

MATHOMANIA

Newsletter from the Department of Mathematics

THE MAN WHO
KNEW INFINITY

Ramanujan's
Mathematical
Brilliance.

The Eternal
Mathematician of
Mathomania

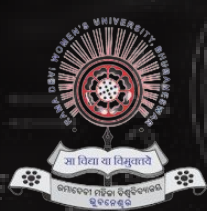
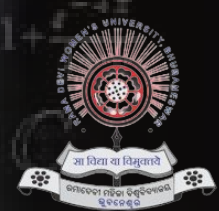
"An equation for me has no
meaning unless it expresses
a thought of God."

-Ramanujan

#4

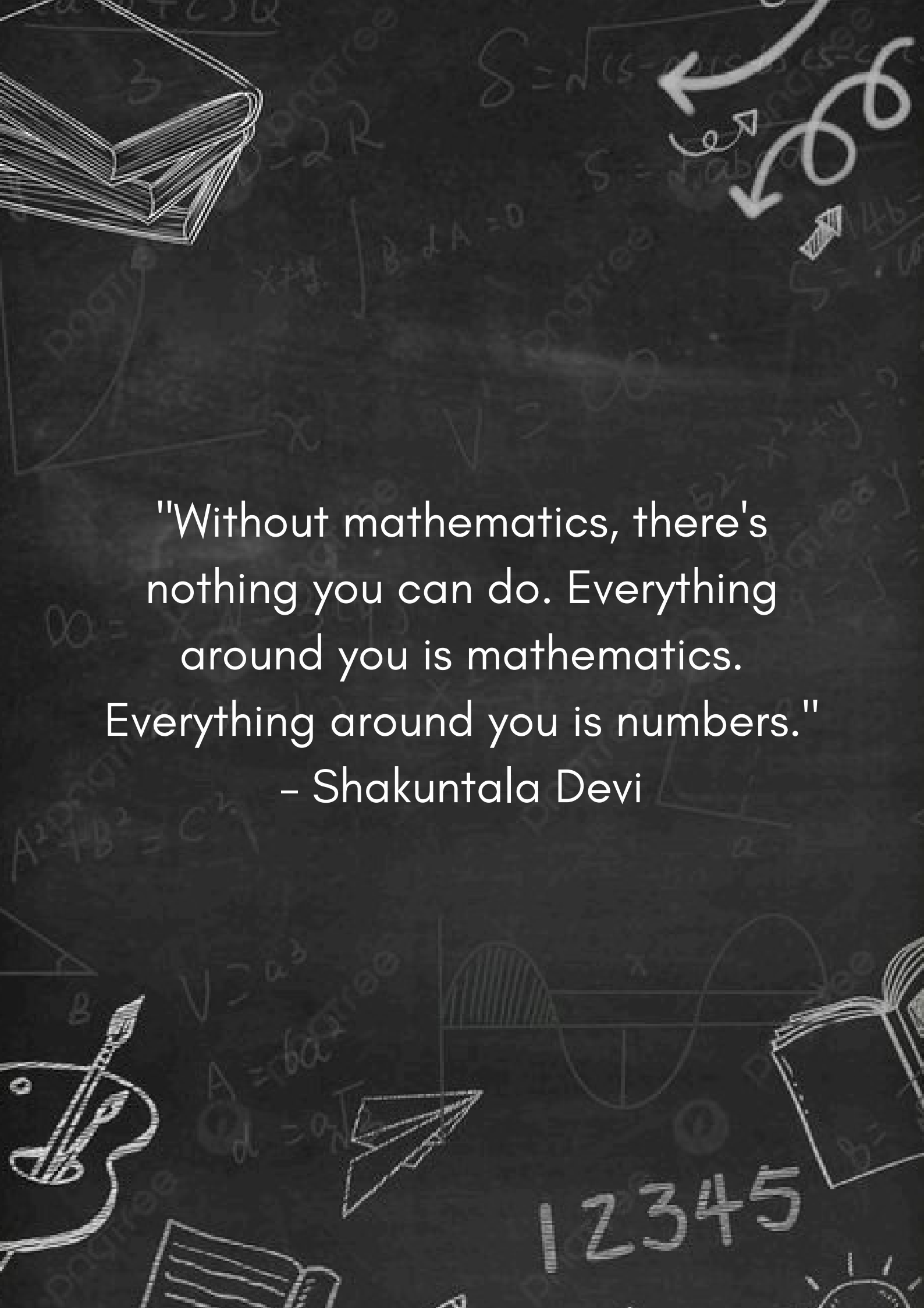
"Mathomania:
Where Passion for
Numbers Comes
Alive"

| ISSUE - 4 | 2023-24 |





ALUMNI BATCHES



"Without mathematics, there's
nothing you can do. Everything
around you is mathematics.
Everything around you is numbers."
- Shakuntala Devi

