GANITAYANA

ANNUAL MAGAZINE
2022-2023

VOLUME-1

DEPARTMENT OF MATHEMATICS

BJB AUTONOMOUS COLLEGE, BHUBANESWAR

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MESSAGES

I am glad to know the Department of Mathematics of B.J.B (A) College, Bhubaneswar is going to bring out its Annual Magazine "GANITAYANA" which contains valuable Inputs of faculty members and students as well.

The Department of Mathematics has remained as one of the premier departments of the College, producing brilliant scholars who have assumed coveted positions at State, National and International levels. This Department conducts its curricular and co-curricular activities with utmost sincerity. The faculty members are dedicated and students are disciplined. I am sure, in days to come this department will scale new height and shall bring more glories to this prestigious institution.

I wish the faculty members and students of the department of Mathematics all success.

PRINCIPAL B.J.B (A) COLLEGE

PROF. DR. G. M. KHAN

I am delighted to extend my heartfelt congratulations to each and every member of the Mathematics Department of BJB Autonomous College on the extraordinary launch of your brand new magazine "GANITAYANA"! This remarkable achievement showcases your unwavering dedication, passion, and profound knowledge in the field of mathematics.

Your magazine stands as a testament to the endless possibilities and beauty that lies within the realm of mathematics. It is a true testament to your commitment to fostering a deep understanding and appreciation for this fascinating discipline. By showcasing the captivating aspects of mathematics through your magazine, you are undoubtedly igniting a sense of wonder and curiosity in the minds of your readers.

I applaud the Mathematics Department for its relentless pursuit of academic excellence and for fostering a stimulating environment that nurtures intellectual growth and creativity. The launch of this magazine is a testament to your commitment to promoting mathematical literacy and inspiring future generations to explore the wonders of mathematics.

VICE PRINCIPAL

DR. MADHUBRATA SATPATHY

FROM HODS DESK

It is a great pleasure on my part to welcome the young creative minds of our department for their attempt to enhance creativity by beginning the publication of the annual departmental magazine "GANITAYANA" which includes activities of the department throughout the whole year.

Department welcomes young aspirants to shape their career by developing strong analytical skills to compete for post graduate studies in leading Indian and International Universities for diversified careers in research. The highly motivated qualified and experienced faculty and the ambitious amenable and craving students work together to build interdisciplinary knowledge in emerging trends of application of Mathematics.

The department has recorded consistent improvement in its academic performance. I would like to sincerely thank my department faculties for their dedication and hard work. Introduction of PG courses from this academic session 2023-24 is also a challenge before us. We are prepared to face the challenge unitedly. We also look forward to have intelligent, sincere and hardworking young brilliant students as a part of our system and hope that you will shine in the galaxy of our winners and achievers.

I wish the magazine GANITAYANA all success.

HOD MATHEMATICS

DR. NANDITA TRIPATHY

It is of immense pleasure that our Mathematics Department is publishing first edition of our Mathematics Magazine 'GANITAYANA'. This year the magazine has been designed and conceptualised by the students. Our aim is to encourage creativity of thought among students so that they may learn and grow in every aspect. In this publication, we offer a wide variety of articles which are contributions by the current students. The edition of magazine "GANITAYANA' also provides a glimpse of the activities that have happened in this academic year. These include workshops, Seminars, Talks, Study Tour, International Mathematics Day celebration with various other activities of the department.

I convey a word of thanks to Dr. Nandita Tripathy, Head of the Department and Sri Smruti Ranjan Sahoo, Asst. Professor of Mathematics for the publication of the magazine. Our Students have been very forthcoming and that has enabled us to work as a team, and I extend my sincere thanks to them.

My best wishes to all.

DR. MANASA KUMAR BHUYAN

I congratulate the Department of Mathematics, B. J. B. Autonomous College, for the publication of its maiden magazine GANITAYANA, which I believe will ignite a deep interest in mathematics in every readers mind. Mathematics is the only science that activates the most parts of the brain that results in thinking about the universe in a more scientific way.

When the world was not even civilised, Indian mathematicians were able to develop many important sutras that are used in modern days in astronomy, space science, and many others. But the sad part is that, with time, many of our inventions have been destroyed and stolen. We need to bring back that golden era of mathematics and the burden comes to the shoulders of every mathematician and young mathematician becomes the anchor. In the process of bringing back the heritage, magazines like GANITAYANA will play a huge role. I hope Lord Jagannath will shower all his precious blessing to every reader.

Jay Hind.

PRIT PRITAM PAIKRAY

It is a great pleasure that I address as a member of the MATHEMATICS DEPARTMENT, BJB (A) COLLEGE, sharing my passion for this timeless discipline and its ever-evolving significance in today's world. Mathematics is not just a subject confined to the classrooms; it permeates every aspect of our lives, from the patterns in nature to the algorithms that power our digital age.
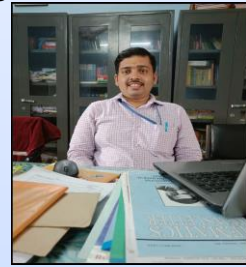
It's the first magazine of the department. We are thrilled to present the inaugural issue of"GANITAYANA", the official magazine of the department. As a member of our esteemed alumni community, cordially invite you to be an integral part of this exciting endeavour and help us to shape the future success of this magazine. Your valuable insights, expertise, and stories will not only inspire the current generation of students but also foster a sense of connection and pride among our entire alumni network.

Our goal is to inspire and empower students to embrace mathematics, nurturing their curiosity and developing their mathematical thinking abilities.

It is my hope that this message serves as a catalyst for your own mathematical journey.

