and students of our Department.

The event was made special by the presence of two alumni of our Department. Mrs. K. Ramya Srinivasan (2004-2007 batch), is an Advocate & Commissioner of Oaths, Chennai High Court. She spoke about various laws and rights available for women.

She spread awareness on the various violence happening to women like domestic violence, emotional violence, economic violence etc. She concluded by asking us girls to be more independent and strong.

Mrs. V. Nithya, Manager at the Financial Crime Surveillance Operation at Standard Chartered Bank, enthusiastically encouraged our students to be bold, face challenges, set goals and communicate our thoughts whenever and wherever necessary. She enlightened us about the importance of Mathematics and it's connection to various fields of work. As Mathematics is a subject which requires practice, she urged us to practice more.

PURSUITS

The Institution Innovation Council in association with The Post Graduate Department of Mathematics celebrated National Education Day 2023 on March 18th 2023 via online mode from 3.00 pm to 5.00 pm.

The Guest Speaker for the day Dr.C.Meera, illustrated that the various aspects of the world can be classified under academic discipline as arts, commerce, science, engineering and technology. She explained about the vast groups of Algebra i.e. Abstract Algebra and Linear Algebra and applications. Further she enlightened about the Seven Frieze groups in detail with pictorial examples of chennakesava Temple, Somanathapura, Karnataka, Hoysaleshwara temple, in textiles and in balcony grills, etc depicting Frieze patterns. She also shared her views on equivalence class, role of Algebra in Modulo Art and ways to generate patterns .

Under Abstract Algebra, she gave an eye opening presentation about Algebraic graphs and its application in search engines. Finally she illustrated Computer graphics and the different research areas based on Algebra viz. Graph Theory, Cryptography, Medical Imaging, Computer Graphics and Image Compression.

~ Other Activities ~

The Department of Mathematics in association with IQAC conducted Gender Sensitization Programme – "SAVE THE GIRL - FEMALE GENDERCIDE" on 06/09/2022. Mrs.Priya Juliet, Director of Operations in India for Invisible Girl Project, Kanyaraksha Foundation was the resource person. She educated the students to say "NO TO DOWRY" and her talk provided important insight into child marriage act and child line numbers. The programme motivated the students about our commitment in reforming the society.

Staff and Student representatives of the Department of Mathematics, as part of Community Service Programme, visited Kalaiselvi Karunalaya Social Welfare Society, Mogappair, Chennai on 18/10/2022 and donated the provisions and baby care products to the inmates.Students got an insight to social awareness.

The Department of Mathematics & IQAC celebrated National Mathematics Day on 22/12/2022 in remembrance of Birth Anniversary of Mathematics genius Srinivasa Ramanujan. Dr. Micheal Arockiaraj, Assistant Professor, Department of Mathematics, Loyola College, Chennai was the resource person. The speaker gave an interesting talk on "Mathematics Vs Real time Applications". Various examples, he illustrated, kindled students' interest in the field of Mathematics extensively.

PASTIME

~ Sankhya 2023 ~

The Sankhya 2023, an Intra-Department , Inter-Department and Inter Collegiate event was conducted by the Post Graduate Department of Mathematics.The staff members of Post Graduate Department of Mathematics and Sankhya club members organised the event.Intra and Inter Department events was held on 23/03/2023. Essay Writing & Paper Presentation were the events conducted for Intra-Department. Palm Painting, Origami & Poster Presentation were the events conducted for Inter-Department. Inter-collegiate event was held on 24/03/2023. Math Carven, Equasketch, Acrostic, Mathgroove & Kinship were the intercollegiate events.

PASTIME

~ Trip To Mysore ~

The Department organized a tour to Mysore. Students felt very refreshed after this trip. Students were able to explore more things in and around Mysuru on this trip. , Mysuru is known for its beautiful palace, which attracts more tourists than ever during Dasara festival. As a crew of 92 people, we began the day together with our six staff members, trip coordinator, and 3 adorable munchkins.

