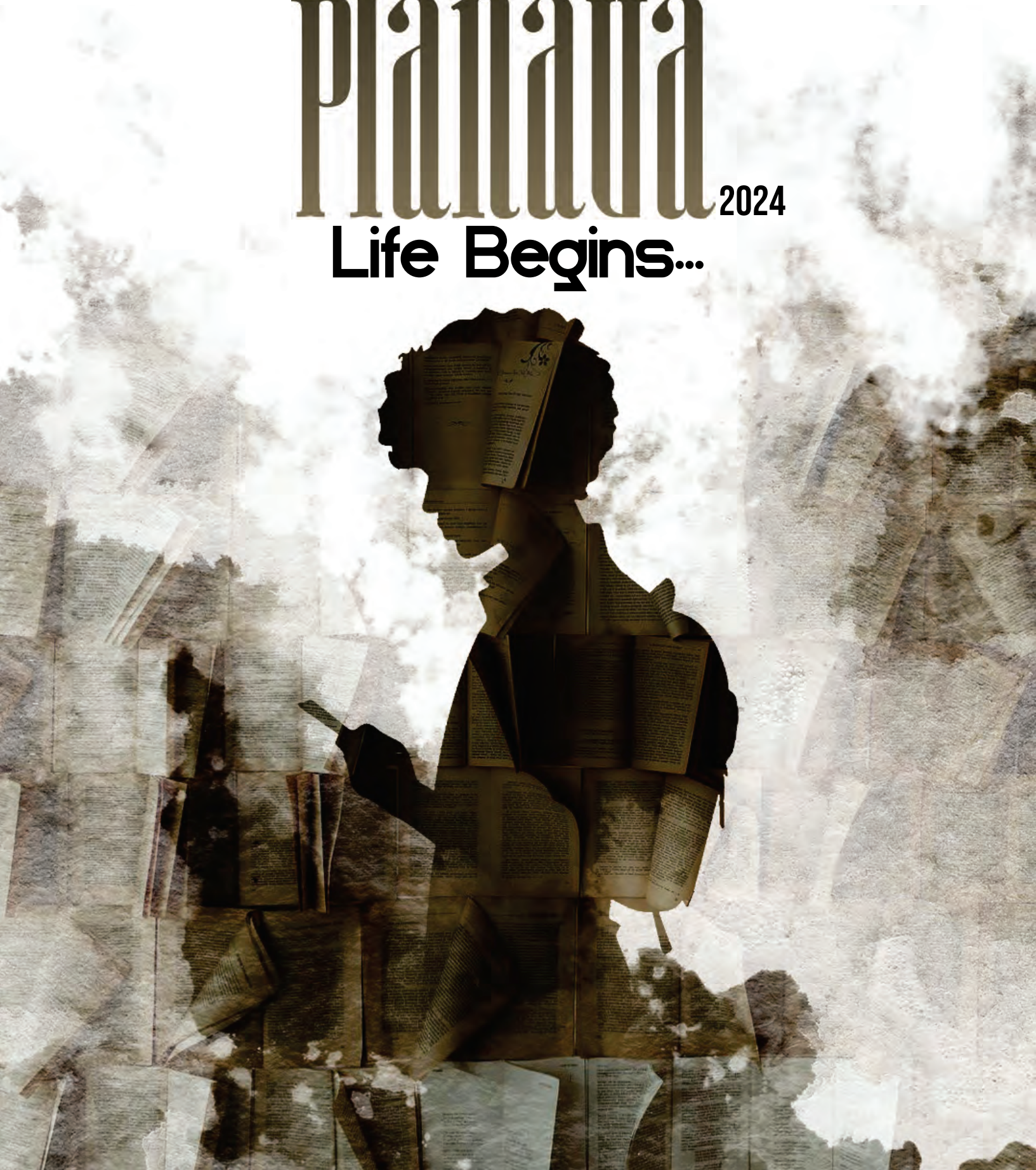
RV PU College®
Jayanagar, Bengaluru

Pranava 2024

Life Begins...



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Happy Retirement!

K.G. Subbarama Setty Sir is a reflection of the quote by Maya Angelou, "If you are going to live, leave behind a legacy. Make an impact on the world that can never be erased." Appreciating 30 years of dedication, commitment for leaving an indelible mark on us. We extend our heartfelt gratitude and best wishes.

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Congratulations!

Respectful salutation to
Sri P.S. Venkatesh Babu
for the mantel of treasurer.
Extending our warm wishes!

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Congratulations!

Sri A. C. Chandrashekar Raju

It's a pleasure and great honour
to welcome you as the Vice President.

RASHTREEYA SIKSHANA SAMITHI TRUST
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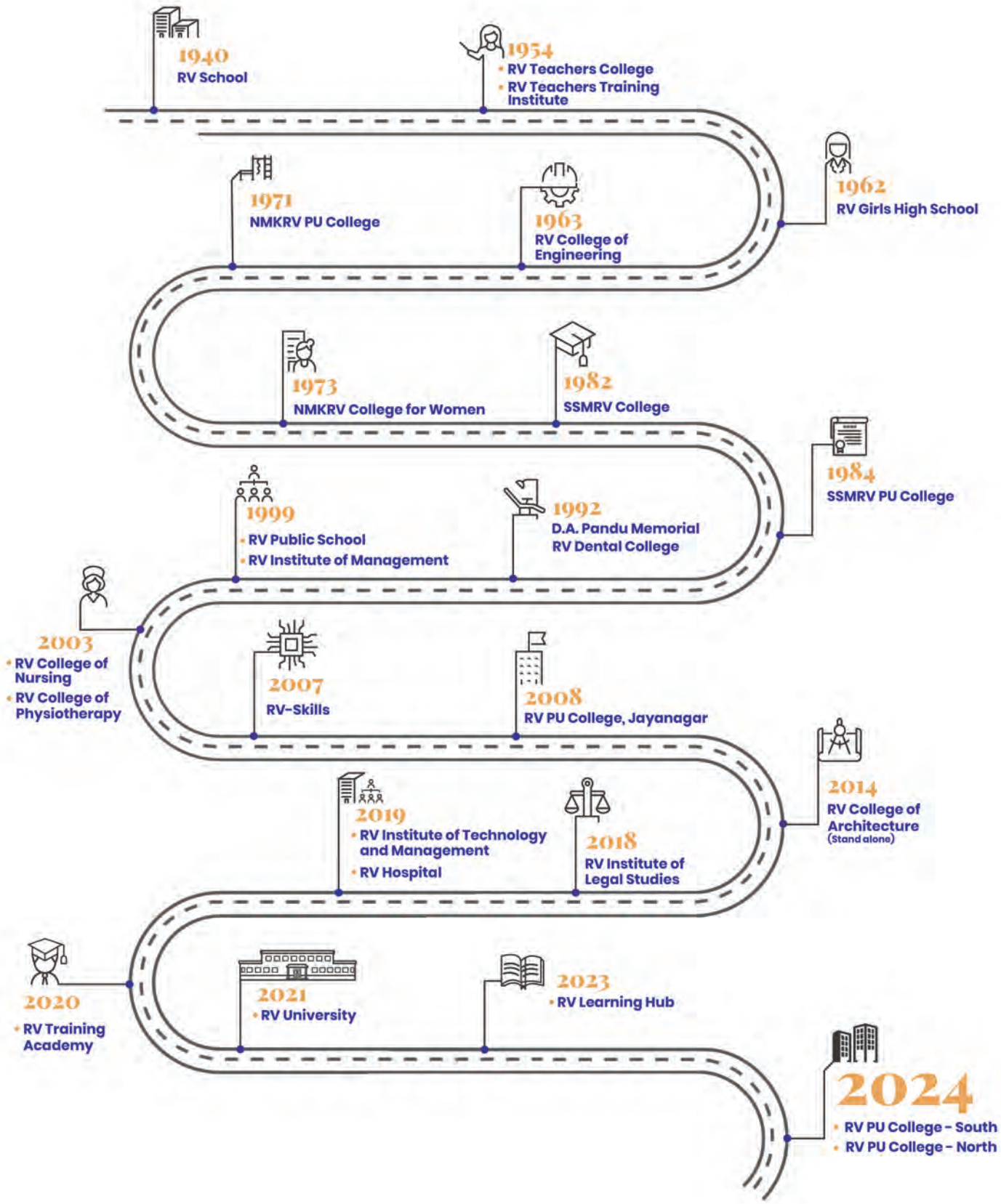
Welcome!

We are delighted to welcome **Sri Nikhil A. Murthy** as Assistant Secretary, RSST. We look forward for your guidance, support and working under your pre-eminent leadership our warm wishes and Congratulations!


1940
RV School
1954
• RV Teachers College
• RV Teachers Training Institute
1962
RV Girls High School
1963
RV College of Engineering
1971
NMKRV PU College
1973
NMKRV College for Women
1982
SSMRV College
1984
SSMRV PU College
1992
D.A. Pandu Memorial RV Dental College
1999
• RV Public School
• RV Institute of Management
2003
• RV College of Nursing
• RV College of Physiotherapy
2007
RV-Skills
2008
RV PU College, Jayanagar
2014
RV College of Architecture
(Stand alone)
2018
RV Institute of Legal Studies
2019
• RV Institute of Technology and Management
• RV Hospital
2020
• RV Training Academy
2021
• RV University
2023
• RV Learning Hub
2024
• RV PU College - South
• RV PU College - North

RASHTREEYA SIKSHANA SAMITHI TRUST

RV Teachers College Building, II Block Jayanagar, Bengaluru-560 011.

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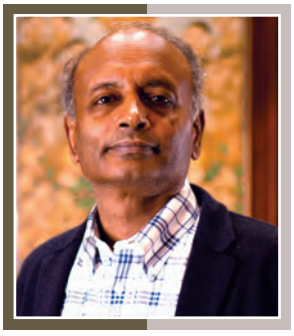

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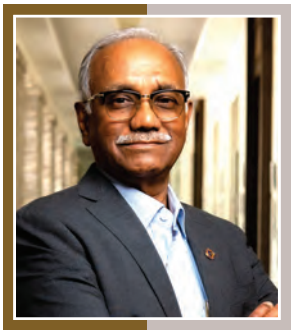

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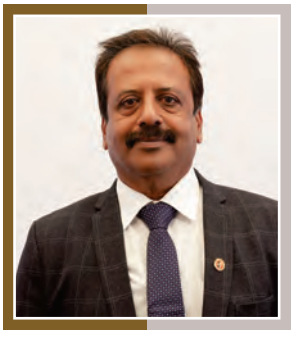

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Member

Sri Thejesh S.
Principal, RV PU College

Dr. (h.c.) A.V.S. Murthy

Hon. Secretary

With the coming of each year, we witness students within the walls of RV PU College, Jayanagar, eager to grow, learn and become university-ready. These scholars aim to move up a rung on the academic ladder, ready to face new challenges. They step out of its doors, confident in their abilities to grow, achieve their dreams and excel in the real world.

I applaud the new generation of young achievers determined in a never-ending pursuit of academic prowess. Each student remains a valued part of the RV Family, united in the endeavour for academic excellence, exemplified in this year's edition of the annual magazine.

Dr. (h.c.) A.V.S. Murthy

Sri D.P. Nagaraj

Hon. Joint Secretary

It is with pride that I give my congratulations on the successful completion of yet another academic year. The achievements, day-to-day work and celebrations effectively show an educational ecosystem dedicated to transforming aspiring achievers into academic prodigies and much more. I hope that a diverse and vibrant institution like RV PU College, Jayanagar strives to steadily grow into the future as well.

The college will continue to uplift young geniuses with persistent dedication and a determination to produce future generations of world changers.

D.P. Nagaraj

Sri Anant Kulkarni

CEO- BASE Educational Services

I wish students, staff and management of RV PU College, Jayanagar, Bangalore on their annual event **Sumeru -2024**.

Pre-University education is a very crucial phase in a student's journey and quite challenging for the student, teachers and parents to strike a balance between the aspiration of the Child and handling the sudden physical and psychological changes in the students. The RV PU College, Jayanagar team is doing a commending work by supporting the Child by giving equal importance to curricular and co-curricular activities during their two-year stint at the campus. I am very happy that BASE is playing a key role in honing the skills of these students to excel in their academics which is evident from the fact that a large number of students from this College continue to join premier institutions and do well in their under-graduation courses.

I am confident that RV PU College, Jayanagar with support from BASE shall scale newer heights in academic excellence in the coming years. I extend my best wishes to the students of the outgoing batch of 2023-25 for their board and competitive examinations and may all your dreams come true.

Anant Kulkarni

Sri Thejesh S.

Principal

My prayerful greetings to all the well-wishers and critics of our RV PU College. First and foremost, I would like to express my deep sentiments of gratitude to every one of you for your constant support, recognition and concern towards the college which enables and encourages us to strive hard to carry forward the mission of spreading value-based education to all.

Education is not only an act of acquiring knowledge but learning the skills to lead life in forming one's personality and character. This is an exemplary process of evolvement. I can boldly say that we have excelled in every initiative that we undertook and we have stood together in facing the challenges in realizing quality education. From academics to co-curricular activities, the spirit of perseverance and eagerness to compete are entrenched in the heart of every student not only making them good students but brilliant human beings.

While I consider the prospective assurance about the progress the college is making by imbibing in its students' value-based education synergized with modern teaching-learning methods, that will produce a generation of well informed and emotionally stable generation. I am positive that in times to come we will continue this journey with elevated enthusiasm and persistently provide a platform of holistic learning to the young generation of learners.

Our students graduate with the skills, mind sets and qualities that will best equip them for a continuous learning experience enabling their calibre to achieve higher levels of Merit. Come on! let's give our best and make this institution a modern temple of learning through our diligence, devotion and dedication. Wishing all the sprouting role models and leaders of the Society, the very best in the world of your future.

S. Thejesh

Thejesh S.

Editorial Team

DYUTHI – STUDENT EDITORIAL TEAM

Message from Editorial Team

"As the days pass, memories etch themselves into the heart." With another remarkable year behind us, we are excited to unveil the 14th edition of Pranava-The Journey Begins.

As Ralph Waldo Emerson once said, "The creation of a thousand forests is in one acorn. "This magazine encapsulates the seeds of creativity and thought, expressed with simplicity yet depth. It reflects the students' and faculties' journey of self-discovery, which we now share with you through these vibrant pages.

With immense joy and pride, we bring you a celebration of the moments we've cherished throughout the year. This edition is a symphony of the experiences and memories that have enriched us, both individually and collectively.

We express our heartfelt gratitude to our esteemed Principal and Vice-Principal for their unwavering support and trust. Our sincere thanks to our colleagues for their invaluable contributions and to the non-teaching staff for their seamless collaboration. Special recognition goes to the dynamic "Dyuthi" - The Student Editorial Support, whose energy and dedication made this possible. Thank you RV Media Cell for the brilliant cover design. We are equally grateful to Omkar Offset for their efficient and professional execution.

We hope this edition will inspire creativity, spark curiosity, and awaken the joy of learning. Warm regards from the Editorial Team.

Here's to a Delightful Read !

Congratulations

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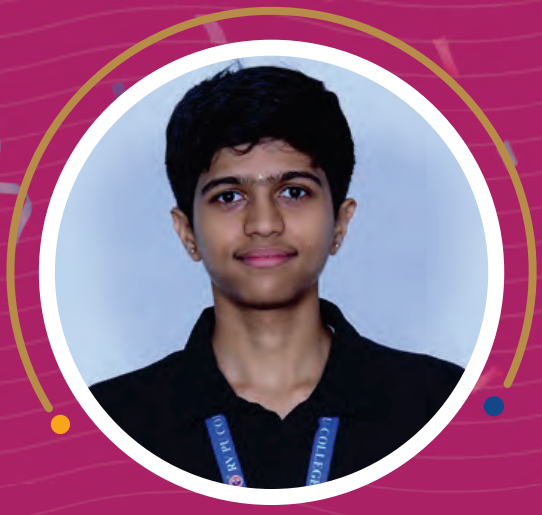
Phy/Chem/Maths/San-100

3rd Rank in State

FATHIMA IMRAN
596/600 (99.33%)
Phy/Chem/Maths/Bio/French-100

3rd Rank in State



PRABHAV P.
595/600 (99.15%)
Chem/Maths/CS/San-100

4th Rank in State

SHARADA G.
595/600 (99.15%)
Maths/Bio/San-100

4th Rank in State

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4	Marula Siddeshwara	Physics
5	Shwetha M Hegde	Physics
6	Santhosh Kumar Maharana	Physics
7	Surendarnath Reddy R N	Physics
8	Mamatha A S	Physics
9	Lekha M	Physics
10	Mamatha B	Physics
11	Nagendra Prasad B K	Physics
12	Sowmya S Kulkarni	Physics
13	Nischitha Nayak	Physics
14	Jeevan D	Physics
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16	Ravindra V	Chemistry
17	E Vijayakumar Setty	Chemistry
18	Majeeda	Chemistry
19	Kaiser Khan	Chemistry
20	Suchitra L Bhat	Chemistry
21	Divya M C	Chemistry
22	Shuchi L	Chemistry
23	Anagha U	Chemistry
24	Rixon Rainold	Chemistry
25	Bibihazara Dandin	Chemistry
26	Dr. Prakasha H T	Mathematics
27	Sunder S	Mathematics
28	Deepak C	Mathematics
29	Angadi Santhosh Siddappa	Mathematics
30	Prakash H P	Mathematics
31	Hemantha Madhyastha R	Mathematics
32	A Rupesh	Mathematics
33	Sayini Tejaswini R	Biology
34	Suresha O	Biology
35	Punith Kumar K R	Biology
36	Subhisha K	Electronics
37	Pooja H R	Electronics
38	Divyashree C	Electronics
39	Shwetha R	Computer Science
40	Manjunath G	Computer Science
41	Ashwin Raj	Computer Science
42	Resmi T J	Computer Science
43	Karthick T S	Computer Science
44	Vidya M	Computer Science
45	Deepika R P	English
46	Hema N	English
47	Dr. Rajani S	English
48	Jayakumara N	Kannada
49	Vidya H N	Kannada
50	Jaipal Y S	Sanskrit
51	Anandatheertha B	Sanskrit
52	Dr. Rekha G	Hindi
53	Saroja Sawant Sanapuji	Hindi
54	Asha Purshotham	French
55	Asha Ramprasad Nadig	French
56	Srihari T G	Academic Mentor
57	Pavithra G J	Academic Counsellor
58	Pradeepa K C	Physical Education Lecturer
59	Shwetha A J	Senior Library Executive
60	Kushal Kumar D M	Librarian

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2	Sowmya S Kulkarni	Physics
3	Shruthi G	Physics
4	Ramesh Reddy J D	Physics
5	Sreenivasulu Gowd	Physics
6	Anurag	Physics
7	Karthik M S	Physics
8	Biswajeet Sahu	Chemistry
9	Divya M C	Chemistry
10	Sowmya Kumari S	Chemistry
11	Roopa H Alva	Chemistry
12	Chaithra K	Chemistry
13	Vijaya Kumar S	Chemistry
14	Vinoth S K	Chemistry
15	H P Prakash	Mathematics
16	Dattatraya Giridhar Joshi	Mathematics
17	Yirrinki Rama Krishna	Mathematics
18	Dhana Kumar Jilla	Mathematics
19	Jyothi Raghavendra	Mathematics
20	Sayini Tejaswini R	Biology
21	Maduri Adiga	Biology
22	Krishna C Poojari	Biology
23	Annie Anusha P	Biology
24	Veda B	Biology

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4	Saritha N	Execuitve
5	Basavaraju B	Execuitve
6	Srinivas V	Execuitve
7	Sandesh H	Senior Executive
8	Bhoomika B	Senior Executive
9	Vidyashree R	Office Executive
10	Manjula N	Attender
11	Shubha M K	Attender
12	Chandana B C	Attender
13	Vijayalakshmi	Attender
14	Ashwini R	Attender
15	Yogisha P	Attender
16	Siddharth Ganager	Attender
17	Karthik Hemesh Kumar	Attender
18	Mageshwari	Attender
19	Abhishek S	Attender

SCIENCE ARTICLES

Introduction to Lagrangian Mechanics

All of us are familiar with Newton's laws of motion. These laws help us find equations of motion of a given body in a given scenario in a system. To use Newton's laws, we need to identify all forces acting on the given body and then apply Newton's second law and then solve the resulting differential equation to find the equations of motion of the body. This method is sometimes tedious and it cannot be applied to quantum particles, whose position we don't know because of Heisenberg's Uncertainty Principle. Also, there is a lot of room for error in this method. So, what if there was another way to solve for the equations of motion without ever involving the messy free body diagrams and forces and instead use something more fundamental than force, that is, the energy?

Well, there is a way!

Discovery of Lagrangian Mechanics.

Lagrangian mechanics is a formulation of classical (Newtonian) mechanics. It was introduced by the Italian-French mathematician and astronomer Joseph-Louis Lagrange. It is based on the stationary action principle.

Stationary Action Principle

Let us say a wire is suspended from both of its ends with the help of two poles. What would be the shape of the wire due to the influence of gravity? Well the wire would be in such a shape which minimizes the potential energy of the wire, to attain a more stable configuration.

Now for a similar question: Given a start and an end point of the trajectory of a particle, we know that the particle can take infinite paths from the given start point to the given end point. But what path will it actually take? Similar to the previous question, it will take that path which minimizes a certain physical quantity, the **action**. The action of a path is the sum of energy values for each small section of the path multiplied by the time spent in that section. Generally the energy value for a small section is given by a function called the **Lagrangian**. The formula for action is:

$$A = \int_{t_1}^{t_2} \mathcal{L}\, dt$$

Where that fancy looking L is the Lagrangian of the system. For simple problems the Lagrangian is simply the difference of kinetic and potential energies.

The stationary action principle simply states that the path which minimizes the action is the path taken by the particle.

Euler-Lagrange Equation

To actually get the equations of motion from the Lagrangian, we must use the stationary action principle and minimize the value of the action for a given Lagrangian. It's not an easy problem, but fortunately Euler and Lagrange had already solved this problem in the 1750s using calculus of variations and hence we get the Euler-Lagrange equation.

$$\frac{d}{dt}\left(\frac{\partial \mathcal{L}}{\partial \dot{q}_i}\right) - \frac{\partial \mathcal{L}}{\partial q_i} = 0$$

This equation must be applied for each degree of freedom (q). The tiny dot above the q represents the first derivative of q with respect to time. Similarly if there are two dots above q, it simply means the second derivative of q with respect to time.

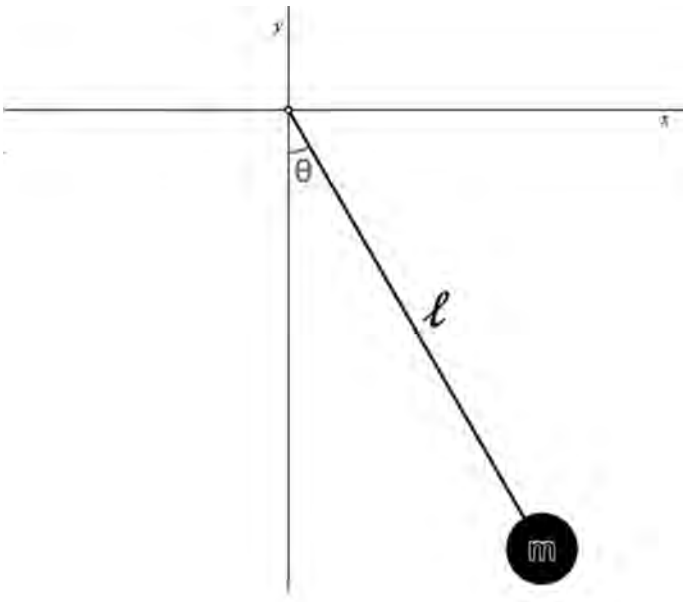
The degrees of freedom of a system is the number of independent variables which can completely describe the state of a system. For example: A point particle in the standard x-y plane has 2 degrees of freedom whereas a 2D pendulum has only 1 degree of freedom.

Some Properties of the Lagrangian

1. It is not unique for a given system. The Lagrangian can be transformed by multiplying the original Lagrangian by a constant and by adding another constant and it will still describe the same system.
2. An important property of the Lagrangian is that one can simply determine if a quantity is conserved by looking at the expression of the Lagrangian. This is possible by the application of Noether's theorem which states that if a system has a continuous symmetry property, then there are corresponding quantities whose values are conserved in time.
3. Interacting particles. If there are two systems A and B which aren't interacting, then the combined Lagrangian is simply the sum of their individual Lagrangians. However if A and B interact with each other, then the Lagrangian cannot be expressed as a simple sum of their Lagrangians.

Example: A Simple Pendulum

Consider the simple pendulum shown below, acting under the influence of gravity.