ABC OF MATHEMATICS

Pearls Of Raw Nerdism

$$3(x+1)+x$$

Algebra

$$\left[\begin{array}{c} \square \\ \square \end{array} \right] \left(\right)^{1/2} \div$$
$$\times \quad + \quad -$$

BODMAS

$$z = a + bi$$

Complex Numbers

$$16 \sqrt[2]{\frac{34}{\frac{32}{2}}}$$

Division

$$e^x$$

Exponential

$$!$$

Factorial



Geometry



Hypotenuse



Iota

$$\begin{bmatrix} a & a & a \\ a & a & a \\ a & a & a \end{bmatrix} \begin{bmatrix} x \\ x \\ x \end{bmatrix} = \begin{bmatrix} b \\ b \\ b \end{bmatrix}$$

Jacobi Method

$$K(x)$$

Koszul Complex

$$\log_b n$$

Logarithm

$$\frac{35}{x2} = 70$$

Multiplication

$$1, 2, 3, \dots$$

Numbers



Octonion



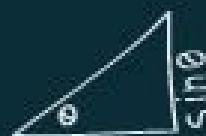
Parabola

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

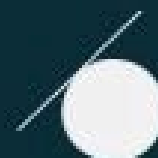
Quadratic Equation

R

Real Number



Sine



Tangent



Ultraparallel Theorem

$$[c, L_n] = 0$$

Virasoro Algebra



Welch Method



X (the ever missing x)

$$1000^{-8}$$

Yocto

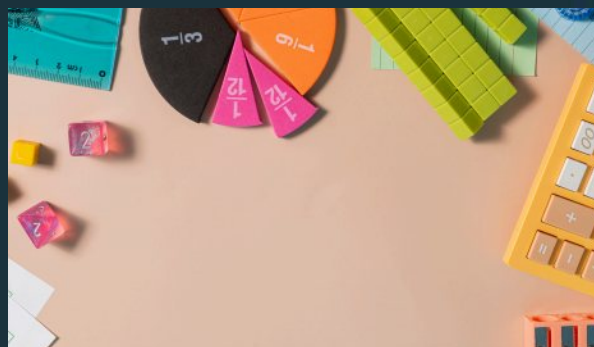


Z-order curve

THEME

COMMENCEMENT

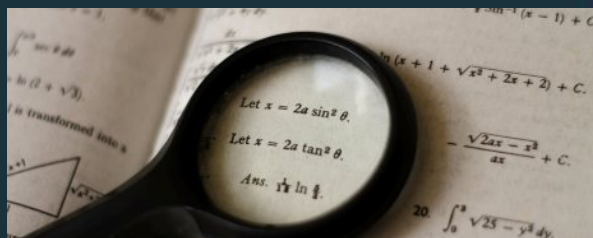
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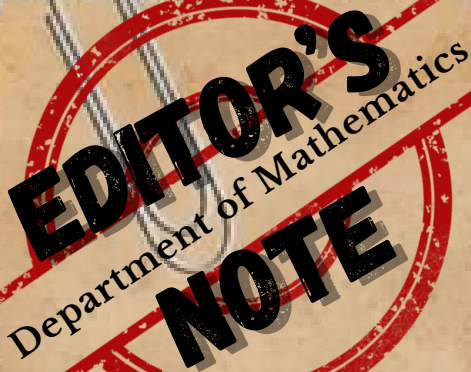


Visit

[HTTPS://RDWU.AC.IN/ACADEMICDEPARTMENTOFMATHEMATICS.ASPX?DEPT=MATHEMATICS](https://rdwu.ac.in/academicdepartmentofmathematics.aspx?dept=mathematics)

ISSUE-4 | 2023-24





**EDITOR'S
NOTE**
Department of Mathematics

"Mathematics is the language in which the universe is written, and through learning, we translate its beauty into success and innovation."

The Department of Mathematics takes immense pride and joy in presenting the 4th volume of our esteemed departmental magazine, "MATHOMANIA," for the academic year 2023-24. This edition continues to showcase the co-curricular, artistic, and innovative achievements of our brilliant mathematics scholars. The magazine plays a pivotal role in revealing the hidden talents of our students and faculty, who have invested their creativity and dedication into every page.

As you journey through the explorations within, we hope you cherish the work and passion that has gone into making this edition truly special.

FROM THE COORDINATOR'S DESK

Dear Readers,

As we embark on another academic year, I am delighted to present to you the 4th issue of our departmental magazine, "MATHOMANIA," for 2023-24. This edition reflects the vibrant spirit of our department, capturing the myriad of activities, student achievements, and the innovative endeavors that define our community.



The growth and success of our department are driven by the dedication of both our faculty and students. Their tireless efforts and passion are evident in every page of this magazine. I would like to express my sincere gratitude to everyone who has contributed, especially the editorial team, for their commitment to excellence in bringing this edition to life.