SMRUTI RANJAN SAHOO

BJB Autonomous College
Teacher's Day celebration

PARENTS TEACHER MEETING
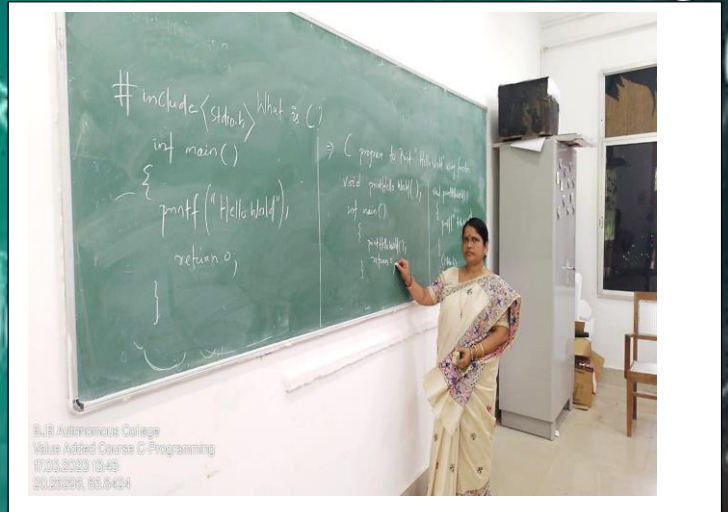

PLEDGE TAKEN

PRAYERS FOR MARTYRS

MATHEMATICS LABORATORY

-

JMO-SMO-2022 CONDUCTED IN BJB
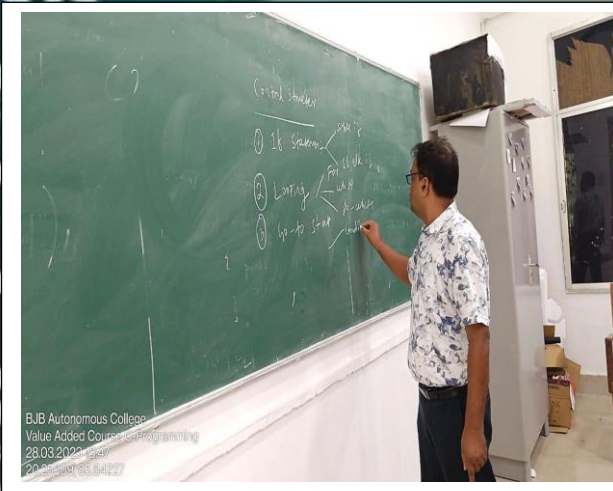
Math Dept. BJB (A) College
Value added course - C Programming
01.03.2023
20.25299, 85.84224
7R3R+6X2, Lewis Rd, BJB Nagar, Bhubaneswar, Odisha
751014

BJB Autonomous College
Value Added Course C-Programming
17.03.2023 13:45
20.25299, 85.8424

THE DEPARTMENT PROVIDES

VALUE ADDED COURSE 'C PROGRAMMING'

BJB Autonomous College
Value Added Course C-Programming
28.03.2023
20.25299, 85.84227

BJB Autonomous College
Value Added Course C-Programming
03.04.2023 13:43
20.25299, 85.84217
7R3R+6X2, Lewis Rd, BJB Nagar, Bhubaneswar, Odisha
751014

+3 FINAL YEAR STUDENTS

SEMINARS ORGANISED IN THE DEPARTMENT

A TALK BY PROF. GOKULANANDA DAS SIR – "EVERYTHING OUT OF NOTHING"

A TALK BY PROF. SWADHIN PATTANAYAK SIR –

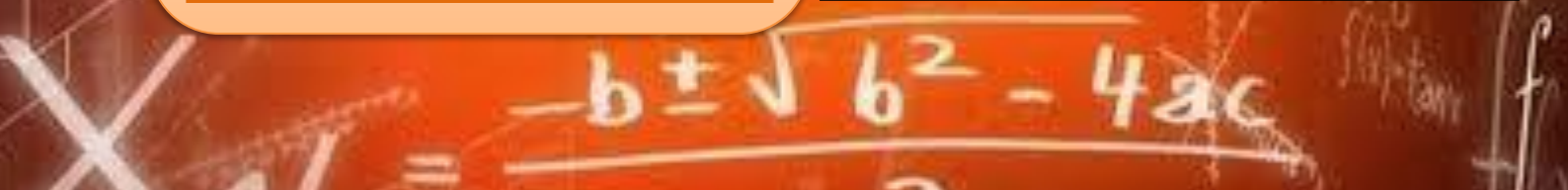'ORIGIN OF MATHEMATICS'

ANNUAL SEMINAR-2023

A TALK BY PROF. S. PADHY SIR ON

"MATHEMATICS OF SECURITY ISSUES IN E-COMMUNICATION"

AWARENESS CAMP ON MADHAVA
MATHEMATICS COMPETITION

BY

DR. BINOD KUMAR SAHOO (NISER)
DR. SUDHIR PUJAHARI (NISER),
DR. AKASH ASHIRBAD PANDA (IIT BBSR)

TEACHER'S DAY CELEBRATION

FRESHER'S PARTY -"ALOHA NOVATO"

FAREWELL PARTY –"AU REVOIR"

STUDENTS PARTICIPATED IN AZADI KA AMRIT MAHOTSAV

TALK BY PROF P.K.SATPATHY SIR

SEMINAR TALK BY PROF. B.P.ACHARYA SIR

CELEBRATION OF

NATIONAL MATHEMATICS DAY ON 22ND DECEMBER, 2023

&

INTERNATIONAL MATHEMATICS DAY ON 14TH MARCH, 2023

STUDY TOUR OF DEPARTMENT OF MATHEMATICS

WORKSHOP ON AI & ML

MINI MTTS, 2023

ATTENDED SUMMER CAMP – MTTS 2022

BISWAS & PREETI PARICIPATED IN SUMMER CAMP

PABITRA SAHU, +3 FINAL YEAR REPRESENTED NATIONAL WHEELCHAIR FENCING AND RECEIVED GOLD MEDAL

SIBA PRASAD HANSDAH, +3 2ND YR PLAYED INTER COLLEGE RUGBY AND BJB CLG WAS RUNNERS UP.

- THREE STUDENTS RAJENDRA MALLICK, CHANDRIKA SARAKA & PREETI PALLAVI QUALIFIED JAM-2023
- PADDA KEERTI OF 2019 ADMISSION BATCH WAS TOPPER OF THE DEPARTMENT.
- SUBRAT PARIDA- PONDICHERRY UNIVERSITY, ASIM MOHANTY-DELHI UNIVERSITY, SHRUTI CHOUDHURY – BANARAS HINDU UNIVERSITY, SHIWANGI – DELHI UNIVERSITY HAVE JOINED FOR HIGHER STUDIES IN MATHEMATICS.
- SIBA PRASAD HANSDAH, +3 2ND YR SECURED 3RD IN HIGH JUMP IN ANNUAL SPORTS.
- AYUSH GUPTA, 1ST YR SECURED 2ND POSITION IN INTER COLLEGE CHESS COMPETITION.
- SUBHASHREE JASMINE SECURED 2ND POSITION IN DISCUSS THROW, ANUUAL SPORTS.
- SIBA PRASAD HANSDAH, +3 2ND YR SECURED 3RD POSITION 4x400 RELAY.