At first glance this system looks like it has two degrees of freedom, but upon closer inspection we find that the only degree of freedom is the angle with which the string makes with the vertical as the length of the string is fixed. Now the kinetic energy of this system is:

$$T = \frac{1}{2} L\omega^2 = \frac{1}{2} ml^2 \dot{\theta}^2$$

And the potential energy of this system, taking the x-axis as the reference point, is:

$$V = -mgl\cos(\theta)$$

Thus giving the Lagrangian:

$$L = T - V = \frac{1}{2} ml^2 \dot{\theta}^2 + mgl\cos(\theta)$$

Then we substitute this Lagrangian into the Euler-Lagrange equation with respect to the angle of the string with the vertical and find the equation of motion for the pendulum. First we substitute this into the first term:

$$\begin{aligned}\frac{d}{dt}\left(\frac{\partial \mathcal{L}}{\partial \dot{\theta}}\right) &= \frac{d}{dt}\left(\frac{\partial}{\partial \dot{\theta}}\left(\frac{1}{2} ml^2 \dot{\theta}^2 + mgl\cos(\theta)\right)\right) \\ &= \frac{d}{dt}\left(\frac{1}{2} ml^2 \left(2\dot{\theta}\right)\right) \\ &= \frac{d}{dt}\left(ml^2 \dot{\theta}\right) \\ &= ml^2 \ddot{\theta}\end{aligned}$$

And then substituting the Lagrangian into the second term:

$$ml^2 \ddot{\theta} = -mgl\sin(\theta)$$

$$\Rightarrow \alpha = -\frac{g}{l}\sin(\theta)$$

Then we obtain the equation:

$$\left(i\hbar c\gamma^{\mu}\partial_{\mu}-mc^{2}\right)\psi=0$$
$$\mathcal{L}=\bar{\psi}\left(i\hbar c\gamma^{\mu}\partial_{\mu}-mc^{2}\right)\psi$$

Which is indeed the equation for angular acceleration of a simple pendulum.

Applications

The Stationary Action principle lies at the heart of all physics. As a result Lagrangian mechanics is widely used, especially in quantum physics.

Lagrangian Mechanics cannot be used when dissipative forces are present, such as friction.

The Lagrangian when working with electromagnetic fields is also different from the usual difference in kinetic and potential energies.

For the curious, here is the Dirac equation and its corresponding Lagrangian density from which it can be derived:

$$\left(i\hbar c\gamma^{\mu}\partial_{\mu}-mc^{2}\right)\varnothing=0$$
$$L=\bar{\varnothing}\left(i\hbar c\gamma^{\mu}\partial_{\mu}-mc^{2}\right)\varnothing$$

The Lagrangian, along with **Group Theory,** forms the basis of the **Standard Model,** which is a theory which describes three of the four fundamental forces (excluding gravity) and classifies all known **elementary particles** with great accuracy.

Conclusion

One must know Lagrangian Mechanics to understand higher level physics. It is based on the Stationary Action principle and is much more concise than Newton's laws. It is closely related to other formulations of classical physics such as the **Hamiltonian mechanics.** The action principles are also used in formulations of quantum mechanics such as **Feynman's Path Integral.**

Maanas Baranwal, 2B

Exploring the Foundation of Modern Physics: A Journey into Subatomic World

In the early 20th century, a revolution in physics began, challenging our understanding of the universe at the most fundamental level. This revolution was quantum mechanics, the study of behaviour of particles at atomic and subatomic levels. The term "quantum mechanics" was coined by a group of physicists including Max born Werner Heisenberg at the University of Göttingen during the early 1920s. The word quantum comes from the Latin word "quantus" meaning "how much". Something that is quantized such as the energy levels of the orbits in Bohr's atomic model can only take specific values. While mechanics is the branch of science that deals with the analysis of forces acting on objects, quantum mechanics deals with the mechanics of objects or systems whose properties are quantized.

The birth of quantum mechanics began during the early 19th century when chemists John Dalton and Amedeo Avogadro favoured the atomic theory of matter proposed by James Maxwell and Ludwig Boltzmann and built upon to establish "Kinetic theory of gases". Although KTG had its success there were observations KTG couldn't explain. Ludwig Boltzmann suggested that physical systems such as molecules in gases could have discrete energy levels (rather than continuous). These arguments continued till 20 years later when Max Planck proposed the first "quantum theory". After Max Planck introduces this, he later on explains black body radiation along with Boltzmann and Wilhelm Wein.

Einstein later explains "photoelectric effect" using quantum theory and made one of the most revolutionary statements in the 20th century, that is "the energy of one quantum of photon of frequency f is given by the frequency times Planck's constant" mathematically,

$$E = hf$$

Einstein argued that some amount of energy, he termed "work function" was absorbed by the electron before it attains any kinetic energy, given by,

$$\phi = hf_0$$

Later on, a physicist named De Broglie put forth his idea of matter wave, combining Einstein's famous mass energy equation

$$E = m_0 c^2$$

And his energy of a single quanta of a photon equation and came up with an equation that describes the wavelength of the matter wave. Given by,

$$\lambda = \frac{h}{P}$$

where "P" is the momentum of the particle and "h" is Planck's constant.

Consequently, there were many effects and theories of particles behaving as waves and waves behaving as particles.

In the first half of 1926 building up from the hypothesis De Broglie made, Erwin Schrödinger developed what is considered the most fundamental equation in quantum mechanics called "The wave equation"

$$\frac{ih}{2\pi}\frac{\partial}{\partial t}\psi(r,t) = \frac{-h^2}{8\pi^2 m}\nabla^2\psi(r,t) + V(r,t)\psi$$

Let's not get too overwhelmed by the complicated terms and take it slowly. The second term on the right-hand side denotes the potential energy of the system represented by

called the potential operator. And, the first term on the right-hand side denotes the kinetic energy of the system represented by

$$\hat{V}$$

called the kinetic operator. Together,

$$\hat{T} + \hat{V} = \hat{H}$$

Where H is called the Hamiltonian operator.

The usage of the word operator is just to distinguish from regular variables due to them operating on the wave function itself to give an output. The Schrödinger equation is, in simple terms, energy conservation in the quantum world. The Greek letter Psi is known as the wave function of the "state" of the system. In classical mechanics, the position and the momentum of the system is enough to know how the system would behave at every single moment. In quantum mechanics, position and momentum cannot be used as state variables due to them being not accurate. The relation between inaccuracy of position and momentum is given by "Heisenberg's uncertainty principle".

$$\Delta x \Delta p \geq \frac{h}{4\pi}$$

this uncertainty is due to the fact that "measuring" the state of a system could in itself change the state of the system, for example, taking a reading on the position of a electron requires us to shine some light(photons) he employing photoelectric effect and hence changing its momentum and hence giving false readings. In classical mechanics, if we know the position at an instant and the momentum at that instant and all the forces, position and momentum in the subsequent time intervals can be found very accurately. Since position and momentum aren't accurate, we can't use them as the state variables, hence comes into the picture, wave function.

the following are the properties of wave functions: -

- We defined Psi to be a complex quantity hence has no significant meaning, whereas the

modulus of the wave function squared gives us the probability of finding a particle at a certain position.

$$\int_a^b |\psi(x,t)|^2 dx$$

Mathematically its written as (taking 1D case)

Gives us the probability of finding the particle between the interval (a,b)

- Since we know there must exist a particle somewhere on the x-axis, then,

$$\int_{-\infty}^{\infty} |\psi(x,t)|^2 dx = 1$$

This property of the wave function is known as "square integrable function"

- For the above property to hold, another condition is,

$$\lim_{|x|\to\infty} \psi(x,t) = 0$$

These 3 properties of the wave function allow us to decide if a function can truly describe the dynamics of a particle in space. Although this seems to be the absolute general equation for quantum particles, this equation only holds true for particles going at speeds much less that speed of light (c), Hence is known as a non-relativistic equation. There were many who came and developed their own wave equation working in relativistic conditions known as "Klein Gordon equation" but the most important one that came after the original Schrödinger wave equation was "Dirac wave equation". The equations mathematics starts getting more and more complicated as we decrease the constraints on the development of the equation. Till date Dirac's equations remain to be the most perfected equation in "Quantum field theory". From quantum field theory Dirac later developed the best description we possess for understanding charged particles and their dynamics called "Quantum electrodynamics". And from this was born another theory attempting to unify nuclear forces and electromagnetic forces called "Quantum chromodynamics". Both of these were researched by one of the most revolutionary theoretical physicists at the time, Richard Feynman. He came up with his understanding of quantum mechanics and made "path integrals" where he employed his method of "perturbation", where he recorded observations upon performing small changes to the systems configuration. But even he couldn't unify all the fundamental forces i.e.

- Gravitation
- Electromagnetism
- Strong nuclear forces
- Weak nuclear forces

Modern physicists strive to unify the entirety of physics into one grand theory called "Theory of everything", but till date there exists no such theory. Besides being useful to create a theory to describe reality, quantum mechanics has proven to be useful in computation as well. The most famous example of this is quantum computers which use concepts of quantum mechanics to perform operations at a much faster rate. Today many MNCs such as IBM, Google, Microsoft and many more are working to achieve quantum supremacy where they attain a quantum computer working faster than a supercomputer.

Although we may think this is how far we can reach in both "physics" and in "research and development", there is still much more to do. The journey of quantum research is only beginning, and its potential is limited only by our imagination."

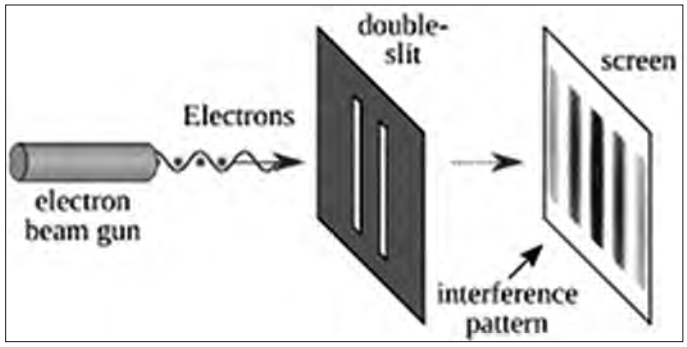
Pranav T R, 2B

Why isn't our world probabilistic like the quantum world? (and the Feynman Path Integral)

In our world, we have the gift of physics, which helps us determine how things behave and predict their motions. If we throw a ball upwards, it follows a parabolic trajectory and falls back down, in a definite predictable path. This is why we call our macroscopic world 'deterministic' , that is, we can accurately determine where things are and how they work. However, down in the quantum realm, things don't work that way.

In the Double Slit Experiment, where two slits were made in a sheet and a screen was placed behind them, if classical particles were used, we see that the particles hit the parts of the screen closest to the slits, as predicted by classical mechanics. When waves are sent through, such as light, it is seen that the wave interferes with itself on the other side and produces an interference pattern. However, when quantum particles like electrons were used, people were shocked to see that the particles formed an interference pattern, or in other words, the electron interfered with itself! This changed how people perceived the quantum world, and this showed that the electron does not follow a singular definite path when crossing the slits.

Physicists went on to prove that only the probability of such quantum particles being in a certain state could be predicted, but not their actual state. Hence, we call the quantum world 'probabilistic'.



How could this be possible?

Enter Richard Feynman, celebrated physics professor and pioneer of modern physics. Feynman was a brilliant physicist and a brilliant teacher, who won the Nobel Prize in 1965, for understanding the quantum nature of light and how it interacted with matter.

Feynman created the Path Integral, a function which helped predict the probability of position of a quantum particle. Quantum particles have their probabilities proportional to the square of the absolute value of a certain complex number. Feynman showed that this value can be predicted as:

$$Z = \int e^{\frac{iS[\mathbf{x}]}{\hbar}} \mathcal{D}\mathbf{x} \quad \text{where } S[\mathbf{x}] = \int_0^{t_f} L[\mathbf{x}(t), \dot{\mathbf{x}}(t)]\, dt$$

Without getting bogged down with the complex math involved, the expression on the right contains the 'Lagrangian' of the particle, (Note: Lagrangian mechanics is another form of mechanics similar to Newtonian mechanics but can be used for a larger variety of purposes)

and the expression on the left is the Path Integral, with Z (or K) representing the complex number whose square of modulus gives the probability of the particle taking that path.

But what exactly do we mean by "path"?

A quantum particle never takes a definite route from point A to point B, but rather takes every route possible. Each path has a certain value associated with it, called the Action (S), defined as the integral

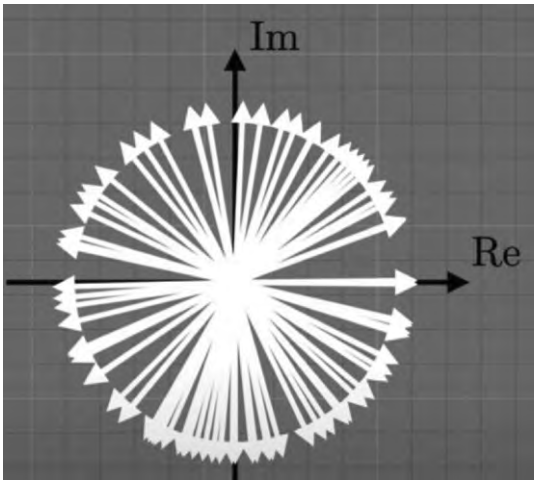
over time of the Lagrangian. The quantity in the integrand, exp(i S/h) can be thought of as a vector in 2D space, with magnitude 1 and angle S/h. But how could summing up all these unit vectors possibly give rise to the normal, predictable behaviour we see in the world around us?

Feynman, being the genius that he is, also gives us a solution to this problem. The answer lies in something known as the Classical Limit. Suppose the angle (phase angle) made by each vector is given by S/h. For a classical object, the values of S are approximately in the order of 1 Js, while h is of the order of 10^-34 Js. This implies that for very small variations in S, the value S/h can change drastically. Hence, the angles made by these vectors are random, almost like flicking a spinner and trying to predict where the arrow points. This means that the sum of the vectors should be 0, as they would most likely cancel each other out due to the vastly random phase angles. However, there exists one path, known as the Stationary Path or Classical Path, where all the paths nearby it or resembling it all have very similar values of S/h. This is known as the Classical Limit. This results in the vectors with phase angles near that path not cancelling out, and hence we get a definite value for the path integral, showing that the Stationary Path is followed by the particle. (This is analogous to finding stationary points on a function (local extrema), where the points nearby it do not differ by much).

Furthermore, it can be calculated that the stationary paths are the paths, where the relationship holds good. This is nothing but **F = ma!**

$$m\frac{d^2x}{dt} = -\frac{dU}{dt}$$

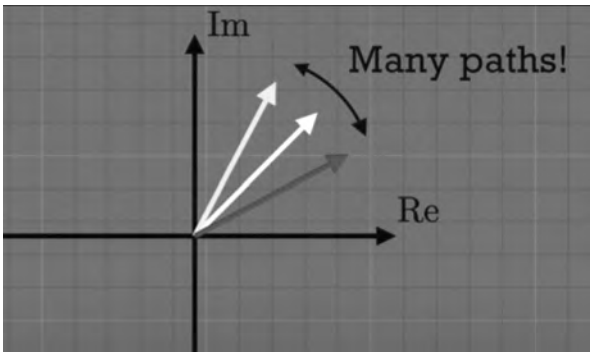
The Stationary path usually turns out to be a minimum, so this principle is called the **Principle of Least Action.** Hence, the particles usually take the path of least action.



But what about our quantum friends?

For quantum particles, the values of S turn out to be very close in order to that of .

This implies that the vectors need not vary that much in phase, and so the vectors could align in many feasible ways. Hence, there could be multiple feasible paths that the quantum particle could take.



So, we now understand why the quantum world is probabilistic while our macroscopic world is deterministic. Thanks to Feynman, we now understand some of the quirks and intricacies of the quantum world!

Abijeet Jaikrishnan, 2A

Quantum Gravity

We all are familiar with the idea of gravity. Newton introduced it to us for the very first time by bringing up the idea that gravity is a force which arises due to the mass of the objects which causes them to attract each other. But later in the nineteenth century, Einstein established his theory of relativity, which says that both space and time are relative. He said that gravity is not a force, but it is a phenomenon caused due to the bending of the space-time background itself.

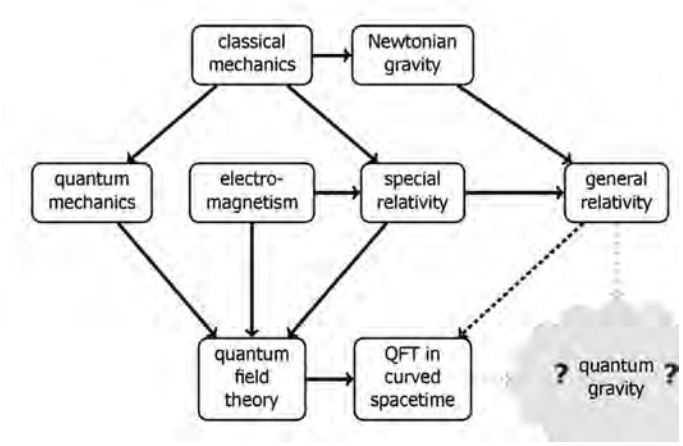
During the same time, a new branch of physics called quantum mechanics was being developed which focused on studying minute particles such as atoms and subatomic particles. It relies on the usage of a specific mathematical function called Wave Function which determines the properties of quantum particles. These micro-particles assume both wave and particle-like properties, but choose the appropriate characteristic property depending on the situation. Quantum mechanics does not obey the general rules of classical mechanics, such as a particle can be present at two places at the same time and we cannot predict its location in advance. The most common equation of Quantum Mechanics is the Schrodinger Equation given as:

$$ih\frac{\partial}{\partial t}\psi(x,t)=\left[-\frac{h^2}{2m}\frac{\partial}{\partial x^2}+V(x,t)\right]\psi(x,t)$$

Where,

Represents Wavefunction.

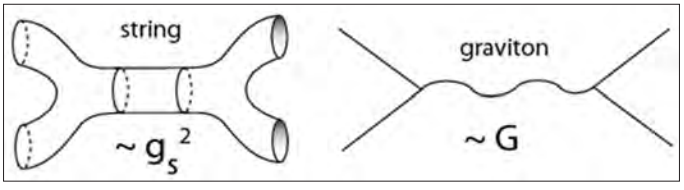
By the mid twentieth century, scientists realised that both these theories had limitations. For example, general relativity could not explain the case of superposition and uncertainty principles of quantum mechanics. At distances close to the Planck length like those near the centre of the black hole, quantum



fluctuations of spacetime are expected to play an important role. On the other hand, quantum mechanics did not include the relativistic approach of general relativity of treating time and space as variables. All these limitations signal the collapse of the general theory of relativity at different scales and highlight the need for a gravitational theory that goes into the quantum realm.

Quantum gravity is a field of theoretical physics that seeks to describe gravity according to the principles of quantum mechanics. It deals with environments in which neither gravitational nor quantum effects can be ignored, such as in the vicinity of black holes or similar compact astrophysical objects, such as neutron stars, as well as in the early stages of the universe moments after the Big Bang.

The field of quantum gravity is actively developing, and theorists are exploring a variety of approaches to the problem of quantum gravity, the most popular



being the String theory and the Loop Quantum Gravity.

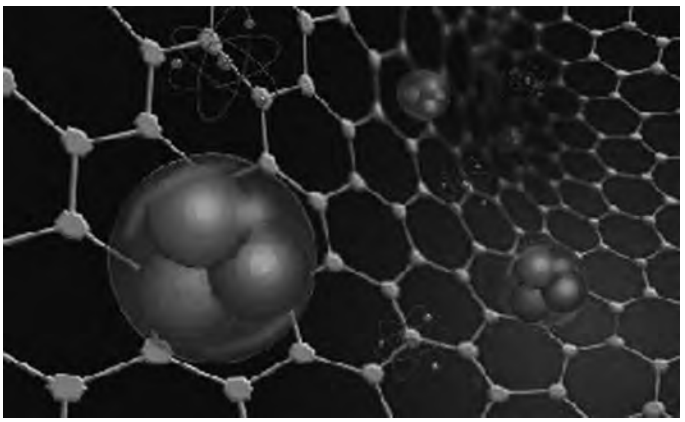
particles with different properties. This theory also attempts to quantise time by introducing another fundamental quantity for time. It also deals with

the unification of the four fundamental forces- Gravitational, Electromagnetic, Weak Nuclear and Strong Nuclear force, into a single one, and hence also referred to as being a possible theory of everything. It accomplishes String theory is widely the most recognised theory. According to this theory, the fundamental particles of our universe are said to be composed of fundamental strings, which can be open or closed. These strings are said to oscillate in various dimensions and different oscillations result in different fundamental his by trying to quantise gravity into a hypothetical particle- the graviton, similar to photon as in the case of light.

However, in order to satisfy the calculations behind this theory, the graviton is supposed to oscillate in 6 spatial dimensions and 3 dimensions in time. But no such dimensions have been found out by physicists so far, and hence its possibility of being existent remains uncertain.

One more important theory in this field is the loop quantum gravity theory. This theory clearly supports and suggests the theory of general relativity that space-time is a dynamic field and thus gravity is a quantum object. It states that each quanta of gravity is made up of many loops which are interlocked with each other at the junction points and form a network of loops called a spin network.

Loop Quantum Gravity derives the granular structure of gravity at the Planck's length [10^(-35)m] Here space is represented as network structure, which evolves through time. Time in this theory ticks like a clock. A small movement of the loops is recognized as one tick of the clock which is about [10^(-43)m] seconds and space is considered as movement of the spin network. Thus, this theory quantized the space-time background, but it could not describe all fundamental particles as string theory did.



One of the major drawbacks is the lack of experimental data due to the difficulty in conducting experiments at Planck's constant level. Another setback is the involvement of complex mathematical operations and its difficulty to comprehend it. Gravity, also being the weakest of the four fundamental forces, is completely ignored due to the other strong forces of nature. Hence it is difficult to measure gravity at the atomic level, and we cannot yet tell how the space-time background is affected by quantum particles.

By the late 20th century, Scientists started conducting experiments on quantum gravity to bridge the gap between theories and experimental data. This arose to a new idea called Phenological quantum gravity. These models are designed to bridge the gap between the quantum gravity theories and experimental data by allowing physicists to test the general properties. However, direct experiments would require energy of the level 1028eV and detectors of the size of a planet. So, physicists thought that direct experiments were not possible and hence, in the 21st century, indirect experiments were conducted which showed that there are some ways of quantizing gravity indirectly. It is widely hoped that a theory of quantum gravity would allow us to understand problems of very high energy and very small dimensions of space, such as the behaviour of black holes, and the origin of the universe. If this succeeds, then the world will finally receive its own theory of everything!

Pranav P, 2B

Dwelling into the Truth of Time

We use the concept of time throughout our lives, but have you ever asked yourself the question- "What is time?", "What does time look like", "Is time just an illusion?" The concept of time has intrigued philosophers, scientists and thinkers for millennia, and a number of these great minds have approached two main theories of time- linear and circular time. Linear time is our natural perception of time which visualizes time to move in a single direction from the past, through the present and into the future whereas circular time is a metaphysical theory which describes time as a circle with neither a beginning nor an end. The present moment defines both the past as well as the future.

Linear Time: The Dominant Paradigm

The idea of linear time can be traced back to the Judeo Christian theology stating that time started with the creation of the world and will end at the final judgment. This influenced Western culture and embedded the concept of linear time in it. Renowned scientists such as Sir Isaac Newton, Stephen Hawking and so on, all lean towards linear time.

1. **Stephen Hawking:** Stephen Hawking, in his book- 'A Brief History of Time', said that time consists of 3 fundamental arrows-

- ❖ the thermodynamic arrow of time which is why we never see the broken pieces of a plate come together to form a whole cup (the direction in which entropy or disorder increases)
- ❖ the psychological arrow of time: This arrow accounts for our subjective sense that time flows in a single direction enabling us to recall the past but not the future.
- ❖ the cosmological arrow of time as the universe is expanding and not contracting.

These three arrows mean that time is linear and unidirectional.

2. Newton's Absolute Time:

According to Newton, time is absolute and not relative, it does not depend on the observer and is a mere backdrop within which the physical phenomenon occurs. He said that time can only be understood mathematically.

Similarly, the Big Bang theory describes the universe's beginning and expansion framing cosmological events within a linear timeline.

3. Einstein's theory of relativity:

Albert Einstein, in his theory of relativity, stated that time is relative, in other words, the rate at which time passes depends on your frame of reference, yet it remains a one-directional flow within the contexts of gravitational fields and space-time.

Circular Time: A Recurring Pattern

The concept of circular time originated from religions of the East like Hinduism, and Buddhism which propose the concept of Yugas and Samsara. Circular time can be visualized as a circular ring with no starting point or ending point.

1. **Oscillating Universe Theory:** If we take a look into pure science, one such theory called the Oscillating Universe Theory looks at the universe being in an infinite loop which starts with a big bang and ends with a big crunch, that is, the universe expands for a while before the gravitational attraction of matter causes it to collapse back in and undergo a bounce. Some models such as the cyclic model proposed by Paul Steinhardt and Neil Turok suggest the concept of the cyclical universe in cosmology.