Let this issue be a testament to our collective pursuit of knowledge and creativity, as we continue to strive for greater heights.

Dr. Chhabi Rani Panigrahi
Coordinator, Mathematics

Messages...

FROM THE PEN OF THE VICE CHANCELLOR

I am pleased to note that the Department of Mathematics is publishing the 4th issue of its magazine, "MATHOMANIA 2023-24." This edition not only showcases the department's achievements and activities but also serves as an inspiration for future batches to actively engage in both departmental and extracurricular pursuits. I extend my best wishes for the continued success of "MATHOMANIA."



Prof. Aparajita Chowdhury
Hon'ble VC, RDWU

FROM THE DESK OF THE CHAIRPERSON, P.G. COUNCIL



It gives me great satisfaction to see the Department of Mathematics releasing its 4th volume of "MATHOMANIA." The name "MATHOMANIA" represents the relentless pursuit of mathematical knowledge, solutions, and innovation. I am confident that this endeavor will propel the department to greater heights. I congratulate the students, staff, and coordinator for their dedication to this initiative.

I wish "MATHOMANIA" continued success and look forward to its future milestones in the world of mathematics.

Prof. Chandi Charan Rath
C.P.G.C., RDWU

MATHMAGICIANS

SINE OF THE TIMES



DR. CHHABI RANI PANIGRAHI



DR. SWORUP KUMAR DAS



DR. RASHMI MISHRA



MS. SIBANI SATAPATHY

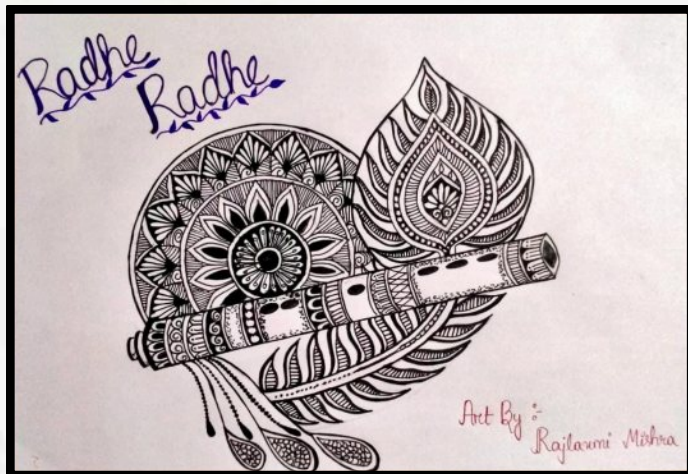


MS. SUBHALAXMI P. SAHOO



MR. RAJENDRA GIRI

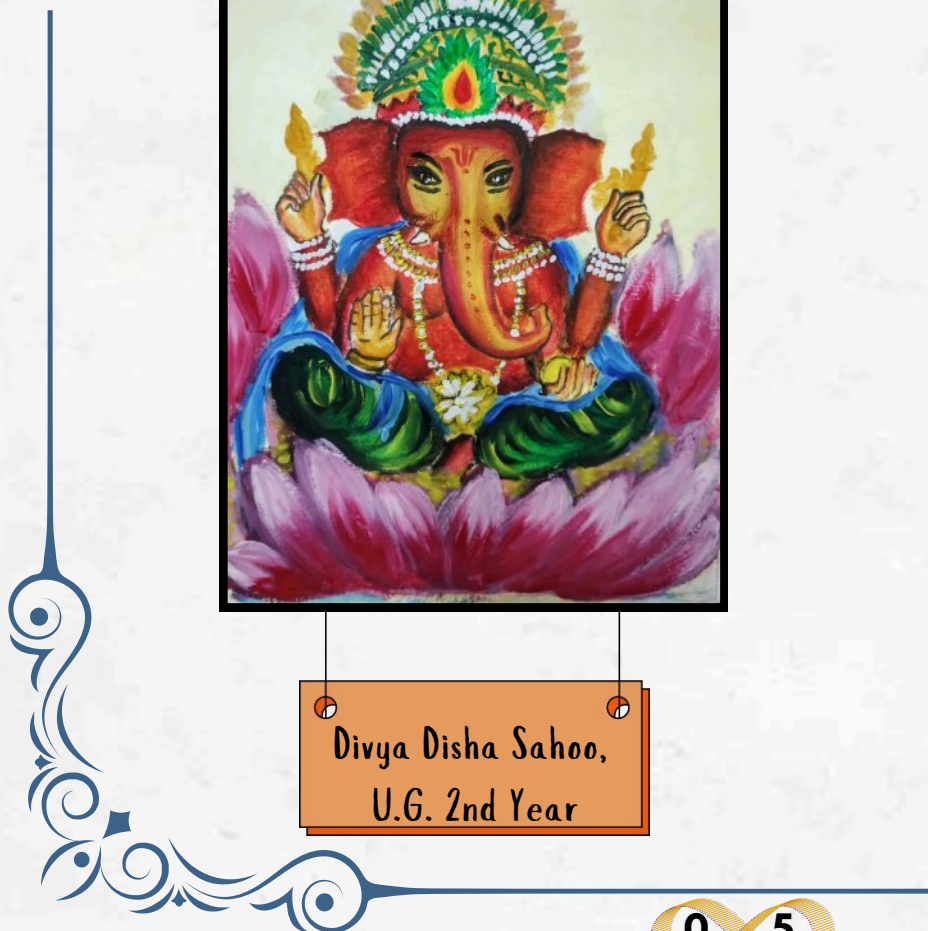
Pen-O-Strokes



Rajlaxmi Mishra,
U.G. 2nd Year



Divya Disha Sahoo,
U.G. 2nd Year





Pen-O-Stroke

The math of music: uncovering the harmonies of universe

Music is often considered an art form, but beneath its melodic surface lies a foundation of mathematical principles. From the rhythm of a drum beat to the harmony of a symphony, math governs the structure and beauty of music.