The following places were visited:
* Mysuru Maharaja Palace. * GRS Snow World
* Jaganmohan Palace Art Gallery * GRS Fantasy Park.
* Sri Chamarajendra Zoological Gardens * Chamundi hills
FAs a result, it was a fun-filled trip with friends. All the way through, we had a great time.
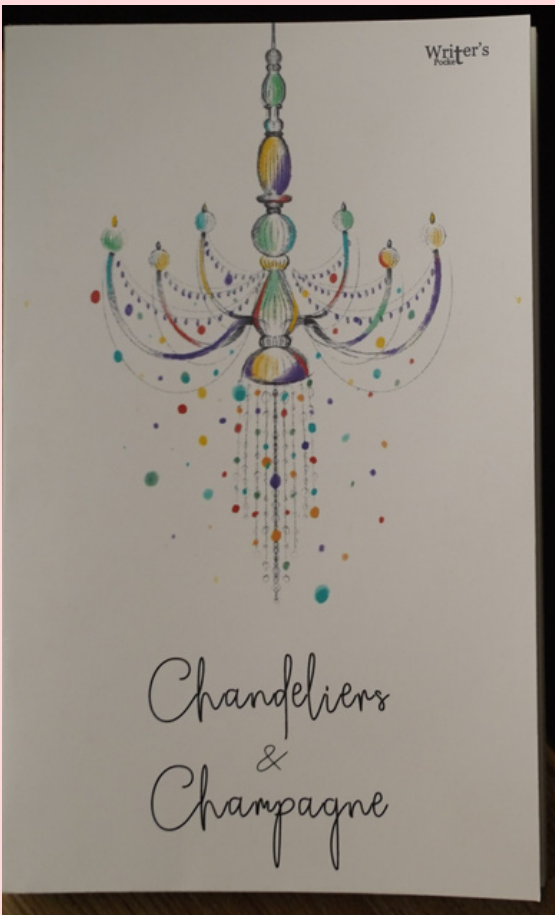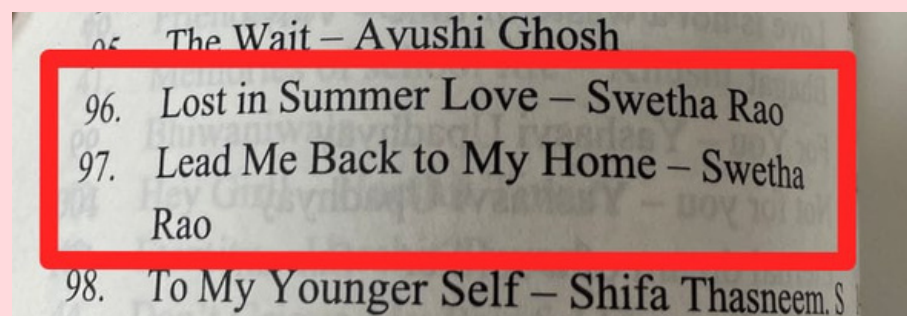
FEAT

Ms.S.Sushma of II M.Sc.Mathematics was the winner of Poster Designing on the topic "Korean Unification and Peace" conducted by the Peaceful Unification Advisory Council in collaboration with the Youth United Council of India. The valedictory ceremony was held at the Korean Embassy in presence of the Korean Consulate General Mr.Youngseup Kwon.

Tamil Nadu Ambassador for the United Nations and FIFA's Red Card Campaign which is to raise the Red Card against the discrimination and violence towards women and girls. Successfully completed in 77+ venues.

Poetry is a unique form of literature that requires a keen sense of observation, imagination, and creativity, and it can be a powerful way to express emotions and ideas. Swetha B of III B. Sc. Mathematics has been featured as a co-author in a book called "Chandeliers & Champagne" published by Writer's Pocket. She has contributed two poems, "Lost in Summer Love" and "Lead me Back to My Home"

95. The Wait – Ayushi Ghosh
96. Lost in Summer Love – Swetha Rao
97. Lead Me Back to My Home – Swetha Rao
98. To My Younger Self – Shifa Thasneem.S