2. **Thermodynamic cycles :** Thermodynamic cycles too can be understood by circular time where a system undergoes repetitive processes to return to its initial state and start all over again. Though Stephen Hawking introduced the thermodynamic arrow of time discussed earlier, the theoretical reversibility of ideal cycles offers a cyclical time approach.
3. **Quantum mechanics :** Certain theories in quantum mechanics, such as many world interpretations, suggest that all likely events happen in some universe. This could mean that our lives in some form are being replayed infinitely across different realities.
4. **The eternal recurrence :** From a philosophical standpoint, The Eternal Recurrence of Friedrich Nietzsche proposes that "The eternal hourglass of existence is turned upside down again and again". His idea forces us to confront the likely possibility that our lives may be trapped in an endless loop, raising deep philosophical questions.

Blending the Concepts : Cyclic Elements in Linear Frameworks

While linear and circular time are often viewed as stark opposing concepts, there are instances where these two theories intersect. For example, natural phenomena like seasons and agricultural cycles that we observe reflect circular patterns in a broader linear time context. This suggests that time may not be entirely linear or circular but rather a complex interplay of both combined.

Albert Einstein states "People like us who believe in physics know that the distinction between past, present and future is only a stubbornly persistent illusion" which brings back the three questions we asked at the beginning of this article, "What is time?" "What does time look like?" and "Is time just an illusion". Currently, physics speculates that time is as real as space and might as well be the fourth dimension. In today's world, time is considered a fundamental quantity, with units, and measurable values and is treated as real, but the truth is we do not know anything about time, and we might never fully understand it. The ongoing exploration of linear and circular time continues to enrich our understanding of this profound and interesting dimension.

Sources:

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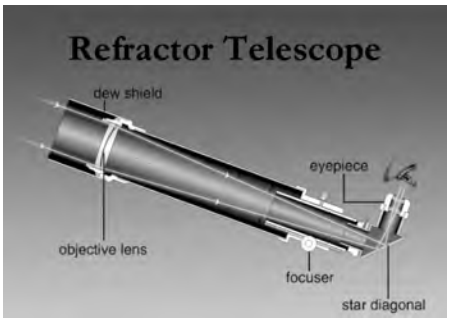
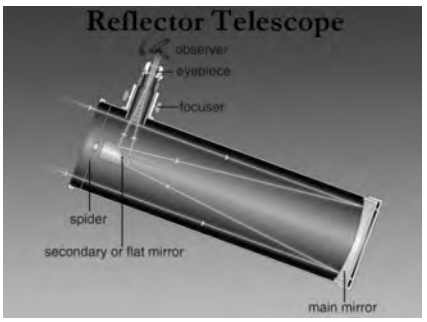
Vanshika Rathi, 1F

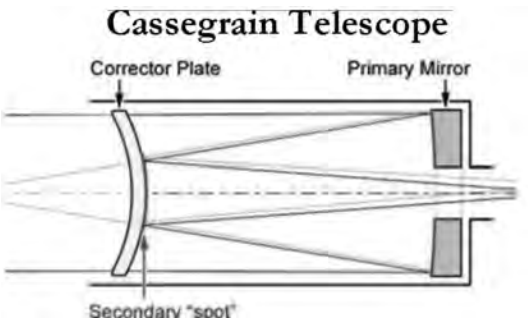
Astronomy as a Hobby

Astronomy is the study of celestial bodies and cosmic events. In this busy world filled with digital devices, astronomy offers an escape from the routine nature of life. Gazing at the stars and planets, we can connect with the vastness of the universe. Astronomy is not to be confused with astrology. Astrology involves 'palm-reading' or studying one's horoscope. Astronomy, however, is a science that deals with the study of our universe. Some astronomers use good-quality telescopes to view the sky and photograph objects. A telescope is an instrument that focuses and magnifies faraway objects (such as astronomical bodies). A telescope can use mirrors (such telescopes are called 'reflectors'), lenses (called 'refractors') or both (called 'Cassegrians') to achieve said purpose.

Many people believe that astronomy requires expensive, high-powered telescopes. However, you can start with just your eyes, observing the night sky. City skies such as Bangalore skies, however, are too polluted, so a dark location with clear skies is preferred. They can start out by observing constellations and identifying stars/planets in the solar system. Then, they can move on to binoculars once they are familiar with the constellations and stars. The most effective way, however, is to start out with a simple, good quality pair of binoculars which have good balance between power and weight (such as 10x50 ones – '10' indicates 10x magnification and '50' indicates the aperture of the objective lens in mm, in this case 50mm) and (this is optional) a good tripod. Some good binoculars brands include Pentax, Olympus, and Nikon. After acquiring the above equipment, they can start observing nearby, familiar objects such as the planets and our moon. Then, they can learn 'star hopping', a useful technique which involves 'hopping' from one bright star to another to locate a faint object not easily seen by the eye (even with binoculars). Many objects such as the moon, some nearby planets, nebulae (such as the famous Orion nebula), star clusters and even some galaxies (such as the Andromeda galaxy) can be observed in this way. There are also many astronomical societies in Bangalore such as ABAA (Association of Bangalore Amateur Astronomers) and BAS (Bangalore Astronomical Society) which can be joined if a beginner wants to try out equipment before purchasing or for learning the basics of the sky. One of the less effective ways to start is to use inexpensive, low-quality telescopes which are easily available at Amazon or in a toy shop. These kinds of telescopes often have terrible optical quality along with bad quality eyepieces, which often act like prisms instead of focusing light making the moon appear like a rainbow sphere and splitting stars into their spectrums. These telescopes (aptly named 'hobby-killers') make one lose interest in astronomy and eventually abandon the hobby altogether, which is unfortunate for a hobby that is just starting to gain pace in India. So, how do







you select a good telescope? Most people would want to choose a reflector telescope, which has a good balance between price and quality. The most popular reflector telescopes are called 'Dobsonians telescopes' ('Dobs' in short).

They are basically reflectors mounted on a simple base with altitude and azimuth adjustments (most made of wood). A good aperture to select would be between 6 inches to 8 inches. A6" dob is a good balance between size and quality, so I would recommend most beginners to start out with that. Some popular telescope manufacturers include Sky Watcher, Orion, GSO, iOptron and Celestron. Some popular Indian suppliers for astronomy equipment include Tejraj and Cosmea Scopes.

So far, I have described 'Visual astronomy', that is, astronomy with our eyes. Now comes the most exciting part, astrophotography. Simply put, astrophotography is photographing astronomical objects with a digital camera. After mastering the basics of the sky, Beginners can start with a smartphone in 'Pro' or 'Astronomy' mode, adjusting settings such as exposure and ISO to capture the night sky. A DSLR or Smartphone plus a good dobsonian telescope can make a decent beginner setup for photographing objects such as the moon and some planets. However, I recommend going with a DSLR (or mirrorless) Camera + Tripod as higher focal length telescopes (such as dobs) will require motorized tracking to account for the rotation of the earth for long-exposure astrophotography and photographing faint objects such as nebulae and galaxies. A DSLR (or mirrorless) Camera with a short focal length lens (<250mm) can be used to photograph some bright nebulae and galaxies such as the Orion nebula or Andromeda galaxy. Over time, they can then move on to investing in more advanced, expensive equipment, such as a telescope plus a motorized tracking mount can be purchased. Some types of mounts include German Equatorial Mounts (GEMs – for example, the Celestron Advanced VX mount) and Altitude-Azimuth mounts

A6" aperture 1200 mm focal length Sky Watcher Dobsonian Telescope

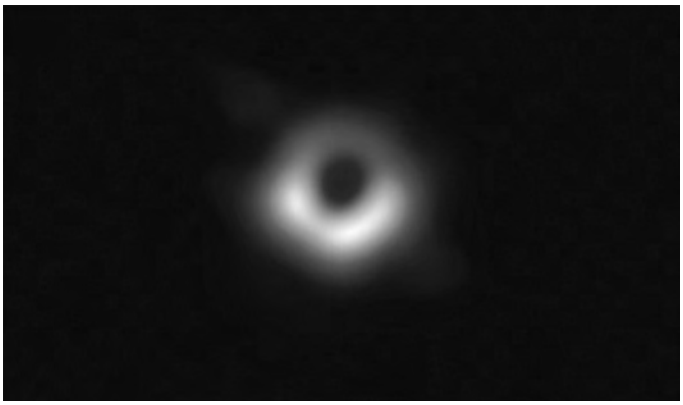
(Ex: SkyWatcher AZ-GTi). There are also mini motorized mounts and star-trackers specifically meant for astrophotography with a DSLR and lens such as the Sky Watcher Star Adventurer GTi and the iOptron Sky Guider Pro (The latter is not go-to and has to be manually pointed towards the desired object; It will simply track the object as it moves across the Earth's sky).

To conclude, diving into astronomy opens a whole new dimension of exploring the night sky. Starting with just a smartphone or DSLR, beginners can capture stunning images of celestial objects. As your interest and skills grow, investing in advanced equipment like motorized mounts and high-quality telescopes will enable you to photograph faint galaxies and nebulae with greater precision. Remember, the key is to start simple, learn the basics, and gradually upgrade your gear as you become more comfortable and passionate about capturing the wonders of the universe. Happy stargazing and photographing!

Adithya Samprathi, 1I

Black Holes

A Black hole is a region of spacetime where gravity is so strong that nothing, not even light and other electromagnetic waves, is capable of possessing enough energy to escape it. The idea of a body so big that even light could not escape was briefly proposed by English astronomical pioneer and clergyman John Michell in a letter published in November 1784.



Direct radio image of a supermassive black hole at the core of Messier 87.

The first image of a black hole was captured in 2019 by the Event Horizon Telescope (EHT) collaboration. The striking photo of the black hole at the center of the M87 galaxy 55 million light-years from Earth thrilled scientists around the world.

How do Black Holes form ?

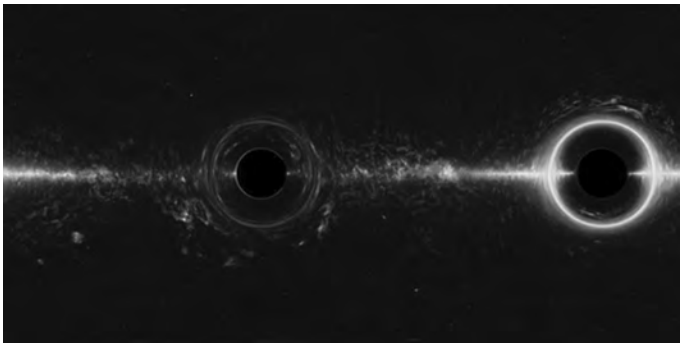
Black holes are expected to form via two distinct channels-

- They form when massive stars die. Stars whose birth masses are above 10 times the mass of our sun, when they exhaust all their fuel(hydrogen), they explode and die leaving behind a very compact dense object, a black hole.
- Black holes also form from the direct collapse of gas, a process that is expected to result in more massive black holes.

Black Hole

Types of Black Holes

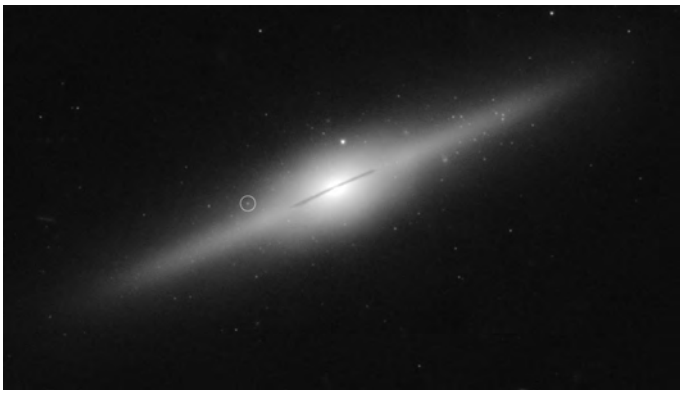
1.Stellar Black Holes : When a star with more than twenty times the Sun's mass runs out of fuel, its core collapses into a stellar-mass black hole. Nearly all the stellar-mass black holes observed so far have been found because they're paired with stars.



Example of Stellar Black Hole - Gaia-BH3

2.Supermassive Black Holes : The Milky Way has a supermassive black hole at its center. These monster objects have hundreds of thousands to billions of times the Sun's mass. The one at the center of our galaxy, Sagittarius A* is 4 million times the mass of the Sun.

3.Intermediate Black Holes : Theory suggests that there should be a continuum of sizes because, over cosmic time, collisions between stellar-mass black holes should have created some intermediate-mass black holes. These should range from around one hundred to hundreds of thousands of times the Sun's mass – or tens of thousands, depending on how

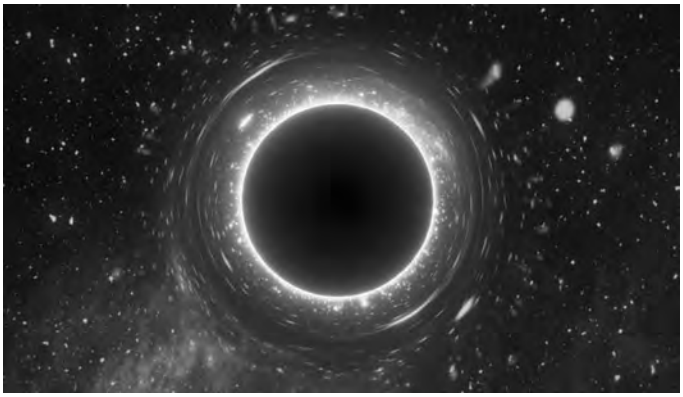


supermassive black holes are defined.

Example of Intermediate Black Hole - HLX-1

4.Primordial Black Holes

Scientists theorize that primordial black holes formed in the first second after the birth of the universe. In that moment, pockets of hot material may have been dense enough to form black holes, potentially with masses ranging from 100,000 times less than a paperclip to 100,000 times more than the Sun's. It's possible, however, that they could have evaporated as the cosmos aged due to quantum mechanical processes occurring at the edges of their event horizons. According to theoretical predictions, lower-mass black holes (those with less mass than a mountain) would evaporate more quickly than larger ones, which could mean many of these early black holes have completely dissipated. But more massive primordial black holes could still linger across the universe.



PBHs Black Hole

Missions on Black Holes

- **XPoSat**

  Launched in January 2024, this Indian satellite will orbit the Earth and study X-rays from around 50 celestial objects. It's equipped with two instruments: POLIX, which measures the polarization of X-rays in the medium energy range, and XSPECT, which provides insights into lower energy range X-rays. The mission is estimated to last five years and cost around $30 million.

- **LISA**

  This ESA-led mission will be the first space-based observatory to study gravitational waves, which it will use to probe the history of the universe.

- **Athena**

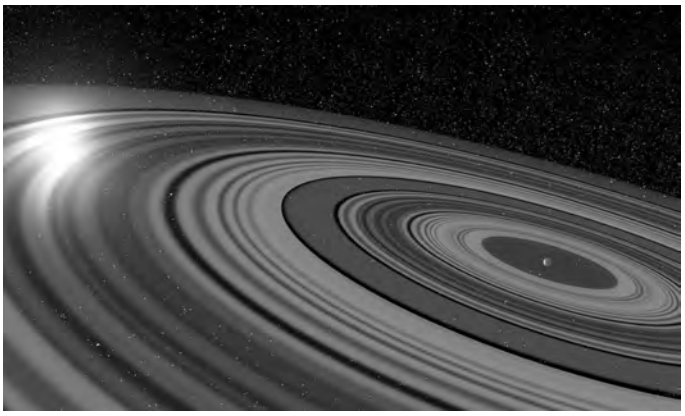
  This ESA mission will observe hundreds of thousands of black holes, from near to far away, and map the hot matter around them.

- **Black Hole Explorer**

  This mission will study the fine photon ring structure of black holes, which could reveal universal signatures of multiple photon orbits and test general relativity. It will also give astronomers access to a larger population of black hole shadows.

Trijal S.M,1B

J1407B, And Its Beautiful Rings



Saturn, admired for its beautiful rings, is the 7th planet in our solar system. Saturn's most well known and loved aspect is its ring, but not many people know of another exo- planet just as beautiful as Saturn.

J1407b, also known as the 'Super Saturn', received its name due to its massive ring system. It is estimated to have more than 30 rings which are each millions of kilometers in diameter. It exists in the Milky Way galaxy, just about 450 light-years away from Earth. It was assumed as a planet, after further research it was identified as a dwarf / exo-planet. The object is said to be 10 times the mass of our Jupiter (approximately 1.012073272 x 10^32Kg). It is present in the Centaurus constellation, next to a star known as the J1407, the star is like our sun but much younger.

The JI407b, or the Super Saturn, is believed to be a very active object. Astronomers usually find certain 'sparks' from the said exo-planet which causes the environment near it to change. The exo-planet emits thermal radiation from its rings. The radiations are very small in size.

The planet is also assumed to contain hidden moons in between its rings. The rings of the object itself are believed to be formed due to another planet's collision. The rings are calculated to be around 120 million kilometers wide which is 200 times the size of the rings of our Saturn!

It is defined as a circumplanetary disk or a ring system which mainly contains dust particles in its rings. Though the rings are made of dust, the visual of the exo-planet is beautiful.

Being present next to the star J1407, the Super Saturn orbits it. Recent studies on the object show that despite its huge mass and size, it orbits the star. It makes frequent eclipses with the star which are captured on Earth by astronomers. It has a very unusual orbit with one side being very far off and the other very close to the star.

The Super Saturn when orbiting in front of the J1407 (also known as V1400 Centauri), facing the Earth, makes a rare and unnatural eclipse. This information led the astronomers to believe that it was orbiting the star.The object still causes the light of the star to dim at times.

The Super Saturn is still known to amaze people by its magnificent ring system. Though the object cannot be viewed frequently, it is present out there in our wide and never ending space. Making it one of the vast beauties of space.

Namratha S, 1J

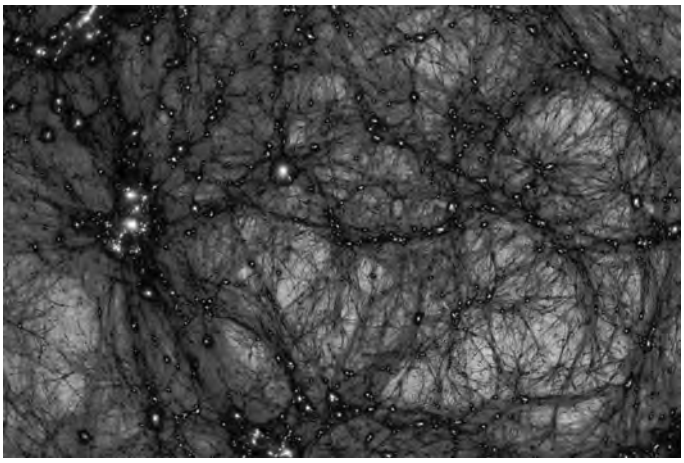
Dark Matter- Stuff We Can't Perceive

As every schoolboy knows, "matter is defined as anything that occupies space, has mass and can be perceived by the senses." Well, what if one was to discover that there is a type of matter that occupies space, but has no mass and most perplexingly, cannot be perceived at all? That matter is dark matter, and no, it is not literally dark. Scientists call it so because they have, rather embarrassingly, never seen it before. No one has. We know very little of this mysterious ether, and yet, it comprises over 80% of the universe and lends the sense to how galaxies, planets and stars work. With the limited knowledge we do have, a very rough and sketchy estimate can be made of its properties.

Normal matter consists of baryons- a fancy, overarched way of saying protons, neutrons and electrons. Basically, the "normal" stuff that we in the pre university level are used to dealing with. Dark matter, contrarily, deals with non-baryonic matter.

Non-baryonic matter consists of particles aside from baryons. We don't exactly know what these particles are, but the most viable candidates are WIMPs, neutralinos and sterile neutrinos. And before you can open your mouth and vehemently exclaim that a wimp is someone who is a fearful cry baby, think again. A WIMP is a Weakly Interacting Massive Particle. These massive particles can range from ten to a hundred times the mass of a proton, but their "weak" interactions with normal matter make them so difficult to detect we don't even know what they exactly are, or why their interactions with baryonic matter are weak in the first place.

Neutralinos, on the other hand, are not neutral particles like neutrons, as the name suggests, but rather a type of neutrino that is much more massive and much slower than a normal neutrino. They are part of the group of particles called bosons, home



to the infinite chargeless and undetectable Higgs Boson, which somehow gives mass to all properties and occupies space (and thus, there is no true emptiness in space, no vacuum, so that's an absolute letdown). We are, however, not here to talk about the Higgs boson. Neutralinos have still not been detected even with the best efforts of the scientists of CERN(The European Organization for Nuclear Research), Geneva, and we know little of these particles as well.

Those of you fortunate enough to have researched a little into nuclear reactions will know that in order for the Sun to convert hydrogen into helium and thus burn, a proton must be converted into a neutron by means of weak decay with the emission of a positron and a neutrino. The technical details of this statement are irrelevant for this discussion, but just know that neutrinos cause the Sun to burn, and without them, our planet would have never formed and we wouldn't be here to read this. Millions of neutrinos bang into an underground observatory in Ontario, Canada, and millions more pass through us each day without bothering us, and from this we have deduced that neutrinos are of 4 types- electron flavor, muon flavor, tau flavor and sterile. Flavor here does not mean they taste of anything- it simply means the

particle's species. Sterile neutrinos are of particular interest here, because they only interact with matter through gravity, making them a viable candidate for dark matter. Other particles in dark matter include the neutrally charged axion and the uncharged photinos.

Frustrating, right? We came here to attempt to define dark matter and got nowhere. We are still a long way off from knowing if dark matter even exists, and if so, what it is made of, why it is here, how it causes galaxies to work, et cetera. But with time, progress shall be made, and we may be able to learn more of this mysterious substance that permeates our universe. For now, be content to call it "dark matter" and know that the name could not have hit closer to the mark.

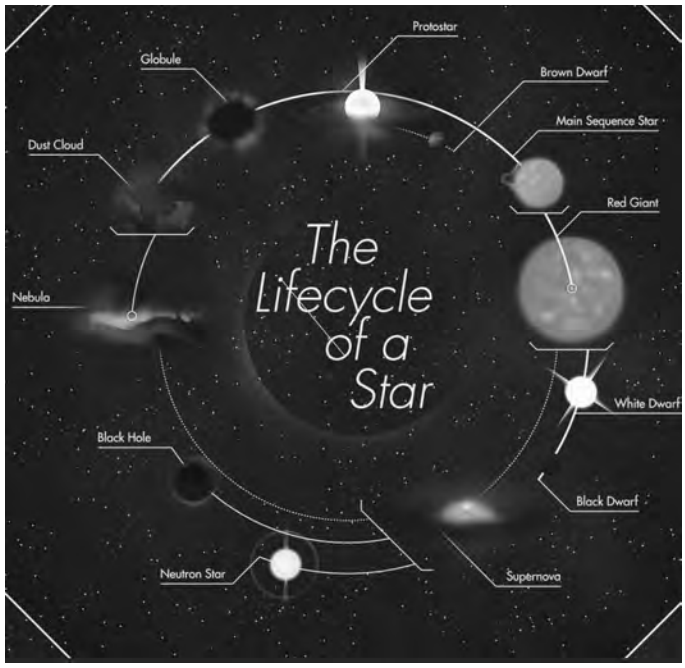
To quote Nobel Laureate and bongo player Richard Feynman- "Anyone who claims to understand quantum theory is either lying or crazy." So be rest assured we are all sane, and we can attain peace with that fact, for the very essence of dark matter or its related quantum theory flies right above our heads.

Agasthya Dhanraj, 1J

Stellar Journey: Stellar Evolution

Almost every dot that shines in the night sky is a star. A star is a giant orb made of hot gasses, primarily composed of Hydrogen and Helium. There are tens of billions of stars in the observable universe and only a small fraction is visible to our eyes.

In this article, let's explore the fascinating life of stars, diving deep into the cosmos.



Nebula

Nebula is a slender cloud of gas that is present in space. These are formed when a star goes supernova or by the interstellar gas and dust. Nebulae occur in varieties of shapes and sizes. Nebulae are classified into four categories: Planetary Nebulae, Supernova Remnants, Dark Nebulae and Emission Nebulae. Nebula where stars form are also referred to as 'star nursery'.

A few examples of nebulae: HorseHead Nebula, The Great Orion Nebula

Dust Cloud and Globule

The gravitational forces present in the dust cloud pull the gasses together and hence they start coming together forming clumps of gas and dust. As the clumps get bigger, the gravitational pull increases. Gradually, the dust clouds become gigantic and the gravitational pull becomes so strong that the dust and gas collapse into the center, heating up the gasses already present at the center forming the core of a new star.