Mathematical patterns like Fibonacci sequences and symmetry appear in music, creating complex rhythms and time signatures. Musicians use math to craft unique patterns, like the 3:2 polyrhythm in African music or the intricate cycles of Indian classical music.

Frequency, a mathematical concept, relates to pitch, with harmonics and overtones creating an instrument's distinct timbre. The mathematical ratio of harmonics produces the perfect fifth, a fundamental interval in music.

Geometry shapes like circles and spheres relate to sound waves and music. Musicians use partial reasoning to create immersive soundscapes, like the 3D audio of modern music production.

Composers like Bach, Mozart, and Steve Reich have used mathematical concepts in their work. Math can generate new musical ideas and patterns, like the algorithmic compositions of modern electronic music.

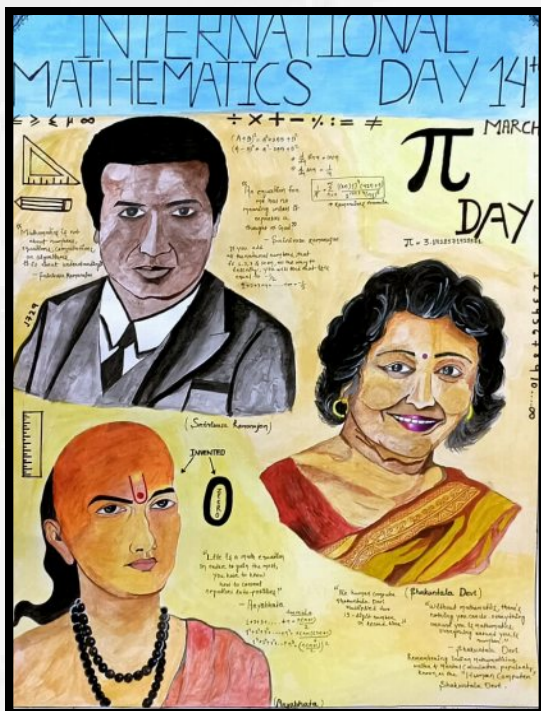
Math is the underlying language of music, governing its rhythm, harmony and structure. By exploring the math of music, we can deepen our appreciation for the beauty and complexity of this universal language.

~ Madhusmita Mallick, U.G. 1st Year

Pen-O-Strokes



Sneha Tirkey,
U.G. 2nd Year



Subhasmita Majhi,
U.G. 2nd Year





Pen-O-Strokes

The Beauty of Unseen Treasure

Every past holds a precious memory to treasure.

But not every treasure is what you want or turns out as you expected it to be- Sometimes it's a treasure of pain, suffering, your battles, your survival.

Every past holds a treasure to share, Memories precious, beyond compare. But not every treasure is gold, Sometimes it's a story yet untold.

A treasure of pain, of suffering and strife, Battles fought, and survival's life. Though scars remain, and wounds may ache, These treasures shape us, for our own sake.

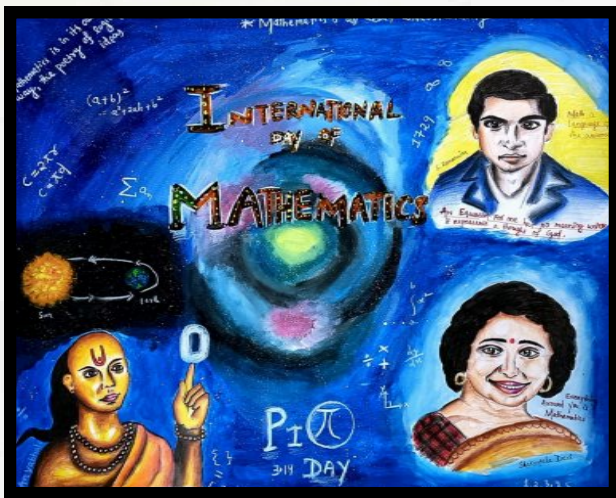
In darkness, strength is forged, like steel, And resilience is revealed, and made real. So let us embrace our treasures rare, And find the beauty in the scars we bear.