WHY WE CALL MATHEMATICS MOTHER OF SCIENCE?

Math is all around us, in everything we do. It is building block for everything in our daily lives, including mobile devices, architecture (ancient and modern), art, money, engineering and even sports.

Since the beginning of all recorded history, Mathematics discovery has been at the forefront of every civilized society, and in use in even the most primitive cultures. The needs of math arose based on the wants of society. The more complex society, the more complex the mathematical needs. Primitive tribe needs little more than the ability to count, but also relied on math to calculate the position of the sun and the physics of hunting.

Mathematics as a subject is the foundation of other subjects of study which has its tentacles in the beginning and the conclusion of these subjects. "Mathematicians are the best of mankind".

The philosopher cannot survive without Logic; Architects and Builders cannot survive without Geometry; Computer Engineering designs rely on Probability and Statistics; the Accountants rely on statistics, addition and substraction; Law Enforcement and Behavioral Sciences rely on Geometry; the Services industry depends on Queing Theory.

That's why we all have to accept that Mathematics is the mother of all Sciences.

BISWAS MOHANTY (+3,3RD YEAR)

NO ONE'S WATCHING

She was racing
Through a sunflower field,
Holding her summer dress in both hands
glancing back with the wind
Playing cupid between her brilliant face
And her natural curls.
She pauses to recover her breath
Before continuing on with the same smile
Till she eventually sits down
Giggles, tucks her hair back on both sides.
And lets the sun flirt with face
Kissing the sunflower and whispering
Because no one is watching.

PREETI PALLAVI (+3,3RD YEAR)

OL CHIKI

SUMAN HANSDAH

BSc. Third Year

(Mathematics)

ᱚᱞ ᱪᱤᱠᱤ ᱦᱚᱬ /usəra ɔl/

ᱚ A	ᱛ At	ᱜ Ag	ᱝ Ang	ᱞ Al
ᱟ Aa	ᱠ Aak	ᱡ Aaj	ᱢ Aam	ᱣ Aaw
ᱤ I	ᱥ Is	ᱦ Ih	ᱧ Iny	ᱨ Ir
ᱩ U	ᱪ Uch	ᱫ Ud	ᱬ Unn	ᱭ Uy
ᱮ E	ᱯ Ep	ᱰ Edd	ᱱ En	ᱲ Err
ᱳ O	ᱴ Ott	ᱵ Ob	ᱶ Ov	ᱷ Oh
ᱜᱟ Ag+ Ahad	ᱡᱟ Aaj+Ahad	ᱫᱟ Ud+Ahad	ᱦᱟ Ih+Ahad	ᱵᱟ Ob+Ahad

ᱚ la a [ə]	O at t [t]	ᱜ ag g [k'/g]	ᱝ ang ṃ [ŋ]	ᱞ al l [l]	ᱟ laa ā [a]	ᱠ aak k [k]	ᱡ aaj j [c'/j]
ᱢ aam m [m]	ᱣ aaw w [w/v]	li i [i]	ᱥ is s [s]	ᱦ ih ḥ [ʔ/h]	ᱧ iny ñ [n]	ᱨ ir r [r]	ᱩ lu u [u]
ᱪ uch c [c]	ᱫ ud d [t'/d]	ᱬ unn ṇ [ɳ]	ᱭ uy y [j]	ᱮ le e [e]	ᱯ ep p [p]	ᱰ edd ḍ [ɖ]	ᱱ en n [n]
ᱲ err ṛ [ṭ]	ᱳ lo o [o]	ᱴ ott ṭ [ṭ]	ᱵ ob b [p'/b]	ᱶ ov ṅ [w̃]	ᱷ oh h [ʰ]		

Other letters

ᱜᱷ gh [gʰ]	ᱪᱷ ch [cʰ]	ᱡᱷ jh [ɟʰ]	ᱴᱷ ṭh [ʈʰ]	ᱫᱷ ḍh [ɖʰ]	ᱛᱷ th [tʰ]	ᱫᱷ dh [dʰ]	ᱯᱷ ph [pʰ]
ᱵᱷ bh [bʰ]	ᱤ~ ī [i:]	ᱩ~ ū [u:]	ᱚ. au [ɔ]	ᱟ. â [ə]	ᱮ. ai [ɛ]	ᱟ: ā [ã]	ᱤ: ī [ĩ]
ᱮ.~ aĩ [ɛ̃]	ᱟ: aũ [ɔ̃]	ᱩ˙ ū [ũ]	: ṅ [n̩]	˙ ṅ [n̩]	. unrounded vowel	~ long vowel [:]	– ejective [']

Punctuation

᱾	᱿
mucād	double mucād
minor break	major break

Numbers

᱐	᱑	᱒	᱓	᱔	᱕	᱖	᱗
	ᱢᱤᱛ' mit'	ᱵᱟᱨ ber	ᱯᱮ pe	ᱯᱳᱱ pon	ᱢᱟᱬᱮ maṇe	ᱳᱵᱟᱨᱮ turui	ᱮᱭᱟᱭ eyāy
0	1	2	3	4	5	6	7