EXEMPLARY

CLASS TOPPERS 2021- 2022

I B. SC., MATHS	DIVYADHARSHINI. S
II B. SC., MATHS	1.RAKSHITHA.C 2.ADHISHAKTHI.R
III B. SC., MATHS	PREETHI. V.M
I M. SC., MATHS	NANDHITHA.M
II M. SC., MATHS	DEEPIKA. M
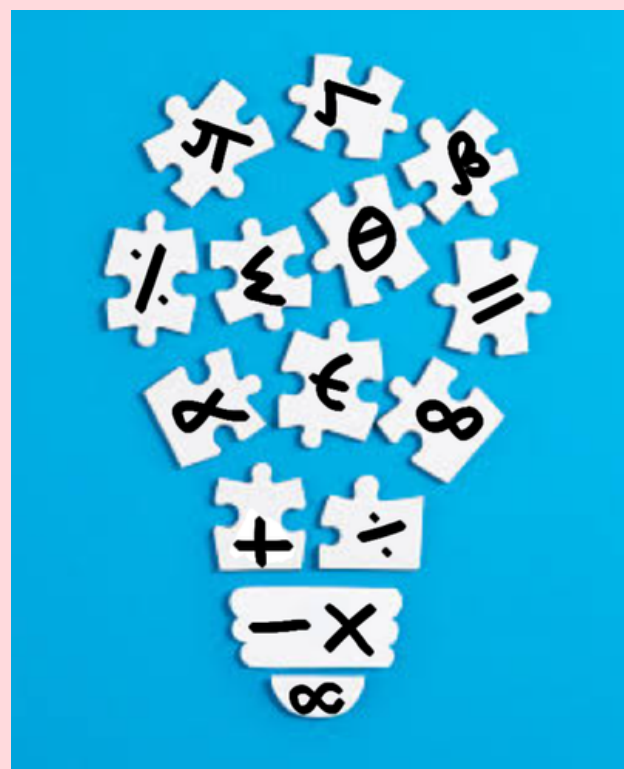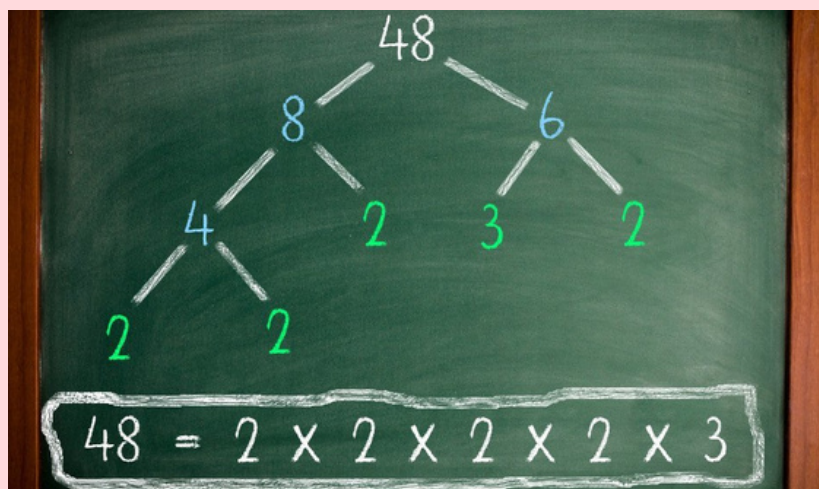
MATHEMATICS IS ALL ABOUT UNRAVELING THE QUEST TO SOLVE   ~ Nandhana Shri S

PLACEMENTS

M.SC MATHEMATICS - 2023
VELAMMAL SCHOOL

Haritha M	B.Pavithra	Ashvitha M	Pooranipooja V	Vikasini J S	Keerthiga.C
Saraswathy.D	Varalakshmi N	Vidhyalakshmi S	Mirdula K	Yuvashree.S	

M.Sc MATHEMATICS - 2023

ACCENTURE

Agalya G

Dr. MGR UNIVERSITY

Revathy K

B.SC MATHEMATICS - 2023

ACCENTURE

Suvapna. K.S

WIPRO

Nivedha. G

TIMETRACKER

* Mrs. J.Prabha – Member, PG Board of Studies, Mathematics - University of Madras.