Protostar

Protostar is a very young star still gathering mass from its dust cloud. It is a stage before becoming a main sequence star. A protostar has 2 pathways: A Brown Dwarf and A Main Sequence Star.

Brown Dwarf

A Brown Dwarf is a sub stellar object which is created when the protostar falls short of becoming a main sequence star due to the inability of triggering hydrogen fusion reactions to form helium in their cores. They instead perform deuterium fusion reactions and most massive ones, lithium-7 fusion reactions. They are also known as 'failed stars'.

Main Sequence Star

The Main Sequence Stars are those protostars which had sufficient energy to trigger sustainable hydrogen to helium fusion reactions in their cores. Our Sun is one of the most common main sequence stars, i.e.,Yellow star. Some Other examples of Main Sequence stars are Sirius A , Alpha Centauri, Proxima Centauri, Vega, etc.

Red Giant

This is the phase of the star when the hydrogen fuel in the core of the star gets exhausted. Due to the decreasing force of the fusion reaction, the core starts contracting and heating up. This heating of the core causes the hydrogen, the next layer of the star that is covering the core, to burn hydrogen and start to expand. This process of cooling and expanding is of the sub-giant star. When the stellar envelope (Part of a star which is not bound by the gravity of the star) gets sufficiently cool, it stops expanding.

Massive Main Sequence Stars undergo the same processes as subgiant stars forming a 'Red Super Giant'.

Our Sun's next phase is of a red giant.

Red super gents are of the size of 1000 times of our Sun while red giants are only 200 to 800 times the size of our Sun.Red super giants go supernova while the red giants don't.

The most unstable red supergiants are called 'Red Hypergiants'

White Dwarf

White Dwarf is the remnant core of a red giant. It composes of electron degenerate matter (Degenerate matter occurs when the Pauli Exclusion Principle significantly alters a state of matter at low temperature.).Its mass is comparable to the Sun while its volume is comparable to Earth. It has low shine caused by emission of residual thermal energy. It is believed that there are a few hundred billion white dwarf stars within The Milky Way. White dwarf stars are composed of one of the densest forms of matter known in the universe, surpassed by only other compact stars such as neutron stars, black holes, and quark stars.

Black Dwarfs

A stellar remnant (specifically a white dwarf) which has sufficiently cooled to no longer emit any heat or light. No black dwarf exists and it is a theoretical stellar remnant and it takes a long time for a white dwarf to reach the state of a black dwarf is expected to be more than the age of the universe itself.

Supernova

A supernova is the luminous explosion of a star. It occurs during the last stages of a massive star. The original object which goes supernova is called 'progenitor'.

It occurs due to two reasons: sudden re-ignition of nuclear fusion in a white dwarf star or the collapse of a massive star(Red Supergiant or Red Hypergiant).

Supernovae emit shock waves which can trigger the formation of new stars. They are the major source of cosmic radiation and also produce gravitational waves.

After a supernova explosion, the remnant can be a Black Hole, a Neutron Star or a new Nebula.

Neutron Star

Neutron star is a collapsed core of a massive supergiant. It is the result of a supernova and the gravitational collapse of the star which compresses it past the density of a white dwarf. It has the highest magnetic field as compared to any other object in the universe. In these, the Magnetars have the strongest magnetic field. These stars, even though violent, can host planetary systems. There are 3 types of neutron stars: Magnatars, Pulsars, Magnetars + Pulsar.

Black Holes

Black Holes are the region of spacetime where the gravity is so strong that even light can't escape. The boundary of no escape around the black hole is the Event Horizon. Black holes act as an ideal black body as it reflects no light.

The black hole at the heart of Milky Way is the Sagittarius A*.

The biggest black hole in the universe is the Phoenix A*.

Aditya K, 1D

Unravelling the Mysteries of Dark Matter: A Journey into the "Invisible" Universe

Dark matter, an enigmatic substance that permeates the vast expanse of the cosmos, has captivated scientists and astronomers alike for countless decades. Despite its staggering 80% composition of the universe, the elusive nature and perplexing properties of dark matter continue to confound, thus establishing it as one of modern science's most profound unsolved enigmas. Unravelling dark matter's secrets and exploring its impact on galaxy formation and universe evolution while seeking a deeper comprehension of fundamental laws of physics are the focus of this article's cutting-edge research. From the mind bending experiments conducted deep underground to the innovative telescopes and space missions, join in on an awe-inspiring journey as we explore the realm of dark matter and its implications for our cosmic existence.

Dark Matter's existence was initially proposed to explain the gravitational forces observed in galaxies and galaxy clusters for which visible matter alone cannot be responsible. While ordinary matter, such as stars and planets, interacts through electromagnetic forces, dark matter remains unseen, neither emitting nor absorbing light. Its presence is inferred only through its gravitational effects on visible matter. This article explores the latest advancements in dark matter rese-arch, providing valuable insights into ongoing investigations dedicate-d to comprehending its composition, distribution and profound influence on shaping the cosmos.

Dark Matter – The Puzzle:

Dark matter remains one of the most captivating mysteries in modern science. From the intriguing observations of galactic rotation curves to the bending of light in gravitational lensing, the evidence for its existence continues to mount. Ordinary matter alone cannot account for the gravitational forces observed in galaxies and galaxy clusters, necessitating the presence of an invisible substance. This section presents an overview of the compelling

evidence and introduces various dark matter candidates, such as Weakly Interacting Massive Particles (WIMPs) and axions. In our pursuit to uncover the mysterious characteristics of dark matter, we are presented with an exceptional opportunity to explore its profound implications for our comprehension of the cosmos. Through emphasising the discrepancies that confound our present knowledge, we embark on an enthralling expedition towards unravelling its secrets and illuminating its impact.

Probing the Invisible Universe:

Unlocking the secrets of dark matter requires innovative techniques and experiments designed to directly detect and study this elusive substance. In the depths of underground laboratories, scientists tirelessly search for rare interactions between dark matter particles and ordinary matter. Space-based missions, on the other hand, provide a unique vantage point for indirect detection, analysing large-scale structures and observing the effects of dark matter on the cosmos. This section delves into the cutting edge technologies employed, such as the Large Underground Xenon (LUX) experiment and the Dark Energy Survey (DES), showcasing the remarkable efforts to shed light on the invisible universe and unlock the mysteries of dark matter.

Simulation the answer?

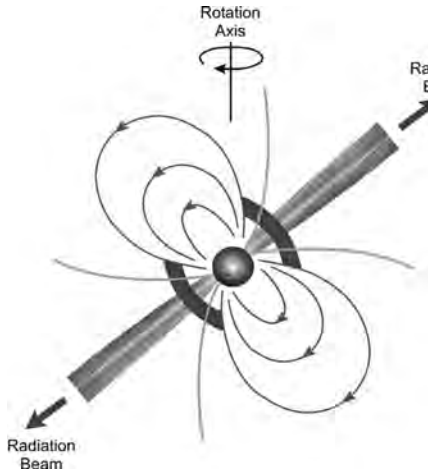
Computer simulations have become invaluable tools for understanding the role of dark matter in shaping our cosmic landscape. By harnessing the power of advanced computational techniques, scientists recreate the evolution of the universe, modelling the formation and distribution of galaxies and large-scale structures. These simulations provide unique insights into the gravitational effects of dark matter, illuminating its impact on the cosmic web. This section explores the methodologies employed, including N-body simulations and hydrodynamic models and showcases the remarkable discoveries that have emerged from these virtual experiments. Through simulations, we gain a deeper understanding of the intricate relationship between dark matter and the cosmos.

Is dark matter the answer to the Multiverse?

This section delves into the captivating correlation between dark matter and cosmological theories, specifically focusing on the intriguing concept of the multiverse. Recent research indicates that dark matter may have a significant impact on both the presence and behaviour of parallel universes. It discusses how the distribution and interactions of dark matter could shape the conditions necessary for the formation of multiple universes within a broader multiverse framework. This section looks at the exciting possibilities that arise when delving into the relationship between dark matter and cosmological theories. It provides insight into the profound impact such connections could have-on our comprehension of the universe's origin and future. As the quest to unravel the mysteries of dark matter intensifies, scientists are combining theoretical modelling, cutting-edge experiments and advanced observations to decipher its fundamental properties. By illuminating the invisible, we aim to not only deepen our understanding of the cosmos but also pave the way for revolutionary discoveries and breakthroughs in physics. The exploration of dark matter opens a window to the unknown, challenging our perceptions and propelling humanity further into the wonders of the universe

Parjanya Shankar, 1B

Pulsars



Pulsars are types of neutron stars. A neutron star is the highly compacted core of a dead star left behind in a supernova explosion. Pulsars are highly magnetized and are rotating at enormous speed. Astronomers detect them by the radio pulses that they emit at regular intervals.

A pulsar is formed when a massive star collapses or exhausts its fuel of helium or hydrogen gas.

This is when the star blasts out in a giant explosion known as a supernova, the most powerful and violent event in the universe. Without the opposing force of nuclear fusion to balance it, gravity begins to pull the mass of the star inwards until it implodes. In a pulsar, gravity compacts the mass of a star until it forms an object composed primarily of neutrons packed so tightly that they no longer exist as normal matter.

Pulsars were first discovered in 1967 by Anthony Hewish and Jocelyn Bell at the radio astronomy observatory at Cambridge. Pulsars are found mainly in the milky way, within about 500 light years of the plane of the galaxy. A complete survey of pulsars in the galaxy is impossible, as weak pulsars can only be detected if they are nearby. Radio surveys have now covered almost the whole sky and over 300 pulsars have been located.

Pulsars are very strongly magnetized neutron stars, with fields of strength reaching 100 million Tesla (earth has a magnetic field of 22-67 microTesla). The rapid rotation of the pulsar on its rotating axis makes it capable of accelerating charged particles to energies of a thousand million volts. (which practically requires a particle accelerator of radius much greater than that of earth for humans to achieve that potential difference). These charged particles are responsible for the beam of radiation of radio, light, X-rays and gamma rays. Their energy comes from rotation of the star, which must therefore be slowing down because energy cannot be created nor destroyed. This slowing down can be detected as a lengthening of the pulse period. Typically, a pulsar rotation rate slows down by one part in a million each year. The crab pulsar, which is the youngest and most energetic known to mankind, slows down by one part in 2 thousand each year.

Pulsars live tens of million years before eventually slowing down so much that they die and enter the pulsar graveyard. But if a pulsar sits near a stellar companion, it may be 'recycled', meaning it absorbs the siphon material and energy from its neighbor and increases speed by hundred of times per second, thus creating a millisecond pulsar and giving the once-dead pulsar new life. This change can occur at any time in a pulsar's life. Millisecond pulsars are the oldest known pulsars; some of them are billions of years old. The oldest pulsar is PSR J0108-1431 which is about 200 million years old.

The relentless pursuit of understanding the universe exemplifies humanity's curiosity. This drive not only fuels ongoing exploration but also promises to inspire future generations to continue unraveling the mysteries of the cosmos, ensuring the quest for knowledge never ceases.

"Somewhere, something incredible is waiting to be known in the universe"- Sharon Begley

Dakshath Gowda, 2J

Why do we study Physics ?

Why just why do we study physics?. Might be a question you might have asked yourself in life at least once in your life, right? Well, I will take you on a tour of the wonderful world of applied physics.

First of all, what is physics? Well basically it's a branch of science concerned with the nature and properties of matter and energy, this the definition given by google but students generally refer to physics as a "NIGHTMARE" or memorizing formulae for exams. But from the tiny atoms that make up everything to the vastness of space, physics holds the answers. Studying physics is about developing a curious mind and learning to think critically.

I also thought the same as you but after knowing about the wonders of applied physics it was just mind boggling, you know.

You all might have wondered how cars move or how planes can fly even though they are so heavy or just how do ships carry so much weight in water? Just how.

By studying physics

You might become a Problem Solver

Physics teaches you how to break down complex problems into smaller, manageable parts. This skill is super useful in everyday life and can help you tackle anything from school projects to puzzles.

Or You Might be an Explorer of the Unknown

Physicists are like explorers, venturing into uncharted territories. They're always asking questions and searching for answers. Studying physics can ignite your curiosity and inspire you to discover new things.

Or Build a Strong Foundation

Physics is the base for many other subjects like chemistry, biology, and engineering. Understanding physics can give you a head start in these areas and help you excel in school.

And Start Opening Doors to Exciting new Careers

A background in physics can lead to a wide range of exciting careers. You could become a scientist, engineer, teacher, or even work in technology or finance. The possibilities are endless!

Most of you guys like cars, right? I like them a lot, you know. One day when I went out with my family in a car a thought came to my mind "How does this car function?" so, I researched this a lot and got to know there's a whole world of physics happening behind the scenes?

For example, like torque, air resistance, friction, springs, electricity and if I keep on there are many more applications of physics in just a little car you know. So, I thought "Damn these many just to move from one place to another. This is just awesome. You know the world of physics is just endless like the universe. Not only that airplane, how do they fly carrying so much weight, here I can't fly a weightless paper plane. The answer is of course physics. Planes use many topics of physics like how much fuel is required or what angle should the plane have during the time of flight or even at what distance should it maintain during flight or many more calculations are done using physics.

So, if you love asking "why" and enjoy solving puzzles, physics might be the perfect subject for you. It's not just about learning facts; it's about developing a deeper understanding of the world around you.

In conclusion "Why Do We Study Physics?"

Well Because One it's AWESOME Two it's interesting Three who needs a reason !

Guess what? Physics is the secret code to unlocking many crazy cool powers like a superhero with X-ray vision, able to see through walls. Or maybe you want to

build a time machine and visit dinosaurs

Physics is like a puzzle, but instead of pieces, you're solving the mysteries of the universe! You'll learn why roller coasters are so thrilling, how rockets blast off into space, and even how to make the perfect slime. It's like having a front-row seat to the greatest magic show ever!

So, strive to find most of your doubts through the amazing world of physics.

Keerthan R, 1I

Chemistry of Emotions

Ever wondered why solving that one physics problem can make you feel on top of the world, while a single poor performance in the monthly tests can bring you down in an instant? It's all about the chemistry of emotions. Essentially, our feelings are driven by a complex interplay of neurotransmitters and hormones. Imagine you are studying for NEET, juggling a mountain of textbooks, mock tests, and a rigorous schedule. Amid this intense preparation, understanding how your emotions are driven by chemistry can offer some valuable insights.

First off, let's talk about dopamine. As you tackle a challenging topic or score well on a mock test, your brain releases dopamine. This neurotransmitter is nature's built-in reward system, that makes you feel elated and motivated to push through those long study hours. It's like a mini celebration every time you make progress, encouraging you to keep striving for your goal.

Serotonin, another key player, is linked to mood regulation. When serotonin levels are balanced, we are more likely to feel happy and stable. On the other hand, low serotonin levels can contribute to feelings of sadness or depression. Think of serotonin as the body's mood stabilizer, keeping you grounded and emotionally resilient.If you're feeling anxious or stressed about an exam, it might be due to a dip in serotonin. Research shows balancing your study routine with breaks and self-care can help maintain these levels and keep your mood stable.

Then there's cortisol, the stress hormone. During periods of intense study or exam anxiety, our cortisol levels rise, because when we are faced with a stressful situation, our body releases cortisol to help us cope. While it's crucial in short bursts—like when you need to meet a tight deadline—persistent high levels of cortisol can lead to anxiety, burnout and emotional fatigue. It's a reminder of how our chemistry can sometimes work against us if not kept in balance.

Lastly, let's not forget about oxytocin, the 'love hormone.' Even though we're deeply immersed in our studies, staying connected with friends and family can boost oxytocin levels. These social interactions provide emotional support and relaxation, helping us stay positive and focused.

So, as we dive into NEET, JEE or CET preparation, keep in mind that our emotions are a cocktail mixed by our brain's chemistry. Dopamine is the internal cheerleader, serotonin keeps our mood steady, cortisol is the stress alarm, and oxytocin reminds us to stay connected with loved ones. Balancing these elements is key. If stress levels rise, don't forget to take breaks and find your zen. After all, even the toughest challenges are easier to tackle with a little emotional chemistry and a splash of fun!

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Aarohi Yashodeep Deodhar, 1E

Tales from the Abyss: How organic geo-batteries generate oxygen in the dark

In a ground breaking study published in Nature Geoscience, scientists have uncovered a remarkable phenomenon in deep-sea environments that challenges long-held beliefs about oxygen production. This new finding, termed "dark oxygen," originates from the Clarion-Clipperton Zone, a vast submarine ridge in the Pacific Ocean known for its rich biodiversity and mineral deposits.

Historically, the scientific consensus was that oxygen levels in deep-sea environments decrease with depth due to the absence of sunlight and, consequently, the lack of photosynthetic activity. Photosynthesis, the process by which plants and certain microorganisms convert sunlight into oxygen, has always been thought to be the primary source of oxygen in the ocean. However, recent data from expeditions in 2013, 2021, and 2022 have revealed an astonishing twist: oxygen levels persist at depths of up to 13,000 feet, far beyond the reach of sunlight.

Researchers utilized benthic chambers which were devices designed to trap small volumes of the seafloor environment for detailed study to measure oxygen concentrations in these extreme depths. Over a two-day period, they observed a significant increase in oxygen levels inside these chambers, reaching more than three times the initial concentration. This result was contrary to the expected trend of oxygen consumption at such depths. Initially attributed to potential sensor malfunctions, the anomaly was confirmed through repeated observations and rigorous testing.

The source of this unexpected oxygen turned out to be polymetallic nodules. These are naturally occurring mineral deposits found scattered across the deep-ocean floor and are rich in metals such as cobalt, nickel, copper, lithium, and manganese, elements crucial for modern battery technologies. They vary in size from tiny specks to objects as large as a potato.

In the summer of 2023, Andrew Sweetman from the Scottish Association for Marine Science reached out to Professor Geiger at Northwestern University's Weinberg College of Arts and Sciences. Geiger, affiliated with the International Institute for Nanotechnology, had previously demonstrated that rust combined with saltwater could generate electricity. This sparked a collaboration to investigate whether polymetallic nodules in the deep ocean could similarly produce enough electricity to drive seawater electrolysis and generate oxygen.

Sweetman sent samples of these nodules to Geiger's lab, where experimental investigations confirmed their hypothesis. Remarkably, they found that just 1.5 volts, which was the voltage equivalent to that of a standard AA battery, was sufficient to split seawater into its constituent gasses . Single nodules generated voltages up to 0.95 volts, and clusters of nodules produced even higher voltages, akin to batteries connected in series. Essentially, these nodules function as natural"geo-batteries," capable of driving electrolysis and generating oxygen in the absence of sunlight.

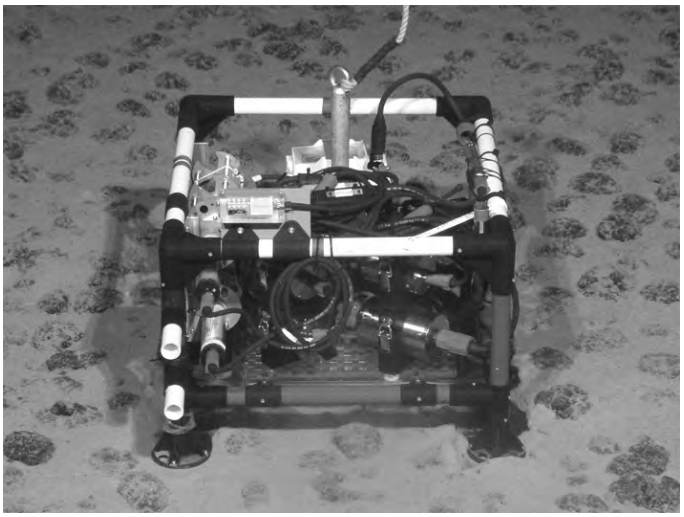
This discovery has profound implications for our understanding of oxygen production and the origins of life. Sweetman reflected on the breakthrough, stating, "For aerobic life to have begun on Earth, there must have been oxygen. We previously thought that photosynthetic organisms were solely responsible for this, but now we have evidence that oxygen can be produced in the deep sea, where sunlight is absent. This could lead us to reconsider where and how aerobic life first emerged."

The mystery of life's origins remains unresolved, but

this finding opens new avenues for exploring the conditions that might have supported early aerobic life. It poses a captivating question: Where did life truly begin?

Photo taken on March 8, 2019, shows a study underway on the seafloor of the Clarion-Clipperton Zone to investigate the impact that potential manganese nodule mining in the deep sea would have on ecosystems there.

Nodules containing nickel, cobalt, and manganese rest top these core samples taken from the deep ocean floor, San Diego, Calif., June 8, 2021.



Benthic Chamber

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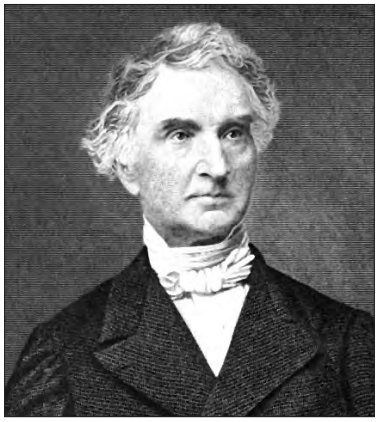
Siya Manmohan, 2G

L -Tyrosine



About 178 years ago, in 1846, Justus von Liebig, a German Chemist, discovered an amino acid present in the protein casein, in cheese. This amino acid was called 'tyrosine', its name derived from the Greek word 'tyrós' meaning CHEESE.

Tyrosine was isolated in 1906 from silk waste (raw, unwindable silk) by E. Aberhalden and Y. Teruuchi, also in Germany. Tyrosine is represented by the symbols 'Tyr' and 'Y'.

Tyrosine, or L-tyrosine, is one of the 20 standard amino acids used by animal cells to synthesize proteins. It is a non-essential amino acid, meaning that it does not have to be consumed, except in certain cases of physiological issues, where it is supplemented.

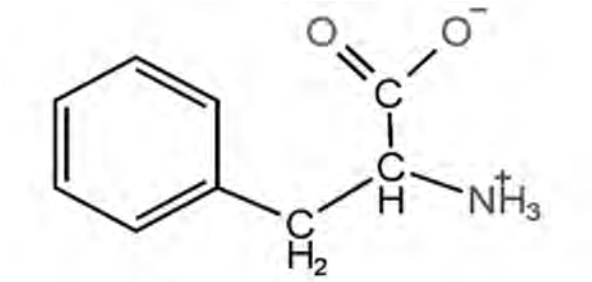
In plants, L-tyrosine is an electron-donor (or a reducing agent) in the reduction of oxidized chlorophyll, in the process of photosynthesis.

Tyrosine is synthesized by mammalian cells from phenylalanine. Phenylalanine is found in many high-protein foods such as cheese, milk, cottage cheese, almonds, yogurt , and soy protein.

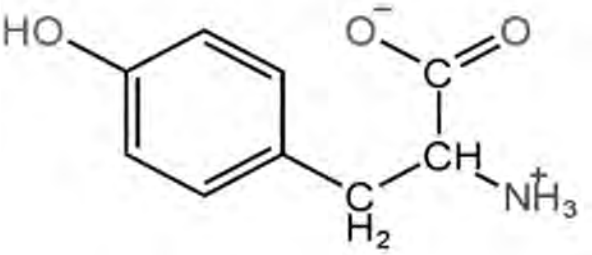
Tyrosine supplements are effective for an inherited disorder called 'phenylketonuria' (PKU), which causes an increase in the phenylalanine levels in the blood. People with PKU are unable to process phenylalanine, thereby causing a dip in the tyrosine levels in the body. In order to prevent tyrosine levels from becoming too low, patients are required to consume foods with very less phenylalanine and more tyrosine.

Although there is not much evidence to support this, tyrosine taken orally may help improve mental performance, and also in memory during stressful situations. However, tyrosine is ineffective in athletic performances, meaning that it cannot be used as PED (Performance-Enhancing Drug).

Nitration of L-tyrosine can also be used to produce a yellow substance called 'xanthoproteic acid' (Greek: Xanthós- "Yellow"). Xanthoproteic acid is formed when nitric acid reacts with proteins, such as those present in the nails and skins of animals. Formation of this compound also serves as an indicator for proteins in various substances (which can be done using the xanthoproteic test).



Phenylalanine



Tyrosine

In medicine, tyrosine finds its uses as a precursor to neurotransmitters, which increases plasma neurotransmitter levels. A neurotransmitter is a chemical messenger that transmits signals across a synapse (the "space" between two adjacent neurons or nerve cells).

However, tyrosine and 'Levodopa' (a drug used as a dopamine-replacement agent in the treatment of Parkinson's motor symptoms) should not be consumed at the same time, as tyrosine may decrease the absorption of levodopa into the system, thereby decreasing the effect of levodopa. Taking tyrosine and thyroid hormone-pills together may result in the over-production of the thyroid hormone (thyroxine), and may thereby increase the effects and side-effects of thyroxine in the body. In some people, oral consumption of tyrosine may cause side-effects such as nausea, headaches and heartburns.