᱘	᱙	᱑᱐	᱒᱐	᱑᱐᱐
ᱤᱨᱟᱩᱞ iraul	ᱟᱨᱮ are	ᱜᱮᱞ gel	ᱤᱥᱤ isi	ᱥᱟᱭ say
8	9	10	20	100

Vowel	Ol Chiki Spelling	Ol Chiki Word	Phonetic spelling	Phonetic Word	Meaning
ə/ɔ/	6+ə+ᴈ+ə	6ə36	g+ɔ+ɽ+ɔ	gɔɽɔ	Help
ᴂ/a/	ᴕ+ə+ᴕ+ᴂ	ᴕəᴕᴂ	b+a+h+a	baha	Flower
ᴢ/i/	ᴢ+ᴖ+ᴢ	ᴢᴖᴢ	i+d+i	idi	Take
ᴐ/u/	ᴐ+ᴐ+ᴘ+ᴢ	ᴐᴐᴘᴢ	k+u+l+i	kuli	Ask
2/e/	ᴣ+ə+ᴨ+2	ᴣəᴨ2	r+ɔ+ʈ+e	rɔʈe	Frog
ᴣ/o/	ᴓ+ᴣ+ᴒ+ᴂ	ᴓᴣᴓᴂ	t+o+w+a	towa	Milk
ə./ɔ/	ᴓ+ᴢ+ᴒ+ə.+ᴑ	ᴓᴢᴓə.ᴑ	t+e+d+ɔ+ɳ	tedɔɳ	By means
ᴂ./ə/	ᴣ+ᴂ.+ᴌ+ᴐ+ᴂ.	ᴣᴂ.ᴌᴐᴂ.	r+ə+s+k+ə	rəskə	Happy
2./ɛ/	ᴗ+ᴢ+ᴇ+ᴓ+2.+ᴑ	ᴗᴢᴇᴓ2ᴑ	m+e+n+t+ɛ+ɳ	mentɛɳ	For sake

ı	Full stop	ᴗᴐᴣᴂ.ᴓ	mucet'
,	Comma	ᴐᴢᴂᴓᴂ	kecet'
;	Semicolon	ᴓᴣᴫᴣᴒ	topak'
?	Question mark	ᴐᴐᴐᴘᴢ	kukli
( )	Parenthesis	ᴒᴂ.ᴣᴐᴕ	heɽup'
" "	Quotation marks	ᴣᴇᴓᴂᴣ	cetet'

Exact Ol Chiki Orthography	Presently used Orthography	Pronunciation	Meaning
ᴇᴒᴣᴂᴐᴕᴂᴇ	ᴇᴣᴂᴐᴕᴂᴇ	nɂankan	Like this or that
ᴇᴒᴣᴂᴓ2	ᴇᴣᴂᴓ2	nɂāde	This side
ᴇᴒᴣᴂ.ᴐᴢᴇ	ᴇᴣᴂ.ᴐᴢᴇ	nɂəkin	These people (dual form)
ᴇᴒᴣᴂ.ᴐᴐ	ᴇᴣᴂ.ᴐᴐ	nɂəku	These people (plural form)

Key Board Mapping for ᴣᴘ ᴣᴢᴐᴢ

Tributes to Santali Poet and Creator of Ol Chiki Script

PANDIT RAGHUNATH MURMU

(05 MAY 1905-01 FEBRUARY 1982)
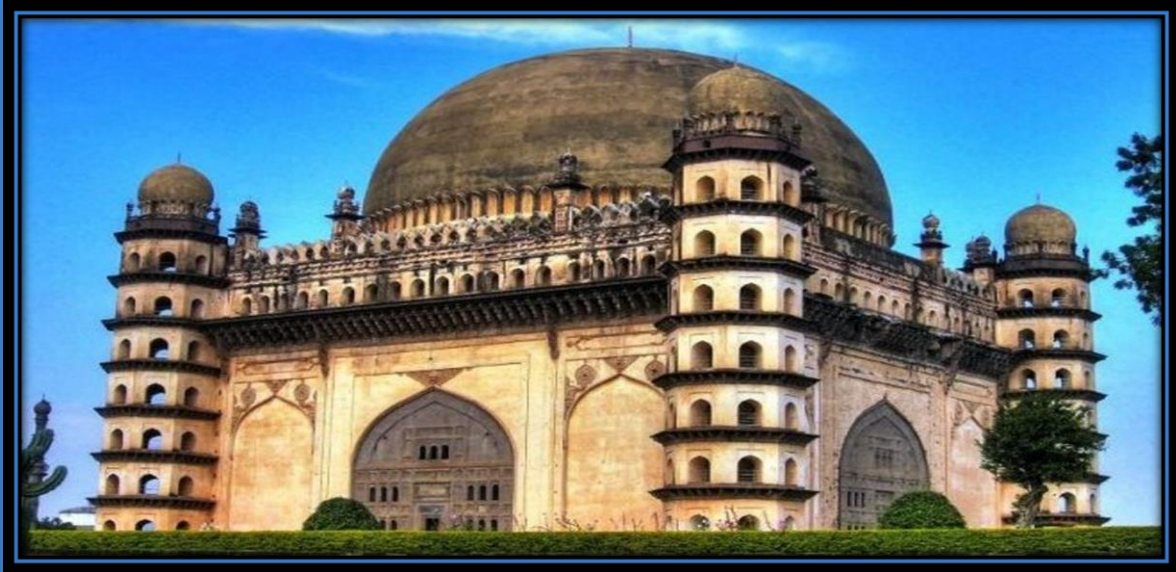
THE
WHISPERING GALLERY

Whispering galleries can involve any conic, but are predominately involving ellipses for the coolest effect. This is because of the reflective properties of an ellipse and its focal points. When sound is produced at one focal point towards any direction, the sound waves travel in that direction.
For every ELLIPSE there are two distinguished points, called the foci, and a fixed positive constant d greater than the distance between the foci, so that from any point of the ellipse, the sum of the distances to the two foci equals d.
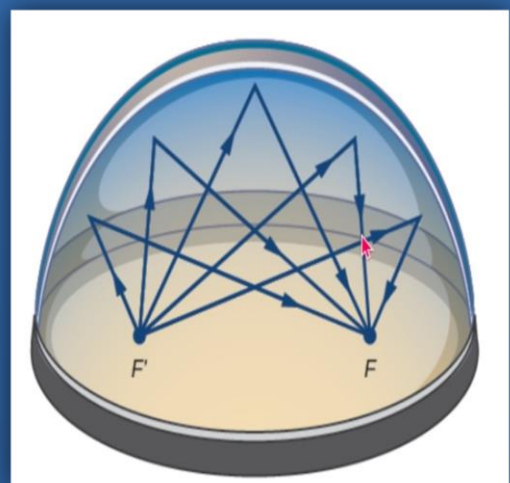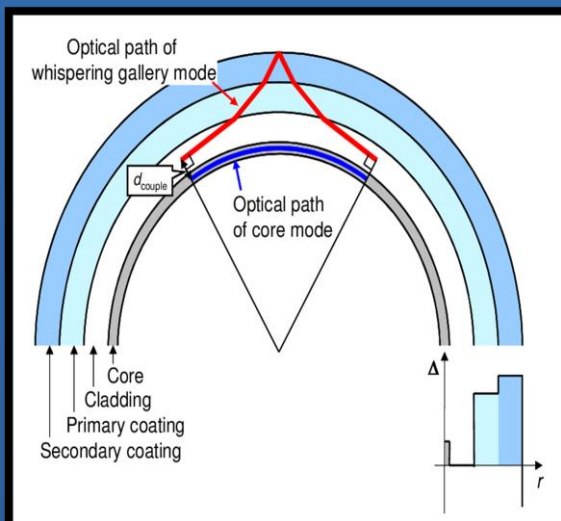
Gol Gumbaz is the most famous monument in Vijayapura. It is the tomb of Mohammed Adil Shah (ruled 1627–1657). It is the second largest dome ever built, next in size only to St Peter's Basilica in Rome. A particular attraction in this monument is the central chamber, where every sound is echoed seven times.