PAPER PRESENTATION:

* Ms.R.Mahalakshmi presented a Paper at International Conference on "An Enhanced Approach For Solving Fuzzy Sequencing Problems With Trapezoidal Fuzzy Numbers" conducted by Patrician College Of Arts And Science On 4 February 2023.

* Mrs.P.P.Sharmishta presented a Paper in International Conference On "Oscillation Of First Order Non-Linear Advanced Differential Equations With Non-Monotone Arguments" at Loyola college(Autonomous) , Chennai -34 on 25 February 2023.

* Participation in Conferences, Seminars and FDPs

Ms.K.Sheela participated in FDP on Python for Data Science conducted by NPTEL, AICTE, IIT Madras from July 2022 to August 2022.

* Ms.K.Sheela participated in Online Short term course on "Employability and Soft Skills Development" conducted by UGC sponsored, HRDC, Bharathidasan University from 07 December 2022 to 13 December 2022.

* Ms.R.Mahalakshmi participated in Online Short term course on "Employability and Soft Skills Development" conducted by UGC sponsored, HRDC, Bharathidasan University from 07 December 2022 to 13 December 2022.

* Ms.K.Sheela participated in Online National level FDP on" Writing and Publishing Research papers"Conducted by Bala's V.V. Academy,Chennai from 17 December 2022 to 21 December 2022.

* Ms.R.Mahalakshmi participated in Online National level FDP on" Writing and Publishing Research papers"Conducted by thematics And Computer Applications" conducted by Women's Christian College on 31 January 2023

* Dr. S. Gayathri Participated in International Online Workshop on "Basic Statistical Analysis and its Interpretation using SPSS" from 07 January 2023 to 09 January 2023.

* Ms.R.Mahalakshmi participated in NAAN MUDHALVAAN FDP on "DATA ANALYTICS WITH TABLEAU" Conducted by the UNIVERSITY OF MADRAS from 30 January 2023 to 03 February 2023

* Mrs.N.K.Vinodhini Participated In FDP On "Strategic Use Of Technology In Mathematics And Computer Applications" conducted by Women's Christian College on 31 January 2023.

* Ms.K.Sheela participated in the International Conference on "Recent trends in Contemporary Mathematics" by Patrician College Of Arts And Science on 03 February 2023.

TIMETRACKER

* Dr.M.Arunma participated in the 3-Day Online FDP on "Differential Equations & its Applications" organized by the Division of Mathematics, School of Advanced Sciences, Vellore Institute of Technology, Chennai from 03 February 2023 to 05 February 2023.

* Dr.V.Sathyavathy participated in FDP on "Recent trends in Mathematics and it's applications" conducted by AICTE Skill and personality development center and Department of Mathematics From 06 February 2023 to 11 February 2023.

* Mrs.N.K.Vinodhini participated in an Online Short Term Course On" Academic Research and Publication Ethics" Conducted by Bharathidasan University from 01 March   2023 to 07 March 2023.

* Dr.V.Sathyavathy participated in Online Short Term Course on " Academic Research and Publication Ethics" Conducted by Bharathidasan University from 01 March   2023 to 07 March 2023.

Other Activities:

Resource Persons for Conferences, Seminars, Guest lectures outside College

Mrs. J. Prabha served as External Auditor for the External Audit organized by IQAC, Thiruthangal Nadar College, Chennai on 04 June 2022.

Mrs. J. Prabha was the judge for the event Quiz Inter collegiate, Inter and Intra Departmental competitions conducted by Justice Basheer Ahmed Saveed College For Women on 15 February 2023.

Dr.V. Sathyavathy was the chief guest for Math Expo 2023 Intercollegiate event on National Science Day conducted by Shri Krishnasamy College for Women on 20 February 2023.

TIMETRACKER

Nandhana Shri S of III BSc Mathematics Won 1st Place in Archonopeiron - Captain's Quest
Sharme S, Preethi V M, Durga Devi R, Vinothini G, Nandhini T of I M. Sc. Mathematics Won 2nd Place in Archonopeiron - Math Melody
Archana S and Mirdula K of II MSc Mathematics Won 2nd Place in Archonopeiron – Saniarto
Poorani Pooja V, Saraswathy D and Vikasini J S of II MSc Mathematics Won 2nd Place in Archonopeiron - Finding Nemo at Loyola College on 28/01/2023.