L-tyrosine is a metabolite (a substance used up during metabolism) found in or produced by E. coli (Escherichia coli- a species of bacteria, certain strains of which are present in our gut).

In short, tyrosine or L-tyrosine is necessary for numerous functions and processes in our body, and despite its side-effects, is important for our survival.

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acs.org
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Adhithi B, 1F

ALCHEMY

Talking about chemistry, every element around us is one or another way connected to chemistry. We can say that the first chemical compound discovered by early humans was fire. After many years, i.e. in 360 BCE Aristotle told us that all elements or compounds are made from four materials which include air, water, earth, and fire.

Using this information the early scientists wanted to prepare elements or compounds using only these four fundamental elements of nature earth. This led to the popularity of alchemy in the Middle Ages.

We can say that the main aim of alchemy was the quest to create the philosopher's stone i.e. a waxy red material that alchemists believed could turn any ordinary metal into gold. Now we can say that it is technically not possible because the atoms cannot be changed but are forever stuck as the same elements .

But this wasn't known at that time. In the process of discovering the philosopher's Stone. Many processes like distillation, condensation, evaporation, and even elements were discovered. Due to this fact, Alchemy forms the basics of chemistry and medical science.

DISCOVERY OF PHOSPHORUS

Phosphorus was one of the elements discovered in the process of obtaining the philosopher's stone. It was discovered by a German alchemist Henning Brand in 1669. The main reactant used for the discovery of phosphorus was four and a half tons of urine because he assumed that by purifying the urine the philosopher's stone could be formed. The processors he followed were

1. First the urine was aged till the intense odor was removed.
2. The urine was boiled till the white paste was materialized
3. The paste was placed in a retort. A solid white substance that glowed in the dark i.e. Phosphorus (one of the building blocks of life) Thus he was the first person to ever discover a chemical element. But he did not know that it was an element but thought that it was a glowing philosopher stone and named it Phosphorus.
4. Phosphorus has been derived from a Latin word meaning light-bearing.

5. The same process is used to this date to produce phosphorus but instead of urine, we use phosphate ore.

This was kept as a secret and he was given the credit for discovering phosphorus after his death.

DISCOVERY OF MINERAL ACIDS

These mineral acids are Nitric acid (HNO3), Sulphuric acid(H2SO4), and Hydrochloric acid (HCl). We know these are frequent players in common chemical reactions. All these three acids were discovered by the alchemists in the hunt for the Philosopher's Stone. Scientists were very interested in these acids because they could convert one substance to another (For example- Baking soda to a common salt). By the discovery of these acids, the alchemists assumed that they were nearer to the discovery of the Philosopher's Stone.

The Hydrochloric acid (HCl) was prepared by heating common salt (NaCl) in a crucible leading to the breaking of the salt into chlorine gas. This chlorine reacted with water in the air and hydrochloric acid (HCl) was formed.

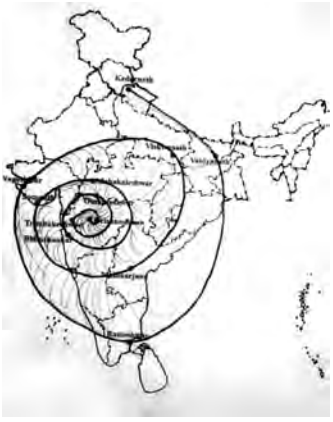
Anika Mythri Venkat, 1J

Temples of Shiva: A blend of math & myth

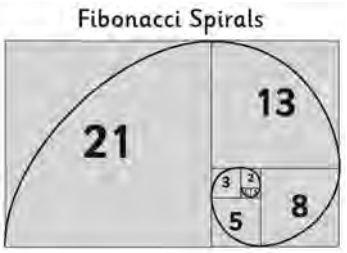
Out of all the Shiva temples, the twelve Jyotirlingas have the utmost power and are the greatest. It is believed that at these temples, Lord Shiva appeared as a column of fire or the lingam of light. But why do they have so much power? Why are they located at the places they are situated in? Is there any scientific reason behind them?

We are told many things about our gods and religion, and we either follow them blindly, or label them as a myth. We have neither the time nor the interest to dig the truth out. Our temples are the most enigmatic, and contain more scientific surprises than the seven wonders, but failed to make it to the list due to the failure of people to understand them. So, here are two groups of temples whose backstory will make you feel that even Galileo knew lesser science than our temple architects.

Do you remember what Fibonacci is? Hearing this term feels like déjà vu from your previous life, which somehow managed to linger in the back of your brain. Fibonacci numbers are a series of numbers in which each number is the sum of the two preceding numbers–1,1,2,3,5,8,13... and the next number in the series will be 8 + 13 and so on. You can continue adding numbers in this series till infinity. This mathematical pattern is graphically represented as a spiral.



Jyotirlinga spiral



Fibonacci spiral

Fibonacci, the Italian mathematician, discovered this in 1200 CE...or so you thought. As early as the 3rd century CE, an Indian poet, not even a scientist, Pingala, had termed these numbers. But he just termed it, its discoverer is none other than the Lord himself. If you draw a line over the Jyotirlinga temples on India's map then the result is the shape

of a conch shell or the Fibonacci pattern. So, why did Shiva choose this pattern to establish his Jyotis?

As we all know, energy flows from a point where it is concentrated to the colder universe. This is exactly the reason why air flows from a region of high pressure to low pressure. This is the heat map of India.

The darker regions receive higher solar radiation than the regions with lighter colours in the map. Gist of it is—heat energy flows from a region that receives a higher amount of solar radiation to a region which receives a lower amount of solar radiation. If you noticed, the flow of energy matches the arrangement of the Jyotirlingas, i.e., it follows the Fibonacci spiral.

This observation signifies that there is a direct relationship between the energy flow and the Jyotirlingas. A person starting to visit these temples from the land of the mortals automatically follows the flow of energy. So, by the time he reaches the end of his journey in the Himalayas, he has absorbed the maximum energy and knowledge and is worthy to make his way to the feet of Shiva; in other words, attains Moksha.

If you would want to stretch this topic a bit, consider the name for Fibonacci in Sanskrit—Pingala series. Pingala is in fact a homonym and has the meanings of snake and fire apart from meaning reddish-brown in common usage. The Fibonacci spiral resembles a snake, the animal which adorns Nageshwara. Fire is of course embodied in these lingas. It may be an untested assumption, but is it just a coincidence that this pattern was discovered by a man named Pingala? It is left for you to decide.

Now, here is another geographical wonder. The longitude 0o is the prime meridian, 82o30'E is the Indian Standard Meridian. These are some special longitudes. Do you know what is unique about 79oE? This is the meridian of Shiva. Why? you ask. This is because seven Shiva temples are located on this latitude in a straight line. They are not near each other either for it to be easy to determine their placement. These temples stretch from the north to the south of the country. While 6 are located at 79o9'E, the northernmost is located at exactly 79oE. Why this difference? How did our ancestors manage to do this, and most importantly, why?

According to a popular legend, during Shiva's marriage with Tripurasundari, a large number of people gathered to witness the event and it is said that the earth tilted because of the weight of the people. Lord Shiva asked Agastya Maharshi to go to the south to balance the tilt of the earth. Since Agastya also wanted to see the marriage, Shiva told him to go to Chidambaram in Tamil Nadu and showed him his marriage there. The method he used to achieve

this is quite impressive.

This event took place around the months of December to January. Two major galaxies, Andromeda and Triangulum, appear in the night sky. Due to an illusion, it appears as if the latter is passing through the centre of the former. When seen from this particular longitude, a bright yellow star in the Triangulum, signifying Mahashakti, moves towards the blueish blackhole of the Andromeda—Shiva. Gradually, the yellow star is not seen any more. This indicates the merging of Shakti with Shiva. The earthly people wanted to witness this celestial wedding, and so, built several temples along this longitude so that it would be easy for every person to view this occurrence. As the latitudes increase, this observation can be made from slightly more towards the west, resulting in a difference of 1o between temples of the south and the north.

By now, you must have understood that every temple has a deeper meaning and a reason for its existence than what appears superficially. So, the next time someone asks you to visit a temple, don't go for the sake of it; go to appreciate the intelligence of our ancestors and to fill your life with tremendous positive energy.

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Ninaad Vasisht, 1B

VENN Diagrams

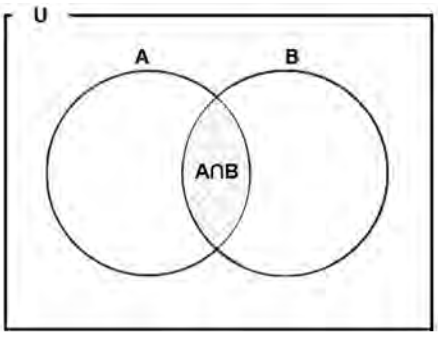
'An important concept of mathematics'

Venn diagrams are a very powerful and visual tool used to illustrate the relationship between different sets. It is the relationship between two sets that can be written in the form of diagrams. Venn diagrams were named after a British scientist John Venn (1834-1883), an English mathematician. Venn diagram consists of circles overlapping each other representing a collection of sets, the relation between sets and also the operations performed on them.

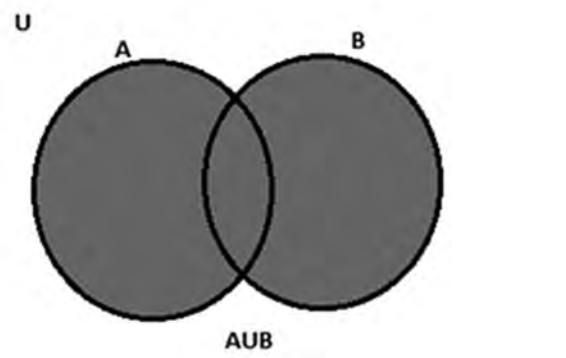
In the Venn diagram, there are multiple circles each representing a set. These circles are usually denoted by capital letters. Elements within the given set are written inside the circles.

Basic elements of Venn diagram:

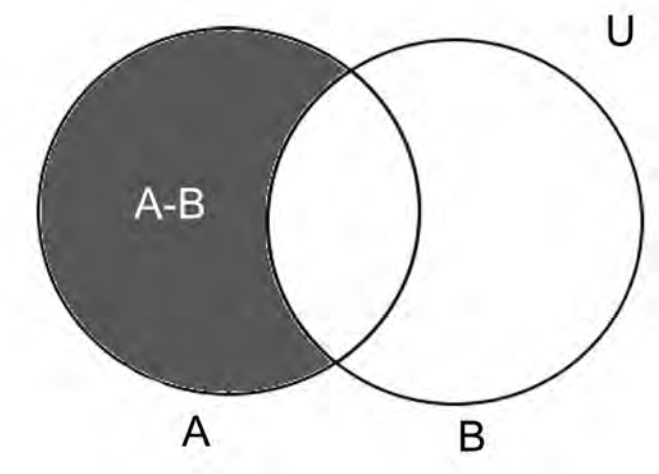
- **Set:** Each element present in the circle makes a set.
- **Universal set:** A set which includes all possible elements under consideration. A set is always a subset of a universal set.
- **Intersection of sets:** The area covered by the circles in the venn diagram which contains common elements of all the sets is known as intersection of sets



- **Union of sets:** The union of sets A and B is the set consisting of all the elements which belong either to set A or set B or both.
- **Complement of a set:** The area outside a particular set within the universal set, representing elements not in the set is known as complement of a set.it is denoted by A′ = U-A = {x | x ∈ U and x ∉ A}



❖ **Difference of a set:** The difference of set can be given as, A - B. It is also referred to as a 'relative complement'. It refers to all the elements that belong to set A but not to set B.

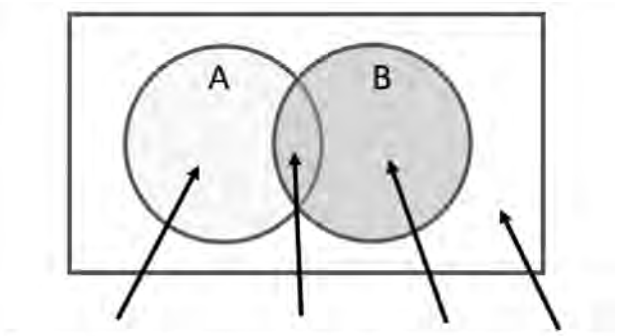


Applications of Venn Diagrams

1. **Mathematics:** Venn diagrams are used to solve problems involving unions, intersections, and complements of sets. It is also used to solve problems related to probability and statistics.
2. **Logic:** Display logical relations and synthesis.
3. **Statistics:** Venn diagrams help in understanding probabilities and relationships between different groups and categories.
4. **Business and Market Analysis:** Venn diagrams helps in comparing product features, market segments, customer preferences, and competitive analysis.
5. **Teaching and Education:** Venn diagrams help in explaining concepts of set theory and categorization to students. They make difficult and tricky concepts more concrete and visually understandable for students.
6. **Computer Science:** Used in databases illustrating relations between different data sets and in algorithms that involve set operations.

Creating a Venn Diagram

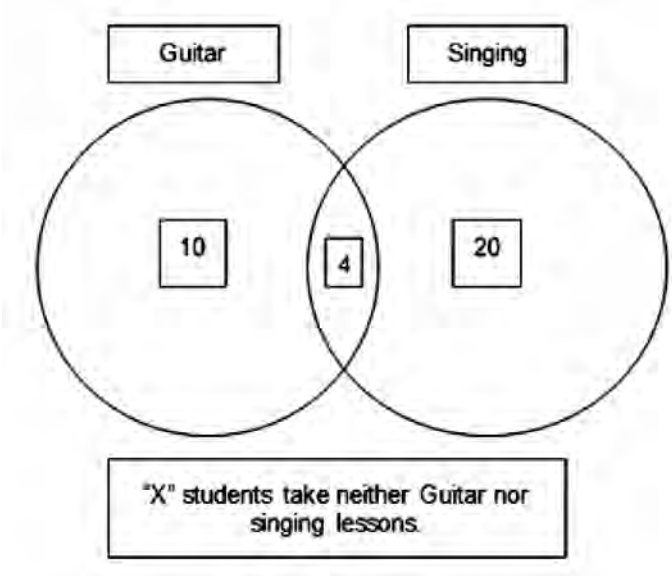
1. **Identify the Sets:** Determine the sets which need to be compared.
2. **Draw the Universal Set:** Draw a rectangle to represent the universal set usually denoted as U.
3. **Draw the Circles:** Each set is represented by a circle. Ensure that they overlap where appropriate to indicate intersections.
4. **Label the Sets:** Label each circle with the name of the set it represents. It is usually represented by capital letters such as A,B,C,etc.
5. **Fill in the Elements:** Place the elements in the correct regions of the diagram based on their relationships to the sets.



Objects here are in set A but not set B	Objects here are in both sets A and B	Objects here are in set B but not set A	Objects here are not in set A or set B.

Types of Venn Diagrams

- **Two-Set Venn Diagram:** The simplest form, involving two overlapping circles. It is used to show the relationship between two sets. Ex: Union of set A and B
- **Three-Set Venn Diagram:** Involves three overlapping circles and can show more complex relationships among three sets. Ex: Intersection of set A,B and C.
- **Higher-Order Venn Diagrams:** These involve more than three sets and are more complex, often used in advanced fields such as higher mathematics and logical operations.



Example:

In a class of 50 students, 10 take Guitar lessons and 20 take singing classes, and 4 take both. Represent the following as a Venn diagram.

Conclusion:

Venn diagrams are powerful tools which are now used in fields such as mathematics, computer science, statistics and business. They help interpret complex data by showing similarities and differences through overlapping circles and shaded regions. Whether in education, analysis, or research fields, Venn diagrams simplify data interpretation and intensify understanding, making them essential for effective communication and problem-solving. Venn diagrams make difficult problems and equations look simple and easy and help to solve them easily and effectively. Hence Venn diagrams can be known as one of the important concepts of mathematics and can also be termed a piece of the puzzle of Mathematics.

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Orientation Theory

Orientations:

- Number of ways in which we can express any number by performing operations on other numbers. In this theory, the predominant focus is going to be on whole numbers, which can be expressed as the sum or product of other numbers.

BINARY ORIENTATIONS:

- Number of ways in which we can express a whole number as the sum or product of TWO different numbers.

1.BINARY SUM ORIENTATIONS:

The number of ways in which a whole number can be expressed as the sum of two numbers.

It can be represented by "O+".

Let us consider the number 3. The total number of ways it can be expressed is-

O+(3) = 1+2, 2+1, 3+0, 0+3-

i.e, it can be expressed in 4 different ways.

Hence, it is observed that in general, for any whole number, total number of binary sum orientations is given by the formula,

$O_+() = +1, \forall \in$

2.LAWS OF SUM ORIENTATIONS:

Consider any two numbers "m" and "n", both belonging to whole numbers.

Therefore, it is observed that,

(i) $_+() + _+() = _+(+) + 1, \forall, \in$

Proof-

$$_+() = +1$$
$$_+() = +1$$
$$_+() + _+() = + + 1 + 1 = (+ + 1) + 1 = _+(+) + 1$$

Hence, proven.

(ii) $_+() - _+() = _+(+) - 1, \forall, \in$

Proof-

$$_+() = +1$$
$$_+() = +1$$
$$_+() - _+() = +1 - (+1) = - = _+(+) - 1$$

Hence, proven.

(iii) $_+() \ _+() = () + +, \forall, \in$

Proof-

$$_+() = +1$$
$$_+() = +1$$
$$_+() \ _+() = (+1)(+1) = + + + 1 = +1 + +$$
$$= _+() + +$$

Hence, proven.

Note: When the division operation is performed, there is no such general formula, like for the other operations.

BINARY PRODUCT ORIENTATIONS:

The number of ways in which a whole number can be expressed as the product of two numbers.

It can be represented by "Ox".

Let us consider the number 3. The total number of ways it can be expressed is-

Ox(3) = 3x1, 1x3,

I.e, it has two product orientations.

Hence, in general it can be observed that;

The number of binary product orientations any whole number has, is given by the formula-

$() = 2(_1 + _2 + _3 + \ldots) = 2\sum, = 1 \ = , \forall, _{,1\ldots} \in \ldots..(1)$

where x is a whole number and k1…n is known as the repetition factor of x,

therefore, if "p" is a factor of x (excluding 1), and "m" be the number of times p repeated,

() = 1, 2, ...

where p( ) represents the factors of

= () = = (), = , ∀ , , , ∈

The formula in (1) only works if "n" has more than one different factors,

Let us consider our above example once again,

$O_x(3)$ = 3x1, 1x3,

(3) = 3 => = 3(3) = 1 => = 2(1) = 2

Hence, proven.

But, if the number has only one factor (excluding 1) then, the formula in (1) does not work.

Consider,

$O_x(2)$ = 2x1, 1x2 i.e, 2 orientations.

$O_x(4)$ = 2x2,4x1,1x4, i.e, 3 orientations.

$O_x(8)$ = 8x1, 1x8, 2x4, 4x2, i.e, 4 orientations,

And so on.

Therefore, a pattern is observed. From this, we can conclude that if m is any whole number such that.

= => () = + 1 ∀ , , ∈

Considering our previous example,

(4) = 22, 14, 41(4) = 2 => 4 = 2^2 => (4) = 2(4) + 1 = 2 + 1 = 3

Hence, proven.

TERNARY ORIENTATIONS:

- Number of ways in which we can express a whole number as the sum or product of THREE different numbers.
- Here, we are predominantly going to focus on the number of ways in which we can express any whole number as the sum of three different numbers.
- Can be expressed as O + 3.
- Consider the number 2,

$O_+^3(2)$= 2+0+0, 0+2+0, 0+0+2,
1+1+0, 1+0+1, 0+1+1,

i.e, six ways.

Hence in general,

$_+^3$() = 3, ∀ ∈

CONCLUSION:

This theory is original, and conceived by me, AJITESH UDAYAGIRI from class 2J.

It took me about a month to conclude this theory, and has taught me that tasks take time, but perseverance and curiosity are the only factors that kept me going. In my opinion and personal experience, passion, hard work, and persistence are the three qualities any man must possess.

Ajitesh.U, 2J

Genetics and Evolution: Exploring the Threads of Life

Genetics and evolution are intertwined disciplines that unravel the mysteries of life's diversity and continuity. From the smallest units of inheritance to the grand patterns of species adaptation, these fields provide a window into the processes that shape the living world.

The Foundations of Genetics

Genetics, the study of heredity and variation, explores how traits are passed down from generation to generation. At its core are genes, segments of DNA that encode the instructions for building proteins and determining an organism's characteristics. The discovery of DNA's structure by Watson and Crick in 1953 marked a pivotal moment, illuminating the molecular basis of genetics and laying the groundwork for revolutionary advancements.

Today, molecular genetics delves deep into the mechanisms of gene expression, regulation, and mutation. Techniques like genome sequencing have enabled scientists to decipher the entire genetic code of organisms, from bacteria to humans, opening new frontiers in personalized medicine, agriculture, and evolutionary studies.

Evolutionary Dynamics

Evolutionary biology explores how species evolve through processes like natural selection, genetic drift, and gene flow. Charles Darwin's theory of evolution by natural selection, proposed in 1859, remains a cornerstone of modern biology. It posits that organisms best adapted to their environments are more likely to survive and reproduce, passing on advantageous traits to their offspring.

Through fossil records, comparative anatomy, and molecular phylogenetics, scientists trace the evolutionary history of life on Earth. They uncover evidence of common ancestry among species and elucidate the mechanisms driving evolutionary change. From the adaptive radiation of finches on the Galapagos Islands to the emergence of antibiotic-resistant bacteria, evolutionary principles inform our understanding of biodiversity and the interconnectedness of life.

Applications and Implications

Genetics and evolution have profound implications for diverse fields, from medicine and agriculture to conservation. In medicine, genetic insights enable tailored treatments for genetic disorders and personalized approaches to disease prevention. In agriculture, genetic engineering techniques enhance crop yields, improve nutritional content, and confer resistance to pests and diseases.

Furthermore, understanding evolutionary processes informs conservation strategies, helping to preserve biodiversity in the face of environmental change. It underscores the interconnectedness of ecosystems and the importance of maintaining genetic diversity within species.

In conclusion, genetics and evolution represent the dynamic forces that shape life's past, present, and future. As technologies advance and our understanding deepens, these fields continue to drive innovation and discovery. They offer profound insights into the origins of species, the mechanisms of inheritance, and the intricate web of life that sustains our planet. By studying genetics and evolution, we gain a deeper appreciation of life's diversity and a clearer path toward sustainable coexistence with the natural world.

Avni Vishwas,1F

Bioluminescence: The World Of Glowing Organisms

Bioluminescence in beach

Have you ever wondered why the fireflies glow in the dark or why some beaches sparkle at night? This is because they exhibit a phenomenon called bioluminescence. Bioluminescence is the emission of light by an organism or by a laboratory biochemical system derived from an organism. It could be the ghostly glow of bacteria on decaying meat or fish, the shimmering radiance of protozoans in tropical seas, or the flickering signals of fireflies. The phenomenon occurs sporadically in a wide range of protists and animals, from bacteria and fungi to insects, marine invertebrates, and fish, but it is not known to exist naturally in true plants or amphibians, reptiles, birds, or mammals. Bioluminescence results from a chemical reaction (chemiluminescence) in which the conversion of chemical energy to radiant energy is direct and virtually 100 percent efficient; i.e., very little heat is given off in the process. For that reason, the emission is called cold light or luminescence. Bioluminescence is a `cold light.' Cold light means less than 20% of the light generates thermal radiation or heat. Most bioluminescent organisms are found in the ocean. These bioluminescent marine species include fish, bacteria, and jellies. Some bioluminescent organisms, including fireflies and fungi, are found on land. There are almost no bioluminescent organisms native to freshwater habitats.

The Chemistry Behind The Phenomenon

The chemical reaction that results in bioluminescence requires two unique chemicals: luciferin and either luciferase or photoprotein. Luciferin is the compound that produces light. In a chemical reaction, luciferin is called the substrate. The bioluminescent color (yellow in fireflies, greenish in lanternfish) is a result of the arrangement of luciferin molecules. Luciferase is an enzyme. The interaction of luciferase with oxidized (oxygen-added) luciferin creates a byproduct, called oxyluciferin. More importantly, the chemical reaction creates light. Bioluminescent dinoflagellates produce light using a luciferin-luciferase reaction. The luciferase found in dinoflagellates is related to the green chemical chlorophyll found in plants. In some organisms, these reactions involve a chemical called a photoprotein. Photoproteins combine with luciferins and oxygen, but need another agent, often an ion of the element calcium, to produce light.

Is Bioluminescence the same as Fluorescence?

Not at all! Biofluorescence, unlike bioluminescence, is not a chemical reaction. Biofluorescent plants and

Bioluminescence in firefly

organisms absorb low wavelength or dim light, then emit high wavelength light that makes the creatures glow against a dark background. This means biofluorescent organisms do not give off light from their own power source, nor is it a chemical reaction. The light emitted is a completely different color from what's absorbed — usually green, red, or orange.