Inside the mausoleum is a circular gallery, right below the tomb, this is known as the whispering gallery, the unique structure is built in such a way that a small whisper gets amplified and is carried across a distance of more than 40 meters in the vast dome and can be heard clearly. Another remarkable feature is that any sound made inside is echoed back 7 to 10 times.

SAGARIKA NANDI (+3,3RD YEAR)

A GRAPHICAL REPRESENTATION OF COVID-19

PAREIDOLIA

Not a very big fan of science but certain things do create a stage of curiousness when you start questioning it and don't get a specific answer so you are bound to do a search up work. You know how we humans tend to see different shapes and figures in clouds and different objects, Yes! You were not the only one and its quite normal. Many people are quite a frequent guest to this feeling and the fact that there is a term to describe it which is "Pareidolia". Pareidolia is a psychological phenomenon involving a stimulus and image or sound which the mind percives as a familiar pattern of something which none actually exists. As hinted before how we see different shapes in clouds or we can even sight the example of seeing the rabbit shape on moon and many more. Now, What exactly happens? Well this as is Pareidolia can cause people to interpret random images or specially patterns of light or shape and shadows as faces.

We actually respond to pattern quickly because if you ever noticed that your brain often follow a certain pattern to see the complete image or even if someone tells you to see something they always follow a certain pattern to inform you. Human brains are quite attuned to perceive faces because obviously I mean give a approx. count to how many times it was something else because shocking fact that ther's an entire region of our brain called fusiform gyrus that is actually dedicated to this.

Another fact that according to research women tend to see faces in more things than men. Why? Because women's greater interest in social information and theire abiility to decode emotions from facial expressions. Also you were not wrong if thought it was one of your creativity when you were child because it is actually true that as children are more creative being so they are quite prone to this than adults.
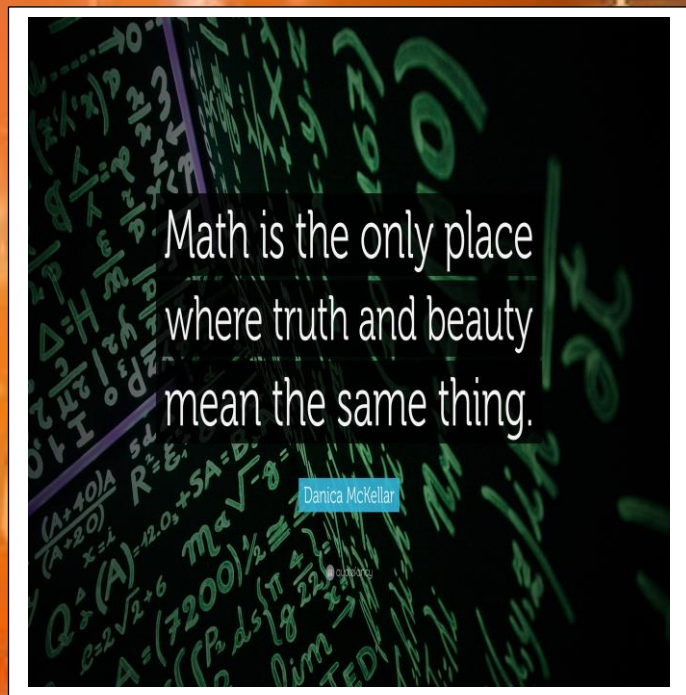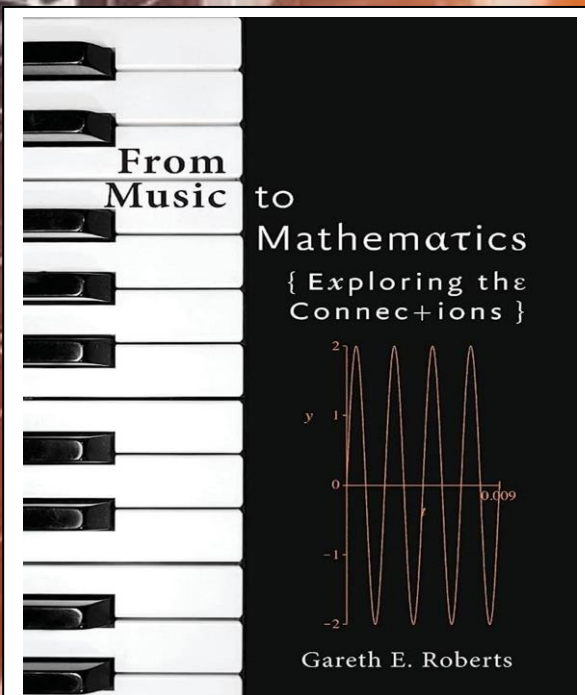
Having Pareidolia doesn't mean something is wrong with you psychologically but rather it's a quite common phenomenon, one that wide spreads across people and culture as far as it is considered meaningful and not vague. Things like this quite make you go wow and knowing that my childhood's so called creativity has actually some scientific reason and is termed something like Pareidolia actually made me go wow. Hope it makes you fee the same too.