Shakthi T of III BSc Mathematics Won 3 rd Place in Quadratic Quasters '22 - Arty Scales (Poster Making) at M. O. P. Vaishnav College For Women on 11/02/2023.

Swetha B of III BSc Mathematics Won 3rd Place in Forays 2023 - Reverse Coding at IIT – Madras on 25/02/2023

TIMETRACKER

Amirthavarshini K of III B. Sc. Mathematics, Nandhini T, Srivarshini E of I M. Sc. Mathematics, Sushma S of II MSc Mathematics Won 3rd Place in Tamil Nadu Government's Republic Day Parade Dance on 26/01/2023.They performed in front of the Honourable Chief Minster of Tamil Nadu Thiru M.K.Stalin and Honorable Thiru R.N. Ravi, Governor of Tamil Nadu .

மண்பானையின் மீது நின்றவாறு நடனம் ஆடிய கல்லூரி மாணவிகள்.

CIPHERING HOLD

~ MATHEMATICS IN INSECTS LIFE ~

Yes,you read it right not only humans even insects use Mathematics in their lives. We all at some point of time would have watched a swarm of insects flying around with increased buzzing sound.

In the spring of 2004, eastern US, a very special thing happened.The swarm of insects filled the air with increased buzzing. In the spring of 2021, they did the exact same thing, terrorizing the eastern US from Tennessee to New York inhabiting 15 states along the way. Why did they "hide" for 17 years?How did millions of them know when to appear again simultaneously after so long.

This story is about mathematics, the nature and love, but before diving into all of that let me introduce the star of the show – the insect – the cicada. If the insect emerge every 17 years and the predator emerges every 4, 6, or 8 years, unlikely to overlap for an insect who's adult life span consists of mating and laying eggs for about 3 weeks avoiding the predator.

One of the reasons for picking a relatively high number as the period of the cycle is that many birds and other predators don't get to live long hence protecting the insects from predation.

Thus the phenomenon of selecting a highest possible prime number to avoid it's prey represents the usage of mathematics in the insects life.

Prime numbers have been intensely studied ever since.

SUVAPNA K. S
III B.SC. MATHEMATICS

"MATHS IS A PUZZLE WHERE BUZZING BEES TWEAK IT "

~ Nandhana Shri S

CIPHERING HOLD

~ MAGIC SQUARE ~

Magic squares have been around for thousand of years, and were introduced to Western civilisation by translated Arabic texts during the Renaissance. While magic squares can be a variety of sizes, the three by three grid is the smallest possible version and is the most accessible for young students.

This is also a great math puzzle to try if your students are tactile learners. Using recycled bottle caps, label each with a number from one to nine. Have your students arrange them in a three by three square so that the sum of any three caps in a line (horizontally, vertically and diagonally) equals 15
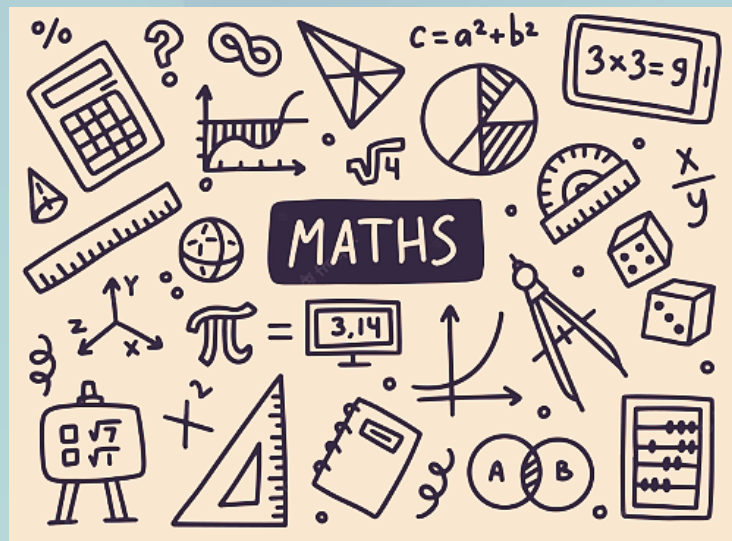
~ Archana
II M. Sc., Mathematics

INTERESTING FACTS ABOUT Pi (π):

* The symbol for Pi has been in use for over 250 years. The symbol was introduced by William Jones, a Welsh mathematician, in 1706. The symbol was made popular by the mathematician Leonhard Euler.