Why do organisms exhibit bioluminescence?

There are a variety of uses for bioluminescence in nature. Nature's light shows are put to a variety of ingenious uses: for attack, courtship, or social cohesion. Some organisms use it as a defense mechanism to surprise or distract predators. Glow-worms tick two of those boxes. The flightless female uses it as a beacon to attract winged males, while the toxic larvae flash to warn would-be predators to keep away. The emission of light also serves as a means of camouflage for some animals and or to make potential predators more visible. Other organisms use bioluminescence to attract mates, lure potential prey, or communicate. Bioluminescence in fungi may serve to attract insects that disperse spores, while the glow of the Jack O'Lantern mushroom may simply be caused by waste products accumulating in its fruiting bodies.

Bioluminescence and Man

Throughout history, humans have devised ingenious ways of using bioluminescence to their advantage. Glowing fungi have been used by tribes to light the way through dense jungles. For example, fireflies were used by miners as an early safety lamp. Perhaps inspired by these applications, researchers are now again turning to bioluminescence as a potential form of green energy. In the not-so-distant future, our traditional street lamps may be replaced by glowing trees and buildings!

Bioluminescence in jellyfish

Biologists and engineers are also studying the chemicals and circumstances involved in

Bioluminescence in jellyfish

bioluminescence to understand how people can use the process to make life easier and safer. Green fluorescent protein (GFP), for instance, is a valuable "reporter gene." Reporter genes are chemicals (genes) that biologists attach to other genes they are studying. GFP reporter genes are easily identified and measured, usually by their fluorescence. This allows scientists to trace and monitor the activity of the studied gene—its expression in a cell, or its interaction with other chemicals. Other uses are more experimental. Bioluminescent trees, for instance, could help light city streets and highways. This would reduce the need for electricity. Bioluminescent crops and other plants could luminesce when they needed water or other nutrients, or when they were ready to be harvested. This would reduce costs for farmers and agribusiness. Today, bioluminescence from Aliivibrio fischeri is used to monitor water toxicity. When exposed to pollutants, the light output from the bacterial culture decreases, signaling the possible presence of a contaminant.

The evolutionary process that culminated in bioluminescence may have taken millions of years, but its scientific applications continue to

revolutionize our modern world. So, the next time you see the sea sparkle, you know why and how it happens!

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Bioplastics:A boon?

Image credit: Lucas Meneses/pexels.com

53,333 blue whales. 1,333,333 elephants. 615,384 school buses. What do all these numbers have in common? Well, that number of blue whales, elephants, and school buses, is how many of each of those add up to 8 million metric tons. But what's the significance of 8 million metric tons? That's the amount of plastic waste that is dumped into oceans every single year. Isn't that shocking?

To put this in perspective, there are only 25,000 blue whales left in the world. That means we dump twice the weight of the world's living blue whales' worth of plastic into the oceans each year.

The side effects of plastic pollution are not unheard of, so now the question arises: What do we do about this?

Totally eliminating the usage of plastic from our lives is next to impossible. Plastic is everywhere – from the cutlery and straws to tables and chairs. To counteract this, scientists came up with bioplastics.

WHAT ARE BIOPLASTICS?

Bioplastics are usually derived from sugar derivatives, including starch, cellulose, and lactic acid. They are most commonly used in making disposable bags, straws, and bottles.

Image credit: Mohamed Abdulraheem/ Shutterstock.com

©European Bioplastics

ARE THEY DEGRADABLE?

While some may think that bioplastics are more eco-friendly since they have lower carbon emissions and are produced from natural sources, not all bioplastics are biodegradable and not all biodegradable plastics will biodegrade at sea.

Bio-based plastics are frequently marketed as being a 'green' alternative because they are fully or partially made from renewable, plant-based resources, rather than fossil raw materials. However, this does not necessarily mean that they are compostable or biodegradable as biodegradability does not depend on the source components of a material, but rather on its chemical structure.

For example, polyethylene terephthalate (PET), the mostly widely used material for plastic beverage bottles, can be produced from plant-based sources such as sugarcane – but the resulting plastic is chemically identical to petroleum-based PET. It is therefore equally damaging to the ocean, despite consumer labeling that suggests it is 'eco-friendly' or 'sustainable'.

Like many 'biodegradable' plastics, 'compostable' plastic products are unlikely to contribute significantly to reducing the increasing flow of plastic pollution to the ocean.

Despite being labeled as biodegradable, most bioplastics fail to degrade in the ocean even after three years.

Further, it is well known that plastic litter – and therefore plastic pollution – contains a wide variety of chemicals that enter the marine environment, if the plastic is in contact with seawater or sediments.

Studies have shown that marine invertebrates such as annelid worms, molluscs, and crustaceans may be particularly sensitive to plastic-associated toxins. In large vertebrates, such as filter-feeding baleen whales, the ingestion of chemicals associated with microplastics appears to be related to endocrine disruption, while top predators such as swordfish in the Mediterranean can accumulate such toxins via biomagnification.4

But it's not all that bad. Bioplastics do produce significantly fewer greenhouse gas emissions than traditional plastics over their lifetime. There is no net increase in carbon dioxide when they break down because the plants that bioplastics are made from absorbed that same amount of carbon dioxide as they grew.5

WHAT CAN WE DO ABOUT IT?

Since we now know that so-called bioplastics also

cause pollution, the only way to reduce plastic pollution is to revert to the basics:

REDUCE the usage of single-use plastics.

REUSE & RECYCLE plastic items wherever possible.

DISPOSE WASTE RESPONSIBLY.

PARTICIPATE AND ORGANISE beach cleaning drives.

Let us do our bit and reduce the amount of plastic being dumped in the sea. Little by little, we will ensure that the oceans of the world are free from plastic.

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Akshata Kale , 2A

Understanding Dark Psychology: The Art of Manipulation and Control

Dark psychology delves into the more nefarious aspects of human behavior and the psychological mechanisms that enable manipulation, deceit, and control. While the term may evoke images of sinister individuals wielding dark powers, it essentially refers to a set of techniques and strategies that individuals use, often unethically, to influence others to achieve their ends.

Dark psychology is the study of the human condition concerning the psychological nature of those who prey on others. It involves understanding how people can manipulate, control, and coerce others into actions they might not ordinarily perform. These manipulative tactics can range from subtle psychological persuasion to overt forms of coercion and control. The techniques are often grounded in a deep understanding of human emotions, cognitive biases, and behavioral patterns.

Key Techniques and Concepts in Dark Psychology

1. Manipulation

Manipulation is a core aspect of dark psychology. It involves influencing someone's thoughts, emotions, or behaviors to achieve a desired outcome, often without the person being aware of it. Manipulators use various tactics, including guilt-tripping, gaslighting, and playing on emotional vulnerabilities.

- **Gaslighting:** This is a form of psychological manipulation where the manipulator makes the victim doubt their reality, memory, or

perceptions. Over time, this can erode the victim's self-confidence and self-worth.

- **Guilt-tripping:** Manipulators often use guilt as a tool to control their victims. By making someone feel guilty, they can influence the person to act in a way that benefits the manipulator.

2. Persuasion

Persuasion in dark psychology goes beyond the usual techniques used in marketing or negotiations. It involves deeply understanding the target's desires, fears, and motivations and exploiting these to influence their decisions. Techniques include:

- **Foot-in-the-Door Technique:** This involves getting a person to agree to a small request first, which increases the likelihood of them agreeing to a larger request later.
- **Door-in-the-Face Technique:** Here, a large, unreasonable request is made first, which is likely to be rejected. This is followed by a smaller, more reasonable request, which the target is more likely to accept.

3. Mind Control and Brainwashing

Mind control, or brainwashing, involves a systematic approach to changing a person's beliefs and behaviors. This can be seen in cults, extremist groups, and abusive relationships. Techniques include isolation, sleep deprivation, and repetitive messaging to break down an individual's mental resistance and instill new beliefs.

The Psychological Underpinnings of Dark Psychology

Dark psychology leverages several psychological principles to achieve its goals. Understanding these principles is crucial to recognizing and defending against manipulative tactics.

1. Cognitive Biases

Cognitive biases are systematic patterns of deviation from norm or rationality in judgment. Manipulators exploit these biases to influence decision-making.

- **Confirmation Bias:** This is the tendency to search for, interpret, and remember information that confirms one's preconceptions. Manipulators feed targets information that aligns with their existing beliefs, making it easier to persuade them.
- **Authority Bias:** People tend to follow orders or suggestions from authority figures. Manipulators often present themselves as experts or figures of authority to gain compliance.

2. Emotional Manipulation

Emotions play a significant role in decision-making. Dark psychology exploits this by manipulating emotions to influence actions.

- **Fear:** Fear is a powerful motivator. Manipulators use threats, intimidation, and fear-inducing tactics to control behavior.
- **Flattery and Love-Bombing:** Overwhelming someone with affection and praise can lower their defenses and make them more susceptible to manipulation.

Ethical Considerations and Societal Implications

The use of dark psychology raises significant ethical questions. Manipulation and coercion undermine personal autonomy and can cause psychological harm. On a societal level, dark psychology can lead to widespread mistrust and paranoia, eroding social cohesion.

1. Individual Impact: On an individual level, victims of dark psychology often suffer from anxiety, depression, and a diminished sense of self-worth. The manipulative tactics used can leave lasting psychological scars and impact the victim's ability to trust others.

2. Societal Impact: When dark psychology tactics are employed on a larger scale, such as

in politics or marketing, they can shape public opinion and behavior in unethical ways. The spread of misinformation, exploitation of fears, and manipulation of emotions can undermine democratic processes and societal trust.

Defending Against Dark Psychology

Awareness and education are the first steps in defending against dark psychology. Understanding the tactics and recognizing the signs of manipulation can help individuals protect themselves.

1. Critical Thinking and Skepticism: Developing critical thinking skills and maintaining a healthy level of skepticism can help individuals evaluate information and recognize manipulation attempts.

2. Emotional Intelligence: Building emotional intelligence allows individuals to understand and manage their emotions, making them less susceptible to emotional manipulation.

3. Setting Boundaries: Clearly defined personal boundaries and assertiveness in maintaining them can protect individuals from manipulative tactics. Learning to say no and standing firm against pressure is crucial.

Conclusion

In conclusion, Dark psychology reveals the darker side of human nature and how individuals can manipulate and control others. By understanding the techniques and psychological principles involved, individuals can better protect themselves and promote ethical behavior in their interactions. While dark psychology can offer insights into human behavior, it also serves as a reminder of the importance of using psychological knowledge responsibly and ethically.

Saketh Vidyadhara, 2B

Cancer – Myths and Facts

pink ribbon - the international symbol for breast cancer awareness

Despite the high number of new cases each year, cancer is still relatively misunderstood and not often discussed. However, everyone needs to be aware of this condition and how they can prevent and screen for it. Cancer awareness is the key to early detection and better health-seeking behavior.

Cancer is a large group of diseases that occur when genetic mutations in cells cause them to divide rapidly. These rapidly growing cells may cause tumors and may also disrupt the body's regular function. It is one of the leading causes of death in the world. Cancer may be caused by physical, chemical, or biological carcinogens. The incidence of cancer rises dramatically with age, most likely due to a build-up of risks for specific cancers that increase with age. Here are some of the most common myths about cancer:

1. Myth: Cancer is a death sentence.

Fact: Cancer is not a death sentence. As scientists understand cancer better and develop improved treatments, recovery rates continue to improve and thus cancer is not always terminal.

2. Myth: Cancer is contagious.

Fact: Someone with cancer cannot spread it to others. However, some STDs including Human papillomavirus (HPV) and Hepatitis B and C can cause cancers in the cervix and liver. In these cases, an infectious agent causes the cancer but cancer itself is not contagious.

3. Myth: Cancer will make your hair fall out.

Fact: Cancer itself won't make your hair fall out. Of course, some forms of treatment-Chemotherapy and radiation can.

4. Myth: Cancer is always painful.

Fact: Some cancers never cause pain. Palliative care and pain management is a huge aspect of cancer treatment.

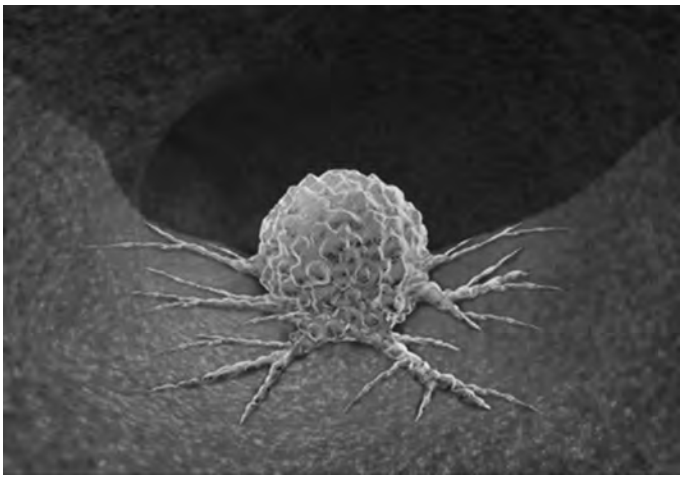
5. Myth: Cell phones cause cancer.

Fact: To date, there is no evidence that cell phones cause cancer.

6. Myth: Microwaving food in plastic containers and wraps releases harmful, cancer-causing substances.

Fact: Plastic containers and wraps labeled as safe for use do not pose a threat.

7. Myth: "My mom had cancer- means I'll have it too."



a growing tumor

Fact: Most people with cancer have no family history of the disease -and most people with a family history of cancer never develop the disease.

8. Myth: People who have cancer shouldn't eat sugar, since it can cause cancer to grow faster.

Fact: Giving more sugar to cancer cells doesn't make them grow faster. More research is needed to understand the relationship between sugar in the diet and cancer.

Risk factors like smoking, drinking alcohol, a lack of physical activity, an unhealthy diet, having a high BMI, and catching certain viruses and bacteria may contribute to developing cancer. As they say, prevention is better than cure, it is better to avoid the risk factors that may lead to the disease and have a healthy lifestyle.

Shrujana Rao, 2E

Biodiversity in the Deep Blue Sea

All of us know of the basics of the sea, and just assume we know everything about the secrets it holds. Truly speaking though, we know nothing but 10% of what it holds. There are 2.2 million species in the sea in which we barely know of 240,000 species. Most of the unknown species are from the deep blue.

Have you ever thought about it? What would it feel like to go exploring down there, 10,000ft below the sea surface? The insanely high pressure from the water trying to rupture all our blood cells and vessels, no oxygen, no blueprint of the area, extreme temperature, and toxic chemicals which is exactly why we haven't made much progress. Now, think of the animals there, and how they're surviving down there. What is so special about them that they can tolerate the atmosphere we cannot? The genes and mutations they would have undergone to withstand it! Just thinking of the number of things we don't know gives me chills. Think about how they got there, did they randomly just spawn in there? All these mysteries have a beauty of their own which is unmatched.

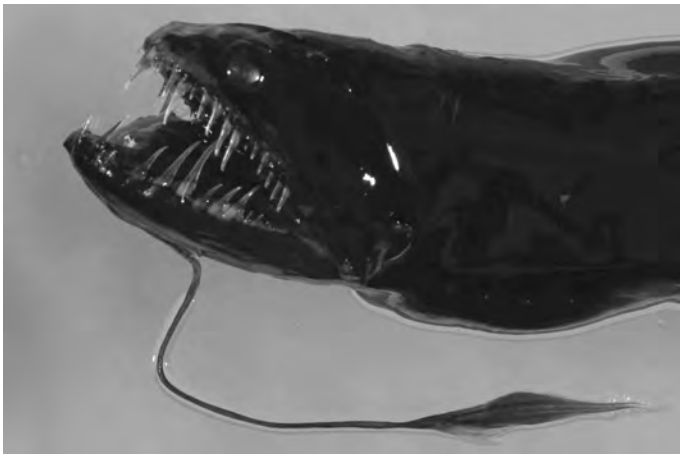
Off the coast of New Zealand, scientists saw an unfamiliar "dragon-like" sea creature. They weren't sure if it was a new species or an evolved old one, so they studied a pair of this deep-sea fish and realized they had discovered a new species: Eustomias robertsi, or Robert's Dragonfish. This is the newest discovered deep blue sea creature as of June 2024.

Now that we talked about the newest one, curiosity might arise about the DEEPEST sea creature discovered. This was a fish found off the coast of Japan. Japanese and Australian researchers joined

Pseudoliparis

hands and filmed a Pseudoliparis snailfish at a whopping 8,336 meters below sea level - as a part of the expedition to some of the world's deepest ocean trenches.This was at Izu-Ogasawara trench.

Here is a similar dragonfish, the Serpent Dragonfish discovered back in 1877. Now imagine encountering this while you're swimming, how terrifying would that be?



Serpent Dragonfish

Biodiversity at Hydrothermal Vents:

Here's a specifically picked topic. Hydrothermal vents are known to be insanely toxic to life, in an environment of pitch black, extreme water pressure and temperatures, and the water enriched with highly toxic metals. In a place like this, yes, a place like THIS an ecosystem developed, adapting to the harsh life. What a beauty, right? Deep-sea animals such as crabs and clams cannot perform chemosynthesis themselves, but through their close community with the microorganisms, the animals gain access to nutrients that the bacteria have produced through chemosynthesis.

Individual animal species can harbor a great many different bacteria as subtenants. For example, up to 16 different strains of bacteria reside in the gills of a deep-sea mussel, each with its unique capabilities and strengths. Thanks to this diversity of symbiotic partners, the mussel can adapt excellently to its constantly changing environment. This, this - is the meaning of life. A place so far from reach but has different species helping each other survive. As I think of it, I can't help but feel curious, and I'm sure that's the case for all of us.

Pause For a Second;

Give it a thought, think about how long it'll take for us humans to explore the deep-blue sea, or the dense forests, or rather do you think we'll ever be able to explore all of this? Try to come up with a way to at least get to the discovery of 50% species. Try to come up with your plausible reasonings and question all of this.

The ocean has so many secrets to be uncovered, like the truth of The Bermuda Triangle, and why it's the ship's deathbed. The Mariana Trench, The Baltic Sea Anomalies, why there are underwater crop circles, etc. From 13m-long (43ft) voracious carnivorous squid, to scuttling Yeti crabs huddling near hydrothermal vents, to tusked whales dwelling thousands of feet down to avoid predatory orcas, sizeable marine animals new to science are still being documented every year.

The race to find the remaining species is growing rapidly and with the new methods of ocean exploration, we're getting closer and closer to discovering more of the ocean giants and we should all look forward to whatever we might find.

Deekshitha. U, 1A

The Psychology Of Cognition

Cognitive psychology is the scientific study of mental processes such as attention, language use, memory, perception, problem-solving, creativity, and reasoning.

Cognition includes all of the conscious and unconscious processes. Examples of cognition include paying attention to something in the environment, learning something new, making decisions, processing language, sensing and perceiving environmental stimuli, solving problems, and using memory.

Cognitive psychology originated in the 1960s in a break from behaviorism. Later, the work derived from cognitive psychology was integrated into other branches of psychology and various other modern disciplines such as linguistics and economics.

Cognitive psychology explores a wide variety of topics such as:

- Attention
- Choice-based behavior
- Forgetting
- Decision making
- Problem-solving
- Memory

Cognitive psychology has helped us to pinpoint various ways to measure human intellectual abilities, develop new strategies to combat memory processes, and decode the workings of the human brain which has helped psychologists treat many psychological disorders.

So what can affect cognitive processes?

- Age
- Attention issues
- Genetics
- Memory issues
- Cognitive bias

There are two categories of cognition, hot cognition and cold cognition.

Hot cognition refers to mental processes in which emotion plays a role, such as reward-based learning. Conversely, cold cognition refers to mental processes that don't involve feelings or emotions, such as working memory.

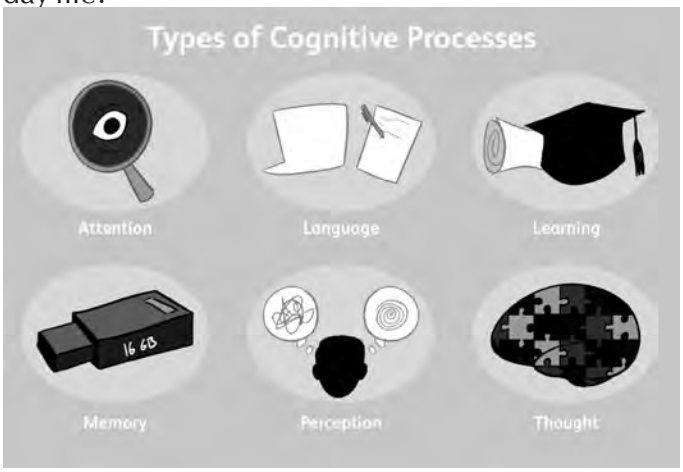
Apart from that, there are many types of cognition based on their impact. They are:

- ❖ Attention
- ❖ Language
- ❖ Learning
- ❖ Memory
- ❖ Perception
- ❖ Thought

The uses of cognitive processes are:

It helps us to learn new things form new memories and make connections with other things that we already know. It also helps us to learn new things. Apart from that, cognitive processes also help to form memories and make decisions.

So, what impact does cognition have in our day-to-day life?



It helps us in perceptual processes, like forming impressions, and helps us reconstruct the information we remember and make it more understandable. Cognition involves not only the things that go on inside our heads, but also how these thoughts and mental processes influence our actions. Our attention to the world around us, memories of past events, understanding of language, judgments about how the world works, and abilities to solve problems all contribute to how we behave and interact with our surrounding environment.

Cognition decides our personality and what we do in our day-to-day life. Improving our cognitive skills will make us a better person and make us feel more confident. A few ways by which we can improve our cognitive skills are:

- Maintaining a healthy diet and regular exercise routine will have a positive effect on cognitive functioning
- Questioning our assumptions and asking questions about our thoughts, beliefs, and conclusions will improve our cognitive skills
- A great way to flex your cognitive abilities is to keep challenging yourself to learn more about the world.
- While it might seem like doing several things at once would help you get done faster, research has shown it decreases both productivity and work quality.

Cognitive processes such as learning, attention, perception, and memory are important parts of the human experience. Understanding how they function can provide insight into normal human thought and behavior and how different cognitive conditions might create problems and impairments.

Samaya Harshitha N, 2F

Snails – On Another Front

On a dusky evening, in the wet world after a heavy monsoon downpour, under the damp rocks and among the humus and leaf litter, a curious, shy, slimy mollusk emerges into the cold air -the Snail .....

Snails break the aestivation that keeps them alive through the dry seasons, slowly bringing their body mass and slimy feet followed by two curious peeking stalks that hold their eyes as they forage for food and fresh air. These molluscs are spotted annually by multiple people in parks, gardens, and sometimes even in basements, leaving behind their characteristic trail of slime on the concrete and pavements.

Snails can be classified into mainly three groups based on their habitat; terrestrial, freshwater, and marine. The diversity in their habitats is due to their ability to hibernate or aestivate under harsh conditions and their evolutionary defense strategies. Certain species have developed a venomous mucus layer coating their bodies while few marine species have stingers. Most snails use their shells and even radula (mouth appendages) for defense. Aquatic snails have also developed wing-like structures for swimming. Snails have a versatile diet, feeding mostly on decaying and fresh organic matter along with earthworms and small soil critters.

Snails are not just gross slimy brown creatures that, by the mere sight, make people's skin crawl. There are many species in different shapes ranging from soft to spiky shells and in almost every color in the spectrum, from bright greens and blues to greys, blacks, and even transparent!

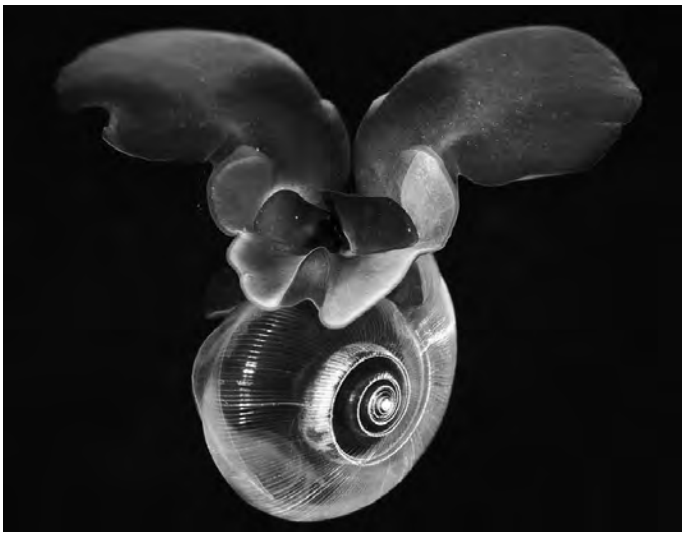
The candy cane snail, an arboreal species, is known to be the most colorful gastropod. Sporting a white, conical shell decorated with distinctive rainbow-colored stripes, the charismatic snail can be found in the Caribbean.