PREETI PALLAV I (+3,3RD YEAR)

Scientific Notation: Table of Large Numbers

NUMBER	NAME	NUMBER	NAME
10^1	ten	10^{33}	decillion
10^2	hundred	10^{36}	undecillion
10^3	thousand	10^{39}	duodecillion
10^4	ten thousand	10^{42}	tredecillion
10^5	hundred thousand	10^{45}	quattuordecillion
10^6	million	10^{48}	quindecillion
10^9	billion	10^{51}	sexdecillion
10^{12}	trillion	10^{54}	septendecillion
10^{15}	quadrillion	10^{57}	octodecillion
10^{18}	quintillion	10^{60}	novemdecillion
10^{21}	sextillion	10^{63}	vigintillion
10^{24}	septillion	10^{100}	googol
10^{27}	octillion	10^{303}	centillion
10^{30}	nonillion	$10^{10^{100}}$	googolplex

Sibananda Behera
Roll no : BS(P)20-016
2020-2023

From Music to Mathematics
{ Exploring the Connections }

Gareth E. Roberts

Math is the only place where truth and beauty mean the same thing.

Danica McKellar

How Blockchain Technology Works

1 A transaction is requested

2 The transaction is broadcasted to a peer-to-peer (P2P) network that consists of computers (otherwise known as nodes)

3 The network of nodes uses known algorithms to validate the transaction and user's status

4 A verified transaction can involve cryptocurrency, contracts, records or other information

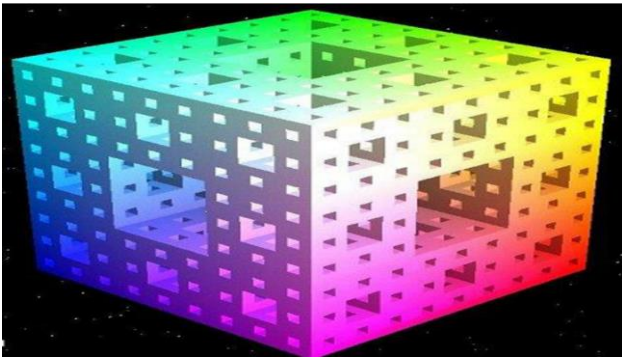5 The transaction is combined with other transactions, once verified, to create a new block of data for the ledger

6 The new block is added to the existing blockchain (which is permanent and unalterable)

7 The transaction is now finished

FRACTAL ANALYSIS: PRESENTATION BY SAGARIKA NANDI (ROLL NO – BA-20-408)

Fractal geometry is not just a chapter of mathematics, but one that helps Everyman to see the same world differently.

— Benoit Mandelbrot —

THE MENGER SPONGE
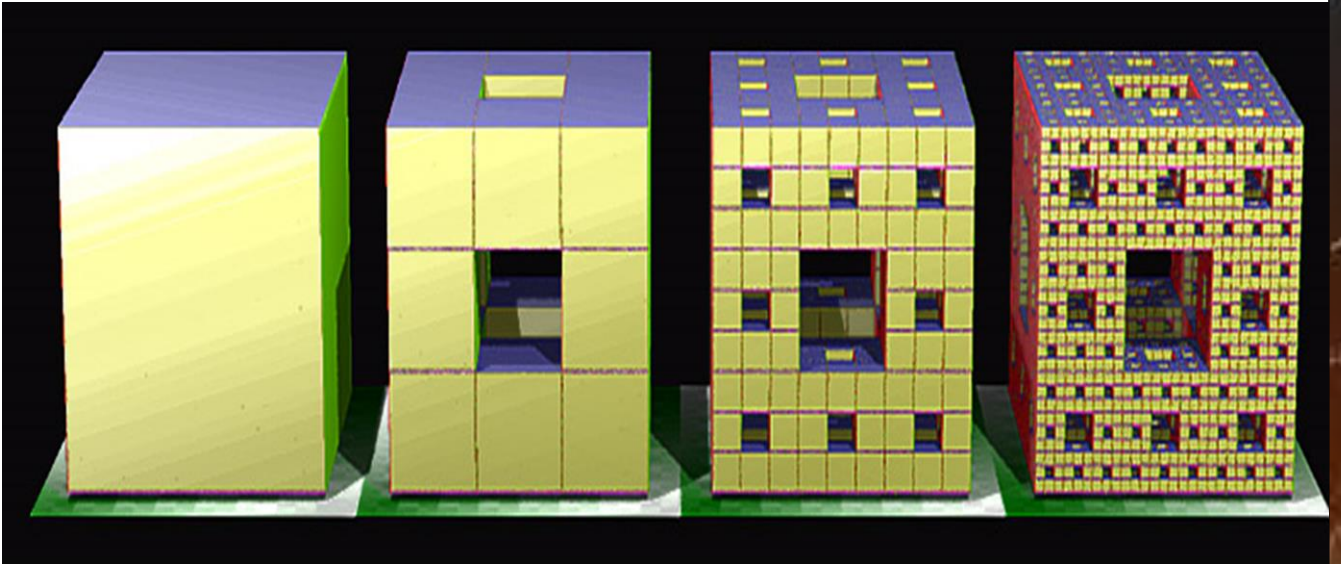
**APPLICATIONS OF PERMUTATION: PRESENTATION
BY SUMAN HANSDAH (ROLL NO – BS-20-139)**
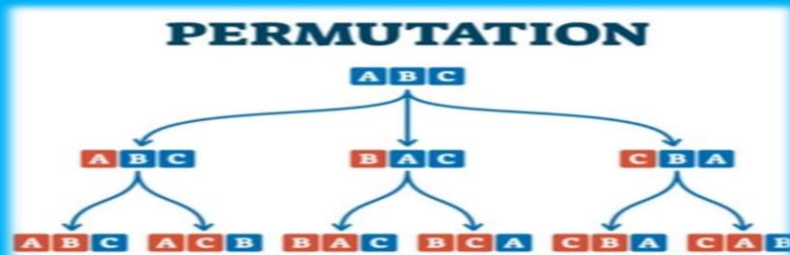
PERMUTATION

**REAL-LIFE APPLICATION OF PERMUTATIONS
PHONE NUMBERS**

MATHEMATICAL MODELLING OF EBOLA VIRUS

By Preeti Pallavi

The method of mathematical modelling is putting a real-world issue into mathematical terms, typically in the form of equations, and utilising those equations to both better comprehend the issue at hand and unearth new aspects of it. Nearly any industry can benefit from using mathematical modelling to solve complicated problems and make improvements to existing systems.ccontrolling disease spread.