* March 14 or 3/14 is celebrated as pi day because 3.14 are the first digits of pi. Math nerds around the world love celebrating this infinitely long, never-ending number.

* Pi is actually a part of Egyptian mythology. People in Egypt believed that the pyramids of Giza were built on the principles of pi.

* Physicist Larry Shaw started celebrating 14 March as Pi day at San Francisco's Exploratorium science museum. There he is known as the Prince of Pi.

* Pi, or π, never changes. It's the ratio of the distance around any circle to the circle's diameter and is always 3.14…

* The Greek letter π is the first letter of the word periphery and perimeter. And as we all know, pi is the ratio of a circle's "periphery" to its diameter

* The most common number in the first 100,000 decimal places of pi is number one, which occurs 10,137 times.

~ D. HARINI DIVYA
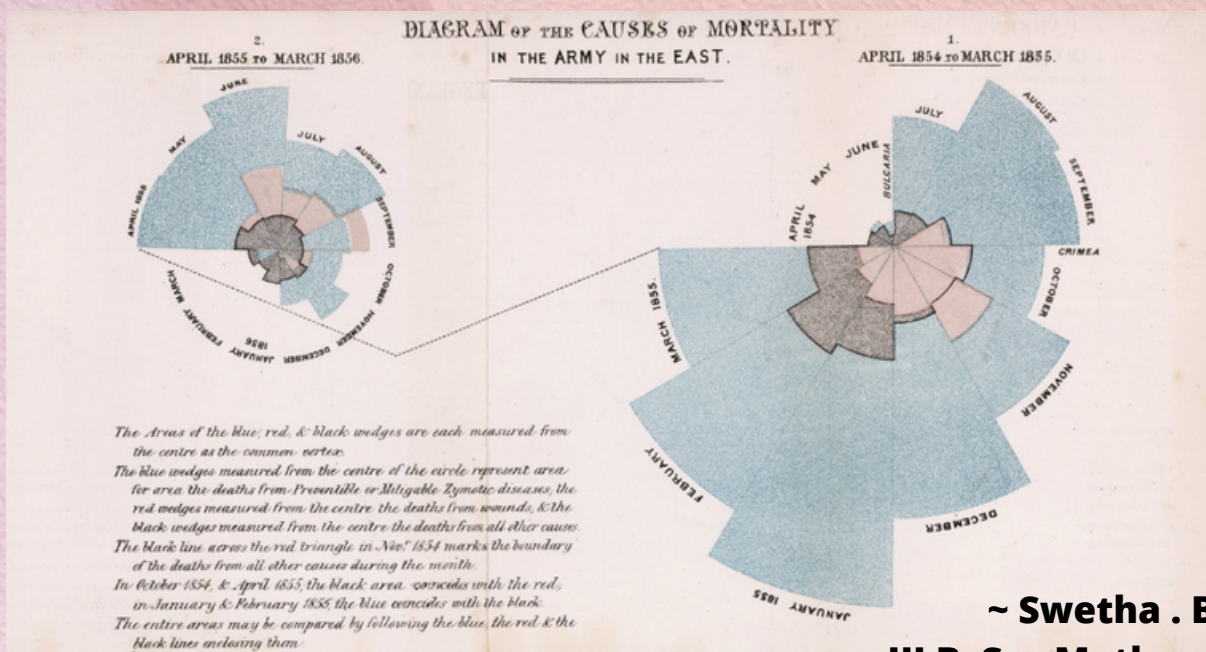**II B. Sc., Mathematics**

Often called "The Lady with the Lamp", Florence Nightingale is widely regarded as the mother of nursing. But little do we know about her contributions to the statistics field. From a very young age, Florence displayed an extraordinary ability in collecting and analyzing data.