Sea butterflies are the world's most abundant gastropod. Instead of crawling along the moist forest floor, their feet have evolved into winglike lobes that allow them to swim around in the roughly 80 feet of the Arctic Oceans.

a sea butterfly

The bubble raft snail collects bubbles in its mucus and then uses its bubbly concoction as a raft for long-distance ocean travel as it cannot swim. Also known as the violet sea snail, this mollusc has a transparent body that looks like a tiny piece of bubble wrap in a stunning purplish calcareous shell

Snails play an important role in biomonitoring, nutrient cycling, and maintaining ecological



functioning. Snails play important ecological roles in aquatic and terrestrial ecosystems by contributing to biomass, providing food for other organisms, and improving water quality. However, climate change is killing snail species by reducing soil moisture in summer. Their population is threatened by ocean and soil acidification. Many Snail species have lost their shells entirely to this phenomenon, and having no shells leaves their fragile skeletons naked and vulnerable to predators. Injuries to their shells can cause them to lose their life to parasites and infections. Habitat restoration through constructive management of national parks, wildlife sanctuaries, and protected terrestrial water bodies is essential to preserve snail populations.

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Chetana A, 1F

Sustainability

To truly grasp the concept of sustainability, let's delve into a fundamental question. When we advocate for conserving water at home, what exactly are we striving to achieve?

Consider this: The water we use doesn't vanish, it cycles through nature, from streams to rivers to seas, evaporating into clouds and returning as rain. According to the law of conservation of mass, nothing is truly wasted; it is simply repurposed. So, what does it mean to "not waste water"?

In essence, when we advocate for saving water, we are advocating for conserving energy. Think about the immense energy invested in building dams, laying pipelines, and delivering water to our homes. This process, known as "energy cost" predominantly relies on non-renewable sources like fossil fuels. This principle extends beyond water and applies to everything we consume - from clothing to food.

Today, the buzzword is sustainability - embracing organic foods and natural materials. But what does sustainability truly entail, and how can we adopt a move to approach consumerism?

To put things into perspective. here is a list of some energy comparisons:

- 1 bamboo toothbrush = 4 plastic bottles
- 1 glass floss container = 7 plastic floss containers
- 1 reusable water bottle = 167 plastic water bottles
- 1 reusable bag = 170 plastic bags
- 1 reusable cup = 500 coffee cups
- 1 metal straw = 540 plastic straws
- 1 cloth towel = 7,300 paper towels

The energy disparity between producing a cotton bag and a plastic bag is staggering: it takes 100 times more energy to manufacture a cotton bag compared to a plastic one. This illustrates a critical point: to offset the environmental impact of a single disposable plastic bag, you'd need to utilize a cotton bag 100 times before discarding it. Failure to meet this threshold results in increased energy consumption, rendering the alternative less sustainable than its plastic counterpart. Thus, it is imperative to use and reuse products thoughtfully to minimize our ecological footprint and promote sustainability.

Using less plastic and favoring natural products seems like a sustainable option, but is it truly enough? The crux of sustainability lies in using less and buying thoughtfully. Plastic, despite its vilification, has recolonized modern living. The real issues lie in our consumption habits. Instead of merely swapping plastic for bamboo or paper alternatives, we must rethink our approach to consumption, opting for longevity over disposability. In essence, true sustainability isn't about the material – it is about our mindset. By using products for longer periods and minimizing unnecessary consumption, we can truly embody the principles of sustainability and pave for a more responsible future.

Vrundha V, 2F

Liquid Trees: A New Approach to Air Purification

Liquid trees are a novel technology that utilizes microalgae to purify the air and combat climate change. These bioreactors, often resembling large tanks, are designed to mimic the natural process of photosynthesis.

How Liquid Trees Work

Liquid trees are essentially photobioreactors that house a specific species of microalgae, such as Chlorella vulgaris and Spirulina. These microalgae are cultivated in a water-filled tank, where they are exposed to sunlight. The tank is equipped with a pressure pump and solar panels, which provide the necessary energy for the algae to thrive. Small openings in the tank allow for the release of oxygen into the atmosphere.

The Power of Photosynthesis

The core principle behind liquid trees is photosynthesis. Microalgae, like plants, absorb carbon dioxide from the surrounding air and use sunlight to convert it into energy. This process releases oxygen as a byproduct, effectively cleaning the air.

Efficiency and Impact

Liquid trees are highly efficient in their carbon sequestration and oxygen production. A single liquid tree can perform the same function as two fully grown, ten-year-old trees, and potentially even more effectively. This makes them a valuable tool in the fight against air pollution and climate change.

The Future of Liquid Trees

While still in its early stages of development, liquid tree technology holds immense promise for a cleaner and greener future. Ongoing research and development efforts are focused on optimizing the design and efficiency of these bioreactors. As the technology matures, liquid trees are expected to become increasingly prevalent in urban environments, serving as a vital tool in our quest for a sustainable future.

Anvita (2I), Kushadhi (2F), Vynavi (2H)

The Placebo Effect

"We do not have to visit a madhouse to find disordered winds;

our planet is the mental institution of the Universe"

-Johann Wolfgang von Goethe

As vast as the extent of the abilities of the mind is the vastness of this universe, always expanding and never at peace.

But what is one's mind known to be?

By definition, it can be said that it is the element of a person that enables them to be aware of the world and their experience, to think, to feel, and the faculty of consciousness and thought. The mind is the strongest and one of the most assets of man. It holds so much power that small amends can influence it to a large extent.

But is it defined? No. Despite all the scientific achievements made by humankind, two of the most important and abundant things remain undiscovered fully, the mind - abundant, vast, and mysterious.

But can the mind be controlled? Yes. It most definitely can. Again, only to an extent.

One such influential factor in medical science is placebos. The idea that your brain can convince your body a fake treatment is the real thing, is the so-called placebo effect, and thus stimulates healing. It has been around for quite some time now.

What is a placebo? Placebo is Latin for "I will please" Exactly as it sounds, placebos are medications or treatments that have no actual therapeutic value. They include inert tablets, inert injections, sham surgical procedures, and research of developing drugs but produce accurate results most of the time

"Placebo effect" is the consequence of taking a placebo and the effect is when a person's physical or mental health appears to improve after taking a placebo or 'dummy' treatment.

How does it work?

The whole effect is driven by the thought process of the individual and powered by the belief of the person that the treatment will work no matter what it may be - it doesn't depend on the nature of the placebo most of the time. Placebos are often used in clinical trials to help understand the real effect of a new treatment - both benefits and possible side effects.

It is not fully understood how the effect works on the individual, but it involves a complex neurobiological reaction that includes everything from increase in happiness or feel-good neurotransmitters, like endorphins and dopamine, to greater activity in certain brain regions linked to moods, emotional reactions, and self-awareness. All of it can have therapeutic benefits. The placebo effect is a way for your brain to tell the body what it needs to feel better. It's solely based on the belief system of the individual. People are expected to have side effects such as headaches, nausea, or drowsiness, and there is a greater chance of those reactions happening. The fact that the placebo effect is tied to expectations doesn't make it imaginary or fake. Some studies show that there are actual physical changes that occur with the placebo effect too which might be explained by the complex neurochemical processes that occur in the brain when one is told affirmative and reassuring sentences convincing the brain to work towards solving the problem and pushing itself to its maximum capacity to do so.

Psychoneuroimmunology is a relatively new area of scientific study. It studies the direct effect of brain activity on the immune system. Just as a dog can be

conditioned to salivate at the sound of a bell, so can mice be conditioned to restrain their immune system when presented with a specific stimulus.

Another theory that explains the probable working of placebos is that for minor illnesses involving curable symptoms but the condition of the individual gets worse because of the stigma or fear caused by previous treatments, the placebos work by being prescribed in small doses and are made to physically appear more or less like the drug that was originally supposed to be prescribed but wasn't because of its side effects, age or health factors of the patient. The placebo prescribed has mild properties of generic drug medication depending on the disorder or sickness.

Some placebos have a mild painkiller effect which can convince the individual that their condition might be getting better which therefore results in the body reacting to the healing process faster and more efficiently curing them of their sickness quicker.

Placebos often work because people don't know they are getting one.

But what happens if you know you are getting a placebo?

A study published in the Science Translational Medicine explored this by testing how people reacted to migraine pain medication. One group took a migraine drug labeled with the drug's name, another took a placebo labeled "placebo," and a third group took nothing. The researchers discovered that the placebo was 50% as effective as the real drug to reduce pain after a migraine attack. Researchers speculated that a driving force beyond this reaction was the simple act of taking a pill. People associate the ritual of taking medicine with a positive healing effect. Even if they know it's not medicine, the action itself can stimulate the brain into thinking the body is being healed

But the placebo effect, like all other treatments, has many unresolved issues such as the converse of the placebo effect occurring called the nocebo effect - a situation in which a patient develops side effects or symptoms that can occur with a drug or other therapy just because the patient believes they may occur. Research into the pros and cons of the placebo effect has changed how many people think about this phenomenon but there is plenty that remains mysterious. We don't know how to predict individual responses to a placebo or how to reliably harness its power. And it's important to note that even though "feeling better" is important, it does not always come with genuine health benefits.

Shaarvari Shri Harsha, 2I

Diving into the Wonders of the Underwater World

From middle school, we've been taught the same thing over and over again and I'm here to remind you again. "71 PERCENT OF EARTH IS WATER!!". Can you imagine how vast of a landscape we are ignoring? We humans are inhabiting only 30% of the total land area on earth. Imagine if we found a way to maybe hold our breaths and survive longer than two minutes, or even build an underground city using modern technology. Maybe then we won't have to worry about who's going to be on the spaceship to Mars with Elon Musk to herald a new era of human civilization.

Sounds ridiculous?

The idea of underwater kingdoms is not foreign to us. We've seen, read, or heard such stories from childhood. The Little Mermaid, the beloved fairytale written by Hans Christian Anderson is a beautiful depiction of humans' fascination with underwater kingdoms and we see this time and again with movies such as Aquaman.

I believe the oceans are a vessel for many unspoken stories and untold truths. On delving deeper into the ocean's trenches the remains of many pirate ships, and battleships can be found which add to our knowledge of previous civilizations and eras. In these uncharted territories, millions of marine species unknown to science are said to exist if we take into account the larger and smaller marine species.

New species of marine animals are being discovered each year some of them include the 13-meter (43foot) carnivorous squid, the scuttling Yeti crabs that huddle near hydrothermal vents, and the tusked whales that live thousands of feet below the surface to evade predatory orcas are some of them.

The unexplored mysteries that lie within the ocean ranging from Atlantis, The Lost underwater City or Dwarka, the submerged city or the Bermuda Triangle or the Kumari Kandam(LEMURIA) continue to baffle us humans. One may ask WHY? or HOW? To be frank, I don't know, but it's something I'd give up everything to get the explanation for these mysteries.

Ancient Greek mythology also preaches the existence of mermaids, sirens, Kraken, and many more sea creatures. Reports of seeing the previously mentioned creatures go back thousands of years.

Are they authentic? or simply made-up myths and legends?

Although the uncertainty remains if the truth will ever be discovered or not, we are now a lot closer to discovering it than we were centuries ago.

What's the use of discovering all of this you ask?

Human greed of always wanting more,

more resources

more space

more EVERYTHING

Our greed has no bounds or limits.

We wish to colonize everything and experience everything around us. It makes it possible for both the current and upcoming generations to live and experience the beauty of nature without having to think about the end in mind.

It allows us to delve into nature's mysteries and discover the unknown. Even if one day the entire earth ends up being submerged in water we won't have to worry about where to go, what to eat? or how to survive.

Floods, global warming, and the extinction of humans won't be a concern for us. A debatable statement, one might say. However, I'm open to discussing and bringing about a change in the years to come.

Nithyashree U, 2H

How long would it take to add up to the maximum possible value on your Calculator ?

Suppose You have a Calculator, Say a CASIO Calculator which is a standard 12 digit calculator. If you are bored, you must have tried to type, add, multiply or divide random numbers for fun and to pass time .

Let us say you have entered 0 and added 1 ,The result (You guessed it !) is 1. Now, If you keep pressing the "=" button, the calculator keeps adding 1 to the previous result.. so the results will be 2, 3, 4, 5, 6, 7 and so on.. Have you ever wondered how long it would take to reach the maximum value your calculator can support (999999999999 – In a Standard 12 Digit calculator) from 0 by just adding 1 every time ??

Well , The answer to this ..... It is not Easy ,

If you start from 0, it would take you around 200 seconds (3.3 minutes) to reach 1000 if you press the "=" button continuously..To reach 999,999,999,999 or approximately 1,000,000,000,000 (A Trillion) it would take a stunning 1,000,000,000 * 3.3 = 3,300,000,000 minutes (3.3 Billion minutes) 3.3 billion minutes is not at all a small number , it is equal to 55 million hours or 2.3 Million Days (2,291,667) , 74k months (73,925) , 6.1k years (6,160) or 61.6 Centuries NON STOP, Good luck with that !!

For those who can't image how large 62 Centuries are, if you were teleported back in time to the early Mesopotamian Civilization, during the Bronze age and you started to increment 0, you would complete the addition and reach a trillion in the next few years if you somehow didn't die.

Let us hope that no one tries this out.. If you are planning to try it out, My best of Luck to you and I hope that your calculator's battery doesn't run out !!

Skandesh S. 1J

The Art of Problem Solving

'BRAIN TEASERS THAT CHALLENGE AND ENTERTAIN'

A brain teaser is a form of puzzle that requires thinking to solve. It often requires thinking in unconventional ways with given constraints in mind; sometimes it also involves lateral thinking. Brain teasers help develop logical thinking. These puzzles can be in the form of wordplay , logical or mathematical problems, each demanding solutions that are not immediately obvious.

Benefits

There are many benefits of brain teasers, they enhance problem-solving skills by encouraging thinkers to consider multiple angles and creative solutions. Engaging with these puzzles also improves memory and concentration as they often require recalling clues and focusing. Additionally, the intense focus needed to solve a brain teaser can help strengthen overall attention span, making it easier to concentrate on other tasks. Focusing on a puzzle can provide a mental break from daily stresses, offering a sense of accomplishment once solved.

Types of brain teasers

1. **Riddles:** These are puzzles that use language in tricky ways. They often involve wordplay or require lateral thinking. Riddles often use metaphors, idioms and words with different meanings etc.

   For example, I'm tall when I'm young and I'm short when I'm old. What am I?

   Answer: A candle

2. **Logical puzzle:** A logical puzzle is a problem that requires the application of logical reasoning to arrive at a solution. These puzzles typically present a scenario with a set of conditions, rules, or constraints that must be satisfied.

   For example, There are three boxes. One contains apples, one contains oranges, and one contains both. Each box is labelled incorrectly. You can only pick one fruit from one box. How do you label the boxes correctly?

   Solution: Pick a fruit from the box labelled "both." If it's an apple, that box contains only apples. The box labelled "oranges" must contain both, and the box labelled "apples" contains oranges.

3. **Mathematical Puzzles:** These puzzles involve numbers and mathematical operations. These puzzles are also in picture form which requires visualising

   For example, What can you put between 7 and 8 to get a result bigger than 7, but not quite as high as 8?

   Solution: Decimal point, 7.8 is bigger than 7 but not quite as high as 8.

4. **Visual Puzzles:** These involve images or patterns that require interpretation or manipulation to solve.

   For example,

   Solution: 9

How to Approach Brain Teasers

1. **Understand the Problem:** Carefully read the question and determine what is being asked.
2. **Break it Down:** Divide the puzzle into smaller parts if possible, and solve each one individually.
3. **Think Creatively:** Don't rely on straightforward logic, sometimes lateral thinking is required.
4. **Check Your Work:** Once you have a solution, double-check to ensure if it satisfies all conditions of the puzzle.
5. **Practice Regularly:** Like any skill, practice can improve your ability to solve brain teasers.

Conclusion

Brain teasers are more than just puzzles, they are a powerful tool for mental stimulation and development. Engaging with these challenges can

enhance thinking abilities, including problem-solving, creativity and concentration. Whether you're tackling a riddle, a logic puzzle, or a mathematical problem, brain teasers offer a fun and rewarding way to exercise your mind. By putting these puzzles into your routine, you not only enjoy a break from daily stress but also promote lifelong learning and mental exercise. So, dive into the world of brain teasers and discover the joy of solving puzzles while keeping your brain sharp and active!!!

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Nihaal R, 2F

The Chemistry Edition

D	Y	T	I	L	A	L	O	M	X	Z	Q	B	N	F	C	R	E	U
Q	W	I	V	E	L	U	C	E	L	O	M	P	I	E	P	T	X	S
F	U	R	T	Q	S	C	I	P	B	O	M	B	E	G	A	B	A	E
S	V	S	C	H	U	Y	W	X	I	U	O	R	C	Q	P	H	I	J
C	J	O	U	L	E	D	B	G	T	N	Y	U	E	U	R	G	E	N
O	J	H	G	F	D	R	S	A	N	H	Q	B	B	A	E	V	Y	O
N	U	T	C	E	R	U	M	A	S	E	A	Y	L	N	C	L	U	Q
I	S	U	Y	V	O	M	C	O	M	P	O	S	I	T	I	O	N	E
C	F	A	E	E	E	I	Y	D	D	S	D	T	I	A	S	Y	C	N
A	W	T	U	T	O	R	U	T	P	Y	W	T	I	A	I	A	O	O
L	A	Q	E	V	R	V	P	U	C	S	N	A	T	N	O	I	M	I
F	A	R	A	D	A	Y	C	O	N	S	T	A	N	T	N	C	N	T
L	E	V	R	F	E	I	Y	O	P	F	L	X	M	Z	A	D	S	A
A	W	E	R	T	Y	U	I	O	P	Y	A	S	D	I	F	G	H	R
S	X	F	Y	U	H	V	A	C	S	Q	S	C	V	F	C	E	B	T
K`	W	E	F	B	H	R	D	T	C	H	B	S	D	B	H	S	Q	I
B	U	N	S	E	N	B	U	R	N	E	Q	U	A	T	I	O	N	T

HINTS

1. of, relating to, or resembling water.
2. an instrument for measuring electric current in amperes.
3. derived unit used to measure energy or work
4. total moles of a solute contained in a kilogram of a solvent
5. a substance that increases the rate of a chemical reaction without itself undergoing any permanent chemical change.
6. 96.5 KJ mol $^{-1}$, Michael F
7. an atom or molecule with a net electric charge due to the loss or gain of one or more electrons.
8. deals with the interconversion of heat and other forms of energy
9. the quality or state of being precise
10. the smallest possible unit of something, usually energies
11. analysis technique that is used to calculate the concentration of a given analyte in a mixture.
12. a type of laboratory flask which features a flat bottom, a conical body, and a cylindrical neck
13. a group of atoms bonded together, representing the smallest fundamental unit of a chemical compound
14. the symbolic representation of a chemical reaction in the form of symbols and formulae

Sandhya Vikram, 1I

Building Computers

Computers have become an integral part of our lives. There is not much we could have done without them. Dating back to the 1830's, Charles Babbage created the ancestor of what we call a computer today, the analytical engine. We have come a long way since then; Today's computers are millions of times faster than back in the day.

This article is a complete walkthrough to building your very own computer with all the essential information required. A variety of topics are covered, from the primary components and their functions to basic assembly tips as well for beginners.

When it comes to building computers, there are generally two use cases which decide the type of components you will require. Generally, computers for the purpose of casual, or even professional gaming require a better graphic supply, whereas it is not so in the case of a workstation computer.

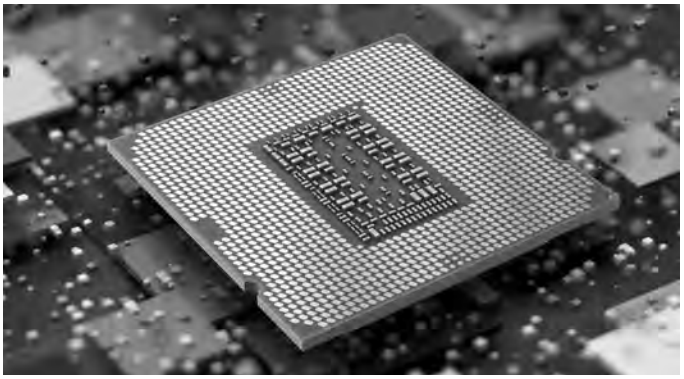
Key Components:

These are the main components you would need to put together a computer. Moving on to each component in detail:

1.Central Processing Unit (CPU):

It functions as the brain of the computer, responsible for executing instructions and processing information. This is probably one of the most crucial choices to make regardless of the purpose or budget while building your own computer. In the CPU market, there are two major CPU manufacturers, Intel and AMD. Each of them have their own pros and cons. Intel supersedes AMD in single threaded workloads, such as basic video editing, photo editing and everyday applications. AMD however, is superior when it comes to multi-threaded workloads like 3D modeling, video rendering and graphic designing. AMD's 3D series chips have performed exceedingly well when we talk about gaming.

The Intel naming goes something like i5-12400F, where the 5 next to the i represents the hierarchy, the 12 in 12400 represents the generation and the F at the end varies depending on whether the CPU is overclockable, has an iGPU or not. AMD however, generally start their CPU names with Ryzen or Athlon, Ryzen being the CPUs without integrated graphics and Athlons having them. The rest of the CPU names are quite similar to Intel's naming scheme, for example Ryzen 9 7900X. You might see some older generations of Intel chips called Pentium, which are no longer produced.



2.Graphics Processing Unit (GPU):

It is used for rendering images and videos. Required for gaming and graphic intensive tasks like editing. This choice varies purely upon your purpose of using the computer. GPUs are a must when it comes to gaming, video editing, or 3D modeling. There are two kinds of GPU's you will come across, one being an iGPU, which comes with the processor and is integrated with them. These are good enough for a lighter workload and casual gaming.

The other kind are external GPU's, the ones which you attach to the motherboard. Major GPU manufacturers are Nvidia and AMD. Intel has started

manufacturing its own GPUs as well in the past 2-3 years, and is very recent compared to the other two. Nvidia makes the GPU chips which are then used to build cards by other makers. Nvidia cards are known to be better for gaming, and AMD for 3D modeling and rendering. Intel however is pretty new and is not very popular. Nvidia cards are called RTX cards, followed by a series of numbers like 3070 where the 30 is the generation of the card and 70 is the model. AMD cards start with an RX in their names followed by a similar naming method. Intel GPUs start with an Arc in their name.

3.Motherboard:

It is the main circuit board enabling communication amongst various parts of the computer. Depending on the chipset used in the build, the manufacturer makes compatible motherboards. For example, motherboards with an AM5 or an AM4 socket are made for AMD, whereas LGA socket motherboards are for Intel. A motherboard will also decide the overclockability of your build. They come in different form factors like ATX, mATX and E-ATX. They vary in no. of RAM slots; smaller form factors limit the number of heatsinks and cooling.

4.Random Access Memory(RAM):

It is used to store temporary data used in active processes and applications. The latest RAM type today is DDR5. It stands for 'Double Data Rate 5'. Ideally, one would need anywhere from 8 gigabytes of RAM to 32. Gaming and editing are RAM intensive, a minimum of 16 gigs is recommended. However, for daily tasks, 8 is more than enough.

5.Read Only Memory(ROM)/Storage :

Mainly divided into two types, SSDs (Solid State Drive) and HDDs (Hard Disk Drive) are used for storing the operating system and files. Nowadays, HDDs are rarely in use as SSDs have taken over the markets. They are much faster and their form factor is very less compared to HDDs. 1-2 terabytes of SSD storage is ideal for most uses.

6.Power Supply Unit:

They provide needed electrical power to the computer to function. Once you are done with picking out the components, all that's left is to measure the estimated wattage used by them and buy an appropriate power supply.

7.Cabinet:

It is the enclosure holding the parts together. It is very important that the cabinet has adequate airflow and cooling with a sufficient number of fans. You can also use AIOs or All in One coolers or water coolers as well.

Basic Assembly Tips:

- Decide your budget and the purpose of your computer before selecting parts.
- Always use a trusted website such as pcpartpicker to check compatibility of parts used.
- Never cheap out on PSUs, Cooling and Motherboards.
- Make sure you have the tools like a screwdriver required.
- You'll need a clean and static-free environment. An anti-static leg band is recommended or build the PC on a non-conductive surface.
- No matter what, don't forget to apply thermal paste on the CPU.
- Cross-check the cables and connections before turning the PC on. A common mistake is connecting your monitor to the motherboard instead of the graphic unit.
- Organizing your cables makes it look clean and is easier to sort through.
- Once you're done assembling everything, install the operating system and regularly update your drivers.
- Seek help from a professional if you get stuck anywhere. There are ample videos on the internet available to help you at each step.
- Recommended channels to watch before building your PC : LinusTechTips, JayzTwoCents and Gamers Nexus. Of course, there are other channels as well but I found these to be the best and most informational.