Ebola virus (EBOV) is a filovirus that belongs to the Filoviridae family and it causes a severe hemorrhagic disease in human and nonhuman primates.
Over the past years, several mathematical models have been proposed and developed to describe the dynamics of EVD. In 2014 and the World Health Organization (WHO) reported more than 28000 cases worldwide and over 11000 deaths.

For these mathematical and biological considerations, we propose a generalized epizootic model for Ebola that is given by the following nonlinear system:

$$\frac{dS}{dt} = A - \mu S - F(S,I)I - g(S,P)P$$

$$\frac{dI}{dt} = f(S,I)I + g(S,P)P - (\mu + r)I$$

$$\frac{dR}{dt} = rI - \mu R$$

$$\frac{dP}{dt} = \sigma I - \eta P$$

where $S(t), I(t), R(t)$ represent the numbers of susceptible, infected, and recovered bats at time t, respectively.

Then the total population of bats is

$$N(T) = S(T) + I(T) + R(T)$$

- Further, $P(t)$ represents the concentration of EBOV in the environment at time t.

- The susceptible population increases at recruitment rate A by births or immigration and decreases at the natural mortality rate μ.

- It also decreases and converts into the infected subpopulation by direct contact with infected bats at rate $f(S,I)I$ or by contact with contaminated environment at rate $g(S,P)P$.

- Thus, the term $f(S,I)I = g(S,P)P$ is the total infection rate of susceptible population.

- Moreover, the infected bats recover from Ebola at rate r and die only at the natural mortality rate μ.

- Finally, the parameter σ denotes the deposition rate of EBOV in the environment by infected bats and η is the decay rate of EBOV in the environment.
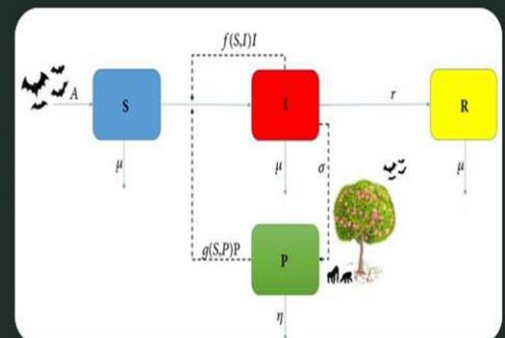
A transmission model for Ebola virus has been developed and explained, which presents a better understanding and awareness of the disease that are transmitted from bats mostly to human beings.
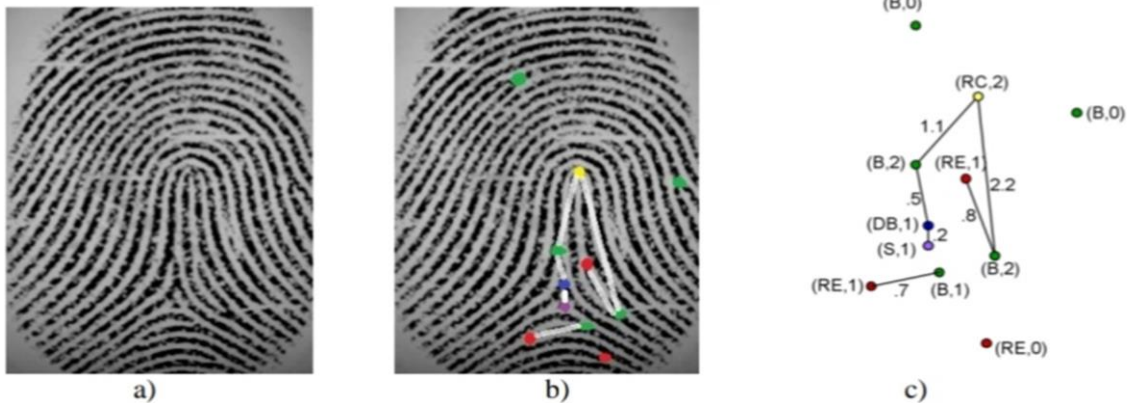
FINGERPRINT ANALYSIS

Three algorithms are used for matching given fingerprint from pre- assigned database:

Algorithm-1-Associates a weighted graph and coloured graph to a given fingerprint.

Algorithm-2-Classification of a fingerprint according to its parts.

Algorithm-3-Matching a recovered fingerprint from a database.

Example 21: The example below illustrates application of this algorithm in constructing colored and weighted graph associated with the given fingerprint.

Why use Fingerprints?

Fingerprints are the patterns on the inside and the tips of fingers. The ridge of skin, also known as friction ridges, together with the valleys between them form unique pattern on the fingers.

Fingerprint analysis is a biometric technique comparing scanned image of prints with a database of fingerprints.
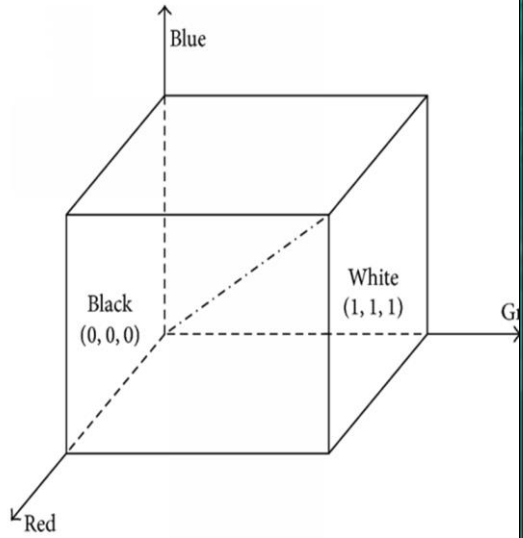
Uniqueness of prints, and the fact that they do not change during a person's life, form the basis for fingerprint analysis.

There are two major way of the identification of fingerprints – comparision of lifted prints and live scanning.The first method is mainly used in forensic, while the second is used for authentication purposes (in security applications).