In 1858, Nightingale wrote her book titled "Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army". In it, she created a remarkable and original graphical display to show us what had really happened during the Crimean War. It was a "Polar-Area Diagram" that showed how people had died during the period from July 1854, through the end of the following year.

In Nightingale's graph, there will be 12 sectors (one per month) all with the same angle of 30 degrees each. The area of a sector represents the rate of deaths in a month which is further subdivided by cause of death as shown in the image.

A few advantages of polar area diagrams include:

    * They are useful for plotting cyclical data.(For example, the counts of a phenomenon in each of the 12 calendar months of a year.)

    * They are easy to read around the "rose" because data are presented chronologically.

    * Multiple layers can be added within a diagram. (This is how Nightingale described deaths from preventable diseases, wounds, and other causes.)

To sum up everything, polar area diagrams are a mix of pie charts and histograms. Popularized by Florence Nightingale in the 1850s, they can be used as an effective way to visualize cyclical data.

DIAGRAM OF THE CAUSES OF MORTALITY IN THE ARMY IN THE EAST.

~ Swetha . B
III B. Sc., Mathematics

ELICIT ARTS

THILAGAVATHI K
III B. SC., MATHEMATICS

DIVYA DHARSHINI S
II B. SC., MATHEMATICS

PREETHIGAA.U & MADHUMITHA P
III BSC MATHEMATICS

MODLE FOR KONIGSBERG BRIDGE

BY THIS PROCESS, IT MADE THEM TO EXPLORE MORE IN WORKING EXAMPLES OF MATHS IN DAILY LIFE. IT ALSO PAVED A DEEPER QUEST FOR THE STUDENTS TO UNDERSTAND IT MORE LIVELY AND CLEARLY. THESE KIND OF ACTIVITIES FOR DIFFERENT SOURCE ARE MADE BY THE STUDENTS AND IT WILL KEEP THEM ENGAGED AND UPDATED.

EDITORIAL BOARD

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Likhitha Kanna B R
III B.Sc. Maths

Sarvani K
III B. Sc. Maths

The most coveted prize in mathematics- the so called Mathematics Nobel Congratulations for Abel Prize, 2023 ...

The prize includes an amount of 75 million kroner (roughly 720000 dollars) and a glass plaque designed by Norwegian artist Henri Hougan. Till date 26 mathematicians have been awarded the Abel Prize,which was established by the Norwegian Parliament in 2002, to mark Abel"s 200th birth anniversary; Niels Henrik Abel(1802-1829) being an eminent Norwegian mathematician. The prize is often seen as recognition of a lifetime achievement in mathematics.

Math 'Nobel Prize' for Indian-American mathematician

PRESS TRUST OF INDIA
WASHINGTON, APRIL 10

CALYAMPUDI RADHAKRISHNA Rao, a prominent Indian-American mathematician and statistician, will receive the 2023 International Prize in Statistics, the equivalent to the Nobel Prize in the field, for his monumental work 75 years ago that revolutionised statistical thinking.

Rao, who is now 102, will receive the prize, which comes with a $80,000 award, this July at the biennial International Statistical Institute World Statistics Congress

CR Rao will get International Prize in Statistics, equivalent to the Nobel Prize in the field.

in Ottawa, Ontario, Canada.

In his remarkable 1945 paper published in the Bulletin of the Calcutta Mathematical Society, Rao demonstrated three fundamental results that paved the way for the modern field of statistics and provided statistical tools heavily used in science today, the Foundation said in a statement on April 1.

The first, now known as the Cramer-Rao lower bound, provides a means for knowing when a method for estimating a quantity is as good as any method can be, it said.

The second result, named the Rao-Blackwell Theorem (because it was discovered independently by eminent statisti-

cian David Blackwell), provides a means for transforming an estimate into a better—in fact, an optimal—estimate. Together, these results form a foundation on which much of statistics is built, the statement said.

And the third result provided insights that pioneered a new interdisciplinary field that has flourished as "information geometry." Combined, these results help scientists more efficiently extract information from data, the statement added.

Rao was awarded the title of Padma Bhushan (1968) and Padma Vibhushan in 2001.