~ Sneha Tirkey, U.G. 2nd Year



Stuti Mohanty,
U.G. 2nd Year

Pen-O-Strokes



Divya Disha Sahoo,
U.G. 2nd Year



Prajnanee Dethi,
U.G. 2nd Year





Pen-O-Strokes

Brainvita

Brainvita, also known as Peg Solitaire, is a classic single-player board game that can be analyzed using mathematics, particularly combinatorics and graph theory. The game is played on a board with holes where pegs are placed, and the objective is to remove pegs by jumping one over another, ultimately leaving just one peg.

Mathematically, the game can be represented using graph theory. Each peg position can be considered a vertex in a graph, and each legal move (jumping one peg over another into an empty space) can be viewed as an edge connecting two vertices. The challenge then becomes finding a sequence of moves that results in a specific vertex (the last remaining peg) being left.

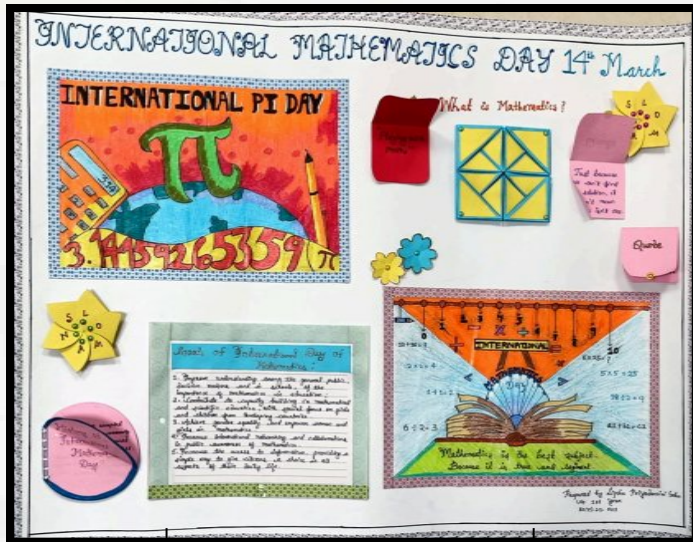
From a combinatorial perspective, the problem involves exploring possible sequences of moves, which can be enormous depending on the board configuration. Algorithms and heuristics, like backtracking and depth-first search, are used to explore these sequences efficiently.

The game's complexity is often analyzed by studying the number of possible moves and the resulting game states, providing insights into strategies and solving techniques. This mathematical approach helps in devising optimal strategies and understanding the inherent structure of the game.