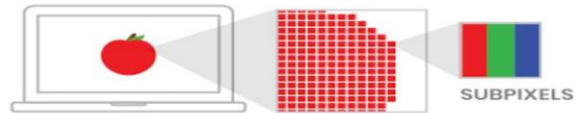**APPLICATION OF LINEAR COMBINATION IN COLOR MODEL**

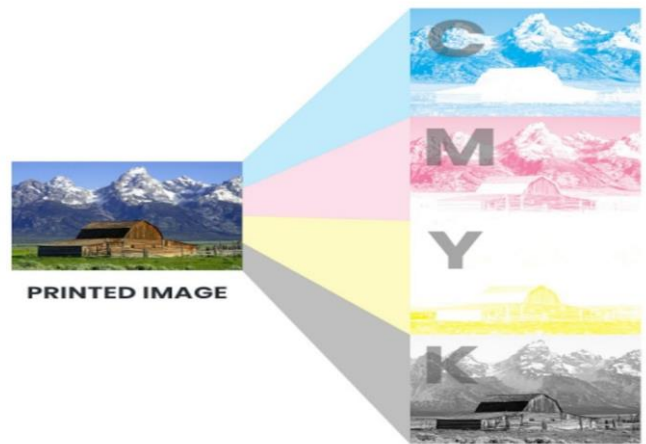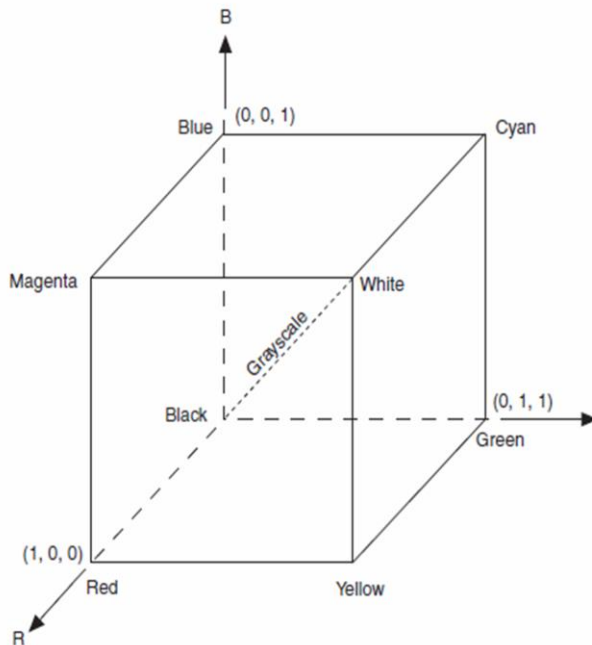**BY ASHISH KUMAR BASKEY (ROLL NO – BS-20-081)**

RBG MODEL (ADDITIVE COLOR MODEL)

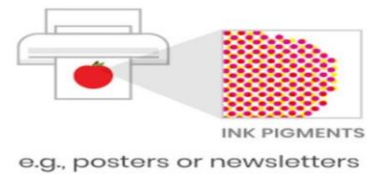DIGITAL IMAGE

USE RGB FOR DIGITAL

SUBPIXELS

CMYK COLOR MODEL

PRINTED IMAGE

USE CMYK FOR PRINT

INK PIGMENTS

e.g., posters or newsletters
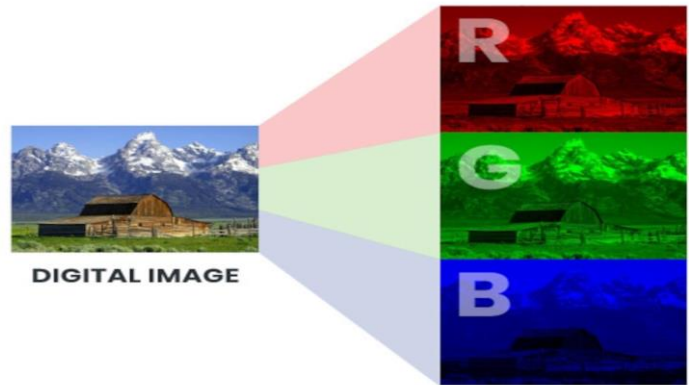
I have learnt to create colors by the use of color model and I would like to dedicate this project to all Mathematician and Artist around the world.

APPLICATIONS OF FUNCTIONS IN REAL LIFE

BY BISWAS MOHANTY (ROLL NO – BS-20-142)

To solve work problems:-

Rational functions and rational equations can be used in a wide variety of problems related to rates, time, and work.

Ex.1: Carl takes 2 hours to water 60 plants. Manuela takes 3 hours to water 60 plants. If they work together, how long would it take them to water 200 plants?

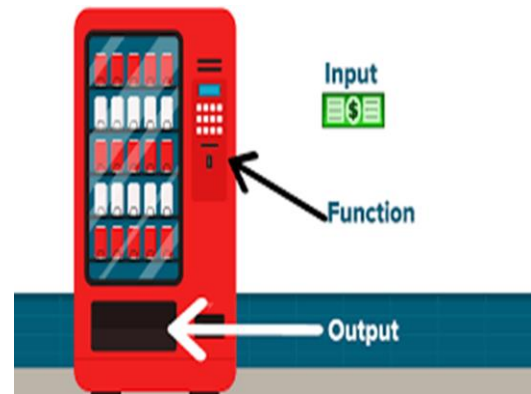For solving chemical mixing problems also this is used.
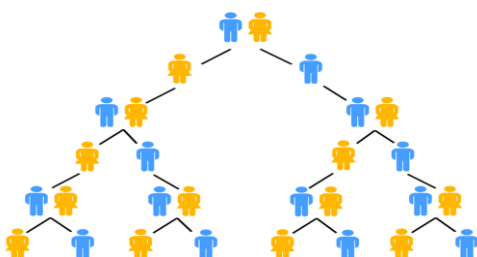

Application of Logarithm Problem

Vending Machines:-

A vending machine is an automated device designed to offer customers a wide variety of goods, including snacks, beverages, cupcakes, newspapers, tickets, and more.

Application of Exponential function

Population Growth problem

Compound Interest

There is geometry in the humming of the strings, there is music in the spacing of the spheres.

Pythagoras

"An equation means nothing to me unless it expresses a thought of God"

- Srinivasa Ramanujan (1887 - 1920)
Mathematician

Prodios

The study of mathematics, like the Nile, begins in minuteness but ends in magnificence.

Charles Caleb Colton