~ Archana Kujur, U.G. 2nd Year



Pen-O-Strokes



Lipsa Priyadarshini Sahu,
U.G. 1st Year



Subhasmita Majhi
U.G. 2nd Year



Pen-O-Stroke

Importance of math in our daily life

**MATHS, MATHS all around,
Everywhere they can be found.**

**Numbers tell how old I am,
And how many people in my fam...**

**How much I weight and just how tall,
Where I live and that's not all!**

**MATHS are a part of me,
Money, time and history.**

**When to wake up and when to eat,
What size shoes to buy for my feet.**

**How much money something costs,
A number to call if my dog got lost.**

**I don't know where I, would be,
If MATH weren't a part of me!**

Ipsa Rani Sahoo, U.G. 1st Year

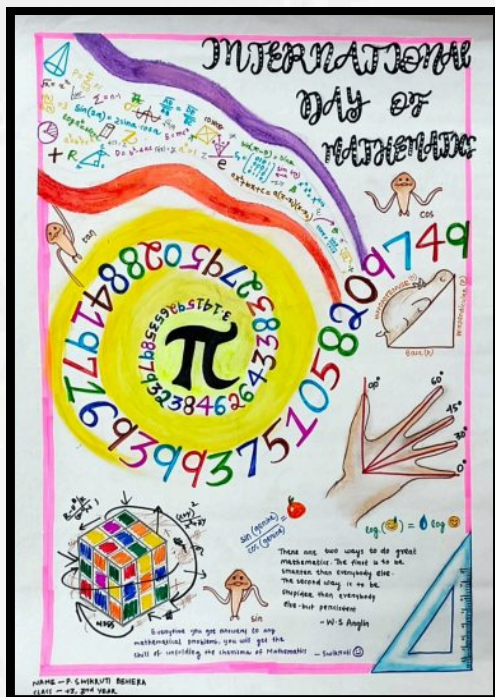


Saumya Sarita,
U.G. 2nd Year

Pen-O-Strokes



Divya Disha Sahoo,
U.G. 2nd Year



P. Swikruti Behera,
U.G. 3rd Year



Pen-O-Strokes

Ganaka-Chakra- Chudmani BrahmaGupta

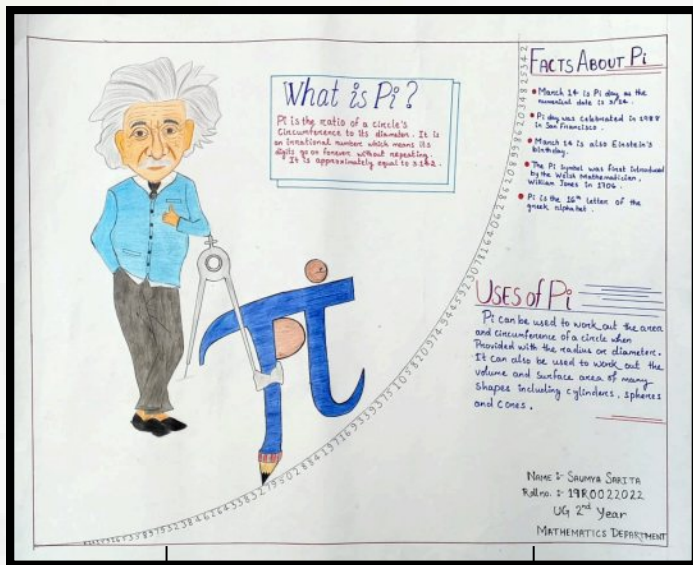
Brahmagupta (598-668 CE) was a renowned Indian mathematician and astronomer who lived in Bhinmal, Rajasthan. As director of the Ujjain astronomical observatory, he made significant contributions to algebra, arithmetic, geometry, and trigonometry. His two notable works are the theoretical 'Brahmasphutasiddhanta' and the practical guide 'Khandakhadyaka'. The former introduced rules for working with zero and negative integers, making it a groundbreaking text in mathematics.

Brahmagupta's contributions to mathematics were groundbreaking, including the introduction of zero to the number system, which revolutionized algebra and science. He also developed the Brahmagupta formula for cyclic quadrilaterals, still widely used today, and defined the properties of zero, a crucial development for mathematics. Additionally, he derived important trigonometric formulas for sine and cosine, calculated Pi's value as approximately 3.162, and presented mathematical theories, including the Pythagorean theorem, in his book Brahmasphutasiddhanta, written in poetic form. These contributions have had a profound impact on mathematics and science, cementing Brahmagupta's legacy as a pioneering mathematician.

Brahmagupta's work also explored the nature of the Earth and cosmos, correctly proposing that they are spherical in shape. He was the first to use mathematics to predict planetary and eclipse positions, a significant scientific breakthrough at the time. Brahmagupta also offered insightful explanations for natural phenomena, stating that objects fall towards the Earth due to its inherent attraction, just as water flows naturally. His contributions earned him the esteemed title "Ganak-Chakra-Chudamani," meaning "The Gem of the Circle of Mathematicians," bestowed upon him by fellow mathematician Bhaskar II, in recognition of his pioneering achievements in mathematics.

~ Priyanka Behera, U.G. 2nd Year

Pen-O-Strokes



Saumya Sarita,
U.G. 2nd Year



Subhashree Mantry,
U.G. 2nd Year





Pen-O-Strokes

Mathematics, The Greatert Blessing

*Numbers, equations and logic 60 sound,
Mathematics is a treasure that's truly profound
From basic addition to calculus and more,
It's a subject that never becomes a bore.*

*The beauty of math lies in its precision.
Its ability to solve problems with decision.
Its a language of its own, with symbols and signs,
That helps us to see the world with clearer lines.*

*Geometry teaches us shapes and their relations, Trigonometry helps us find
angles and their formations. Algebra lets us solve equations with ease,
Calculus helps us understand motion and degrees.*

*With math, we can measure, predict, and create,
It's the foundation of science engineering and trade.*

*From building bridges to sending rockets to space, Mathematics is essential
to progress at any pace.*

*9+ teaches en discipline, patience and more,
To think logically, and to never ignore,
The possibilities that numbers can hold,
And the wonders that can unfold.*

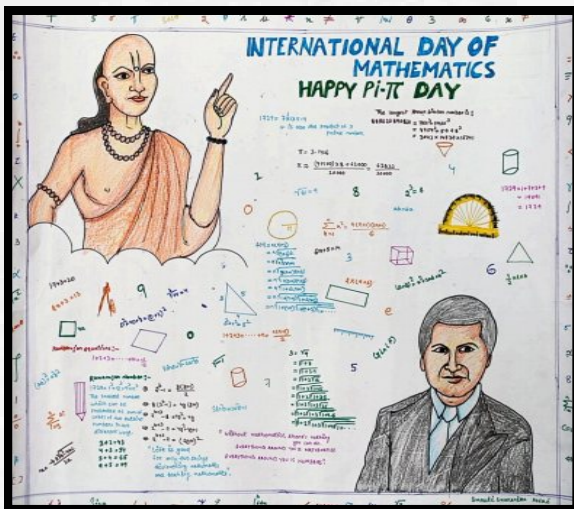
*so let us embrace math with open arms,
And unlock the mysteries with its charms.
For in this subject lies a world of wonders,
And a universe of possibilities to ponder.*

~ Anukampa Samal, U.G. 3rd Year

Pen-O-Strokes



Sneha Tirkey,
U.G. 2nd Year



Smruti Smaranika Palai
U.G. 3rd Year



Pen-O-Strokes

My Second Home

***It's one in a million;
It feels like home
Perhaps blessing or boon
A dark night's moon.***

***Joyous as Summer's eve,
Cozy as winter's warm
It's a beam of hope
And has an exceptional charm.***

***Interest forms the floor,
Four walls are built by learning
Love and faith brings colour
Wisdom maxes ceiling.***

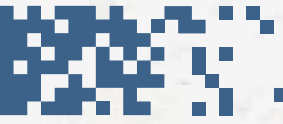
***An invisible bond binds us
What a bliss to be a part of it,
It is the most near and dear
Our department of mathematics.***

~ Banshuree Padhi, U.G. 1st Year



Sipra Sibani Parida

Pen-O-Strokes



Sneha Tirkey,
U.G. 2nd Year



Saumya Sarita,
U.G. 2nd Year





Pen-0-Strokes

Symphony of Numbers

*In the land of endless lines,
Where infinity quietly dwells,
Numbers dance in silent rhymes,
In patterns where beauty swells.*

*Prime whispers in the night,
With secrets only they know,
Each a solitary light,
In the vastness, they glow.*

*Circles chase their tails around,
In pi's eternal spin,
Unseen yet always found,
In every curve and grin.*

*The fractals stretch and sway,
In a never-ending dance,
Repeating day by day,
In a mesmerizing trance.*

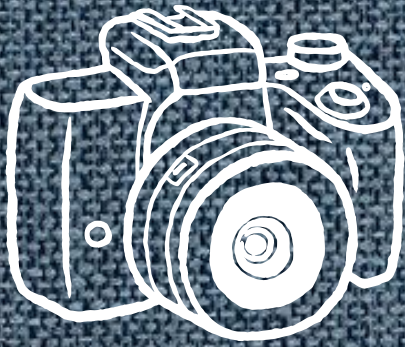
*Equations speak in tongues,
Of truths both deep and pure,
From where the universe sprung,
In numbers, we find the cure.*

*So let us toast to math,
To the logic and the art,
For in its humble path,
Lies the language of the heart.*

~ Saumya Sarita, U.G. 2nd Year



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Teachers Day



Freshers Celebration (Batch 2023)



Bhubaneswar, Odisha, India
7RVR+2M4, Bhoinagar, Bhubaneswar, Odisha 751022, India
Lat 20.292261°

National Mathematics Day Celebration



Bhubaneswar, Odisha, India
7RVR+2M4, Bhoinagar, Bhubaneswar, Odisha 751022, India
Lat 20.292183°

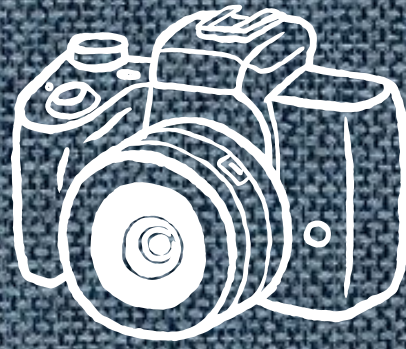
Alumni Meet



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Annual Seminar



Preparation for Pi Day



Pi-Day Celebration with Prof. D.K. Nayak Sir



Farewell Celebration (Batch 2021)

1

ସ୍ନାତକୋତ୍ତର ଓ ବି.ଏଡ଼ ଫଳ ପ୍ରକାଶିତ

ଭୁବନେଶ୍ୱର, ୩୦।୬ (ଭୁ.ପ୍ର): ରମାଦେବୀ ମହିଳା ବିଶ୍ୱବିଦ୍ୟାଳୟର ସ୍ନାତକ, ସ୍ନାତକୋତ୍ତର ଏବଂ ବିଏଡ଼ ପରୀକ୍ଷା ଫଳ ଶୁଭ୍ୱାର ପ୍ରକାଶ ପାଇଛି । ବିଶ୍ୱବିଦ୍ୟାଳୟ ଶ୍ରେଣୀର rdwu.ac.inରେ ପରୀକ୍ଷା ଫଳ ଉପଲବ୍ଧ ହୋଇଛି । ଏଥର ସ୍ନାତକରେ ୬୬୫୦ ପରୀକ୍ଷାର୍ଥୀଙ୍କ ମଧ୍ୟରୁ ୬୦୭୭ ଜଣ କୃତକାର୍ଯ୍ୟ ହୋଇଛନ୍ତି । ମୋଟ ଉତ୍ତୀର୍ଣ୍ଣ ହାର ୯୧.୪% ରହିଛି ।



ଚୂଡ଼ା ସମ୍ମାନ (ଅନର୍ସ)ରେ କମଳା ନେହେରୁ କଲେଜର ଦରକ୍ଷଣ ପଠିତ୍ରି ଶ୍ରେଷ୍ଠ ସ୍ନାନ ହାସଲ କରିଛନ୍ତି । ସେହିପରି ଅର୍ଥନୀତିରେ ରମାଦେବୀ ବିଶ୍ୱବିଦ୍ୟାଳୟର ପୁତ୍ରାପତି ଓଡ଼ିଆ ଶିକ୍ଷାରେ ଜପରୁଦ୍ଧ କଲେଜର ପ୍ରଫୁଲ୍ଲା ଚାନ୍ଦ, କଂଗ୍ରେସରେ ଭବିରା ଗାନ୍ଧୀ ମହିଳା କଲେଜର ଫୌଜିୟା ତାରାମନମ, ହିନ୍ଦୀରେ ରମାଦେବୀ ବିଶ୍ୱବିଦ୍ୟାଳୟର ପ୍ରତ୍ୟକ୍ଷା ମିଶ୍ର, ଇତିହାସରେ

କଳାରେ ୯୦.୭%, ବିଜ୍ଞାନରେ ୯୬.୩% ଓ ବାଣିଜ୍ୟରେ ୮୩.୩% ଛାତ୍ରୀ ଉତ୍ତୀର୍ଣ୍ଣ ହୋଇଛନ୍ତି । ସେହିପରି ସ୍ନାତକୋତ୍ତର ପରୀକ୍ଷାରେ କଳାରେ ୯୦.୭%, ବିଜ୍ଞାନରେ ୯୨% ଏବଂ ବାଣିଜ୍ୟରେ ୮୩.୩% ଛାତ୍ରୀ ଏବଂ ଦୁଇବର୍ଷିଆ ବିଏଡ଼

ବିଶ୍ୱବିଦ୍ୟାଳୟ ଛାତ୍ରୀ ଶ୍ରେଣୀ ସ୍ମୃତି ଦାସ, ଗୃହ ବିଜ୍ଞାନରେ କମଳା ନେହେରୁ କଲେଜର ପୁଷ୍ପା ବୈଭବୀ ଜେନା, ପାଠାଗାର ଏବଂ ସୂଚନା ବିଜ୍ଞାନରେ ବାଲିକୁଦା ମହିଳା କଲେଜର ପ୍ରିୟାମିତା ରାଉଳ, ଗଣିତରେ ବିଶ୍ୱବିଦ୍ୟାଳୟ ଛାତ୍ରୀ ଶୁଭଲକ୍ଷ୍ମୀ ସାହୁ, ଓଡ଼ିଆରେ ଶୋକା ମହିଳା କଲେଜର ବିଷ୍ଣୁପ୍ରକା ରାଉତରାୟ, ଫିଲୋସଫିରେ କମଳା ନେହେରୁ କଲେଜର ଦାସିନି ଗଡ଼ନାୟକ, ରାଜନୀତି ବିଜ୍ଞାନରେ ଭବିରା ଗାନ୍ଧୀ ମହିଳା କଲେଜର ସୋନାଲିକା ବେହେରା, ମନୋବିଜ୍ଞାନରେ ବିଶ୍ୱବିଦ୍ୟାଳୟ ଛାତ୍ରୀ ଅନୁତା ସ୍ମିତପ୍ରସା। ପହି, ସଂସ୍କୃତରେ ଆଠଗଡ଼ସିତ ଗୋପବନ୍ଧୁ ପଣ୍ଡା, ଉତ୍ତରୀୟ ପାଠ୍ୟଶାଳା ଦେବୀ, ଗୋପ ବିଆନରେ

- +୩ରେ ଉତ୍ତୀର୍ଣ୍ଣ ହାର ୯୧.୪%
- ସ୍ୱାହାସାଇନା ଶ୍ରେଷ୍ଠ ସ୍ନାତକ



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1. University Topper
 2. Best Graduate
 3. MMC 2024

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- 4. Victors in various competitions, 9th Basant Utsav
 - 5. Odia Bhasa Sammilani 2024
 - 6. Presenting Ideas, Inspiring Minds, Student Seminar



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