Conclusion:

Building your first PC can be a rewarding and learning experience. It involves both the creative and technical aspect of your mind. Not only will you get yourself a machine useful in many ways, you will also gain a lot of knowledge about computer hardware and how they work. Every build is different and is a unique reflection of a person and their needs and preferences. Be it aesthetics, performance or variety of components. The key is to take your time and enjoy the process. Happy Building!

Shriram V Shandilya, 2 A

Y2K - The Computer Bug that Ended the World

The year 2000, was a special year as it marked the beginning of a new millennium, the future for the people of the 1990s. Many people spent the night on December 31st, 1999 staring at the clock, not to celebrate the new year, but because when it was 00:00 on 1st January 2000, the world would come to an end thanks to the computer bug, the Y2K.

People had been preparing for this, they withdrew their money from banks, bought food, water, medicines, weapons and prepared to see the end of the world, as when the clock passed 1999 and stepped into the 2000s, computers would malfunction. If you are not aware, computers play a part in everything so the mass malfunctioning of computers would have an impact on almost every field, just like the recent Microsoft outage which had a lasting impact on other sectors like the I.T, Aviation, Stocks, Trading and many more. The Microsoft outage caused only limited recoverable damages but why would the Y2K end the world?

The answer to that was the nature of the Y2K. Computers would malfunction, nuclear reactors would erupt, missiles would launch by themselves, banks would lose their money, Dams would open by themselves, planes would drop from the sky, but why? The Y2K was not any ordinary propaganda, but it had validity to it. The Y2K bug was discovered by an IBM employee Bob Bemer in the 1950s. Computers at that time were brand new, Memory was expensive due to the lack of integration techniques, so to save memory, the programmers removed what was not needed. The computers would store the date in DD/MM/YY format considering only the last 2 digits of the year, as this saved space and was enough to run computers. Bob Bemer wondered what would happen when the year 2000 would begin. It would be represented as 01/01/00 on a computer. Would the computer assume it to be 1900 instead of 2000 as it couldn't think? He named this the Y2K, an Abbreviation of Year 2000 (2k).

It was not taken seriously until 1999, when some people started to panic as they assumed that the bank's computers would calculate back their interest and they would lose all their money, some even speculating that their accounts would be filled with huge amounts of money due to error in calculation of interests, which did happen in Germany. People also speculated that nuclear missiles would fire as their clocks reset, but there were also people who just didn't care and felt that people were overthinking. Companies in the US spent hundreds of billions of dollars to fix the Y2K bug and to make their computers and weapons Y2K proof.

On Jan 1, 2000 :

- **In Japan:** The Shika Nuclear Power Plant reported that their radiation monitoring equipment failed within a few seconds after midnight.
- **In South Korea:** Korea University sent graduation certificates dated 13 January 1900.
- **In Denmark,** the first baby born on January 1st was recorded as being 100 years old.
- **In France,** the national weather forecasting service, Météo-France, said a Y2K bug made the date on their webpage show a map with Saturday's weather forecast as "01/01/1900"
- **In Italy,** courthouse computers in Venice and

Naples showed an upcoming release date for some prisoners as 10 January 1900, while other inmates wrongly showed up as having 100 additional years on their sentences.

- **In the United States:** The US Naval Observatory, which runs the master clock that keeps the country's official time, gave the date on its website as 1st Jan 1900.

The credit card companies Master Card and Visa reported, that as a direct result of the Y2K glitch, for weeks after the year rollover, a small percentage of customers were being charged multiple times for transactions. Microsoft reported that after the year rolled over, Hotmail emails sent in October 1999 or earlier showed up as having been sent in 2099, into the Future.

Whatever it may be, the lesson learnt was to be updated and to not be threatened by computers – a machine made by humans..

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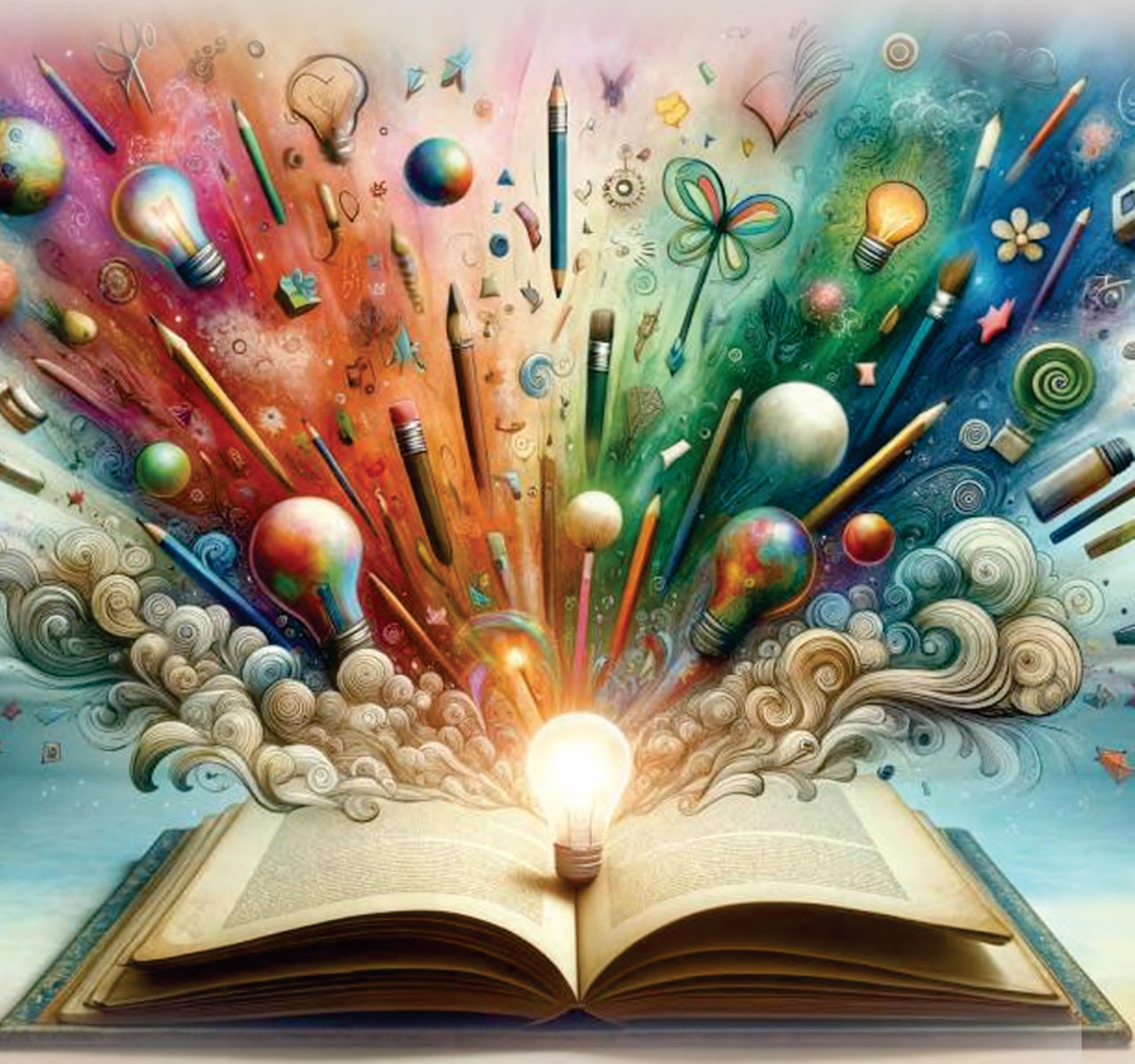
Skandesh S, 1 J

Brain Teasers
Creative Writing
Languages

"Writing is the painting of the voice"



Thinking Laterally!

Used extensively in quizzes, questions on lateral and critical thinking are cleverly disguised as questions that require in-depth knowledge in science, general knowledge or other subjects and may intimidate you at first glance. However, a little more thinking will reveal that these questions are purely based on reasoning and do not require extensive knowledge in a particular field. These questions can be solved by thinking in the right direction and joining the dots. Here are some to intrigue you (hints are provided for assistance):

Question 1: On 21 Aug, 2017. The "NASA Moon" twitter (now X) account blocked the "NASA Sun" twitter account for two hours. Why?

Hint 1: The date, although not absolutely important, holds some significance.

Hint 2: This was supposed to symbolise a real life event.

Hint 3: Think of the moon, the sun and blocking....

Question 2: The logo of which TV show has the numbers 35 and 56?

Hint 1: These numbers are part of the logo design.

Hint 2: The show is extremely popular.

Hint 3: Think of chemistry....

Question 3: In an AIR interview in 1972, Jyoti Prasad Saikia, a journalist from Tripura, coined and used a phrase for the first time. Since then, the phrase is used extensively in daily parlance and has become synonymous with what it was supposed to represent. What phrase did Jyoti Prasad Saikia use for the first time in 1972?

Hint 1: You almost certainly would have used or at least come across this phrase.

Hint 2: A phrase related to geography.

Hint 3: Indian states.

Question 4: In ancient Rome, why would an archer be asked to look at the night sky and confirm if he could see a particular thing, before he was allowed to serve in the Roman army?

Hint 1: The fact that he could see the "particular thing" was supposed to qualify him to serve as an archer.

Hint 2: The "particular thing" was a constellation.

Hint 3: What organ is perhaps the most important for an archer to shoot proficiently?

Answers:

1. 21 Aug 2017 was a day of total solar eclipse in the United States and the moon account blocked the sun account to replicate the moon appearing to block the sun when seen from the earth during the eclipse.
2. The logo of "Breaking Bad" uses the periodic table symbol of Bromine for "Br" and Barium for "Ba". The atomic numbers of Bromine and Barium are 35 and 56 respectively.
3. Jyoti Prasad Saikia coined the phrase "Land of Seven Sisters", used to represent the north-east Indian states.
4. In ancient Rome, aspiring archers were asked to point out the Big Dipper constellation to prove their eyesight was perfect, as the Big Dipper is relatively dimmer.

Arya Thejas V, 2B

'ಥಟ್ ಅಂತ ಹೇಳಿ!?'

ಇವೆಲ್ಲವೂ ಶುರುವಾಗಿದ್ದು ಒಂದು ಕರೆಯಿಂದ. ನಾನು ದೂರದರ್ಶನ ಚಂದನ ವಾಹಿನಿಯಲ್ಲಿ ಬರುತ್ತೇನೆ ಎಂದು ಅಂದುಕೊಂಡಿರಲಿಲ್ಲ. ದೂರದರ್ಶನ ಚಂದನ ವಾಹಿನಿಯ ಪ್ರಸಿದ್ಧ ರಸಪ್ರಶ್ನೆ ಕಾರ್ಯಕ್ರಮವಾದ 'ಥಟ್ ಅಂತ ಹೇಳಿ' ಕಾರ್ಯಕ್ರಮದ ಗಾಂಧಿ ಜಯಂತಿಯ ವಿಶೇಷ ಸಂಚಿಕೆಯಲ್ಲಿ ಭಾಗವಹಿಸಲು ಅವಕಾಶ ಸಿಕ್ಕಿತು. ನನ್ನ ಆದರ್ಶ ಮೂರ್ತಿ ಆಗಿರುವ ಹಾಗೂ ಈ ಕಾರ್ಯಕ್ರಮವನ್ನು ನಡೆಸುವವರು ಡಾ. ಸೋಮೇಶ್ವರರವರನ್ನು ಭೇಟಿಯಾಗಲು ನನ್ನ ಮನ ತವಕದಿಂದ ಕಾಯುತ್ತಿತ್ತು. ಇವೆಲ್ಲವೂ ನಡೆಯುವ ದಿನ ಕೊನೆಗೆ ಬಂದೇ ಬಿಟ್ಟಿತು.

ಗಾಂಧೀಜಿಯವರ ಬದುಕು ಮತ್ತು ಅಹಿಂಸೆಯ ಹಾದಿಯಲ್ಲಿ ನಮ್ಮ ದೇಶಕ್ಕೆ ಸ್ವಾತಂತ್ರ್ಯ ತಂದು ಕೊಟ್ಟಿರುವುದು ಎಲ್ಲರಿಗೂ ಗೊತ್ತಿರುವ ವಿಷಯ. ಇವುಗಳಲ್ಲದೆ ಅವರ ವೈಯಕ್ತಿಕ ಜೀವನ, ಬಾಲ್ಯ ಜೀವನ ಮುಂತಾದವುಗಳ ಬಗೆಗೆ ತಿಳಿದುಕೊಂಡು ರಸಪ್ರಶ್ನೆಯ 'ಸವಾಲುಗಳನ್ನು' ಉತ್ತರಿಸಲು ಸಿದ್ಧನಾಗಿದ್ದೆ. ನಾನು, ನನ್ನ ತಂದೆ–ತಾಯಿ ದೂರದರ್ಶನ ಕೇಂದ್ರಕ್ಕೆ ಬಂದೆವು. ಅಲ್ಲಿ ನನಗೆ ಈ ಕಾರ್ಯಕ್ರಮದ ಬಗ್ಗೆ ಹೇಳಿ, ಕಾರ್ಯಕ್ರಮವು ನಡೆಯುವ ಸ್ಟುಡಿಯೋಗೆ ಕರೆದುಕೊಂಡು ಹೋದರು. ಅಲ್ಲಿ ಡಾ. ನಾ. ಸೋಮೇಶ್ವರರೊಂದಿಗೆ ಮಾತನಾಡಿದೆ ರಸಪ್ರಶ್ನೆ ಕಾರ್ಯಕ್ರಮದಲ್ಲಿ ಗೊತ್ತಿದೆಲ್ಲ ಪ್ರಶ್ನೆಗಳಿಗೆ ಉತ್ತರಿಸಿದೆ.

ನನ್ನ ಆಶ್ಚರ್ಯಕ್ಕೆ ನನಗೆ 11 ಪುಸ್ತಕಗಳು ಸಿಕ್ಕವು. ವಿಶೇಷ ಬಹುಮಾನವಾಗಿ 'ಶ್ರೀಮದ್ ಭಗವದ್ಗೀತಾ' ಪುಸ್ತಕವು ಸಿಕ್ಕಿತು. ಡಾಕ್ಟರ್ ನಾ ಸೋಮೇಶ್ವರರವರನ್ನು ಭೇಟಿಯಾಗಿದ್ದು ಆ ಕ್ಷಣಕ್ಕಿಂತಲೂ ಯಾವುದೂ ಖುಷಿ ಕೊಡಲಿಲ್ಲ. ಆ ಸಿಹಿ ನೆನಪು ನನ್ನ ಮನದಲ್ಲಿ ಅಚ್ಚಾಗಿ ಉಳಿದಿದೆ.

ಅಭಯ್ ಕೋತಾ ನಾಗರಾಜ್, 1I

ಅಡಗಿಟ್ಟ ಒಳಿತು

ನಮ್ಮಲ್ಲಿ ಅಡಗಿಸಿಟ್ಟ ಮಾನವೀಯತೆ
ಕೆಲವರಲ್ಲೇ ಮೂಡುತ್ತೆಯೇ?
ಮನಸ್ಸುಗಳು ನೋಡಲು ಆರಂಭಿಸುತ್ತವೆ ಅರ್ಹತೆ
ಬೆಳಕು ಮುಸುಗಿಕೊಳ್ಳುತ್ತದೆ, ಬಾಳು ಸಾರ್ಥಕವೇ?

ಸ್ವಾರ್ಥದ ನದಿಯಲ್ಲಿ ಮಿಂದು
ಕಲ್ಲು ಆಗುತ್ತವೆ ಅಂತರಾಳಗಳು
ಕ್ರೂರ ಜಗತ್ತು ನಮ್ಮ ಮುಂದೆ ನಿಂತು
ಅಂಧಕಾರದಲ್ಲಿ ಮುಳುಗಿಸುತ್ತದೆ ಹೃದಯಗಳನ್ನು.

ಬ್ರಹ್ಮಾಂಡದಲ್ಲಿ ಎಳ್ಳಷ್ಟು ನಾವು,
ಆದರೂ ಅಲೆಗಳಂತೆ ಹರಡುವ ನಮ್ಮ ಕಾರ್ಯಗಳು,
ಈ ಇರುಳಲಿ ಬೆಳಗಿನಂತೆ ಇರುವರು
ಸೃಷ್ಟಿಯ ಪ್ರೇಯರಚನೆ, ಒಳಿತು ಅರಿತವರು.

ಚೆರಿತಾ ಕೈವಾರ್, 2G

'ಅಮ್ಮ'...

'ಅಮ್ಮ' ಎಂಬ ಪದವು ಕೇವಲ ಪದವಲ್ಲ, ನಿಸ್ವಾರ್ಥ ಪ್ರೀತಿ, ವಾತ್ಸಲ್ಯ, ಅಕ್ಕರೆ, ಭಾವನೆ, ತ್ಯಾಗದ ಪ್ರತಿರೂಪ. ತಾಯಿಯ ಮಡಿಲು ಮಗುವಿನ ಮೊದಲ ಜಗತ್ತು.

ಪ್ರತಿ ಮಗುವಿಗೆ ತಾಯಿ ಬಹಳ ವಿಶೇಷ ಮತ್ತು ಪ್ರಮುಖ ವ್ಯಕ್ತಿ. ವಾಸ್ತವವಾಗಿ, ಅವಳು ದೇವರು ನೀಡಿರುವ ಅತ್ಯಂತ ಅಮೂಲ್ಯ ಕೊಡುಗೆ. ಮಗು ಅವಳಿಂದ ಮಾತ್ರ ಜಗತ್ತನ್ನು ನೋಡುತ್ತದೆ. ಅವಳು ತನ್ನ ಮಗುವಿಗೆ ಸ್ನೇಹಿತೆ, ಪೋಷಕಳು, ಮಾರ್ಗದರ್ಶಿ ಮತ್ತು ಶಿಕ್ಷಕಿ. ಅವಳು ಇಡೀ ಕುಟುಂಬವನ್ನು ನೋಡಿಕೊಳ್ಳುತ್ತಾ, ಕಟ್ಟಡವನ್ನು ಸುಂದರ ಮನೆಯಾಗಿ ಪರಿವರ್ತಿಸುತ್ತಾಳೆ. ಮನೆಯೇ ಮೊದಲ ಪಾಠ ಶಾಲೆ–ತಾಯಿಯೇ ಮೊದಲ ಗುರು. ಪ್ರತಿಯೊಂದು ಮಗುವು ತನ್ನ ಜೀವನದಲ್ಲಿ ಹೇಳುವ ಮೊದಲ ಪದವೂ ಸಹ 'ಅಮ್ಮ'. ಪ್ರತಿಯೊಬ್ಬರಿಗೂ ಅಮ್ಮ ಎಂಬ ವ್ಯಕ್ತಿ ತಮ್ಮ ಜೀವನದಲ್ಲಿ ಬಹಳ ವಿಶೇಷ ಮತ್ತು ಪ್ರಮುಖ ಸ್ಥಾನವನ್ನು ಪಡೆದಿರುತ್ತಾರೆ.

ತಾಯಿ ತನ್ನ ಮಕ್ಕಳನ್ನು ಅತ್ಯಂತ ಕಾಳಜಿ, ಸಹಾನುಭೂತಿ ಮತ್ತು ಪ್ರೀತಿಯಿಂದ ಬೆಳೆಸುತ್ತಾಳೆ. ಅವಳು ನಮ್ಮ ಮನೆಗಳನ್ನು ತನ್ನ ಉಪಸ್ಥಿತಿ ಮತ್ತು ನಗುವಿನಿಂದ ಬೆಳಗಿಸುತ್ತಾಳೆ. ತಾಯಿ ಎಂಬ ಪದವು ನಮಗೆ ಭಾವನೆಗಳನ್ನು ತರುತ್ತದೆ ಮತ್ತು ಪ್ರತಿ ಮಗುವೂ ತನ್ನ ತಾಯಂದಿರೊಂದಿಗೆ ಭಾವನಾತ್ಮಕವಾಗಿ ಸಂಬಂಧವನ್ನು ಹೊಂದಿರುತ್ತದೆ. ನನಗೆ, ನನ್ನ ತಾಯಿ ಈ ಜಗತ್ತಿನಲ್ಲಿ ಪ್ರೀತಿ, ಪ್ರಾಮಾಣಿಕತೆ, ಸತ್ಯ ಮತ್ತು ಸಹಾನುಭೂತಿಯ ಸಂಕೇತವಾಗಿದ್ದಾರೆ. ನನ್ನ ತಾಯಿಯೇ ನನಗೆ ಸ್ಫೂರ್ತಿ. ಅವಳು ಅದ್ಭುತ ಮಹಿಳೆ.

ನಾನು ಕಾಯಿಲೆ ಬಿದ್ದಾಗ ನಿದ್ದೆಯಿಲ್ಲದ ರಾತ್ರಿಗಳನ್ನು ಕಳೆಯುವುದು ನನ್ನ ತಾಯಿ. ಅವಳು ಯಾವಾಗಲೂ ನನ್ನ ಶಿಕ್ಷಣ, ಆರೋಗ್ಯ ಮತ್ತು ಸಂತೋಷದ ಬಗ್ಗೆ ತುಂಬಾ ಕಾಳಜಿ ವಹಿಸುತ್ತಾಳೆ. ಅವಳು ತನ್ನ ಅಗತ್ಯಗಳನ್ನು ರಾಜಿ ಮಾಡಿಕೊಳ್ಳುತ್ತಾಳೆ ಮತ್ತು ನನ್ನ ಅಗತ್ಯಗಳನ್ನು ಮೊದಲು ನೋಡಿಕೊಳ್ಳುತ್ತಾಳೆ. ಜೀವನದಲ್ಲಿ ಸರಿಯಾದ ಕೆಲಸಗಳನ್ನು ಮಾಡಲು ಮತ್ತು ಸರಿಯಾದ ದಿಕ್ಕನ್ನು ಆಯ್ಕೆ ಮಾಡಲು ಅವಳು ಯಾವಾಗಲೂ ನನಗೆ ಮಾರ್ಗದರ್ಶನ ನೀಡುತ್ತಾಳೆ. ಒಳ್ಳೆಯದು ಮತ್ತು ಕೆಟ್ಟದ್ದರ ನಡುವೆ ವ್ಯತ್ಯಾಸವನ್ನು ಗುರುತಿಸಲು, ಜನರನ್ನು ಗೌರವಿಸಲು, ಬಿದ್ದಾಗ ನಿಲ್ಲದೆ ನಡೆಯಲು ಕಲಿಸುತ್ತಾಳೆ.

ನಾನು ನನ್ನ ಎಲ್ಲಾ ವಿಷಯಗಳನ್ನು ಅವಳೊಂದಿಗೆ ಮುಕ್ತವಾಗಿ ಹಂಚಿಕೊಳ್ಳುತ್ತೇನೆ. ನಾನು ಸಮಸ್ಯೆಗೆ ಸಿಲುಕಿದಾಗ, ನನ್ನ ತಾಯಿ ನನಗೆ ಏನಾದರೂ ಪರಿಹಾರವನ್ನು ನೀಡುತ್ತಾಳೆ ಮುಂದೆ ನಿಂತು ನಮ್ಮನ್ನು ರಕ್ಷಿಸುತ್ತಾಳೆ ಎಂದು ನಾನು ಬಲವಾಗಿ ನಂಬಿದ್ದೇನೆ. ಅನೇಕ ಬಾರಿ, ಅವಳು ಸ್ವತಃ ಮಗುವಾಗುತ್ತಾಳೆ ಮತ್ತು ಚಲನಚಿತ್ರಗಳಿಗೆ ಹೋಗುವುದು, ಶಾಪಿಂಗ್ ಮಾಡುವುದು, ಷೆಟಲ್ ಆಡುವುದು, ಇತ್ಯಾದಿಗಳನ್ನು ಆಡುತ್ತಾ, ನಮ್ಮೊಂದಿಗೆ ಸಂಪೂರ್ಣವಾಗಿ ಆನಂದಿಸುತ್ತಾಳೆ.

ಅವಳು ತನ್ನ ಇಡೀ ಜೀವನವನ್ನು ತ್ಯಾಗ ಮಾಡುತ್ತಾಳೆ ಮತ್ತು ತನ್ನ ಇಡೀ ಜೀವನವನ್ನು ನಮಗೆ ಅರ್ಪಿಸುತ್ತಾಳೆ; ಅವಳು ಯಾವಾಗಲೂ ತನ್ನ ದುಃಖಗಳನ್ನು ಮರೆತು ನಮ್ಮ ಸಂತೋಷದ ಬಗ್ಗೆ ಯೋಚಿಸುತ್ತಾಳೆ. ನಾವು ಸಂತೋಷವಾಗಿರುವಾಗ ಅವಳು ಸಂತೋಷವಾಗಿರುತ್ತಾಳೆ. ಅವಳು ಎಂದಿಗೂ ನಮ್ಮಿಂದ ಏನನ್ನೂ ಕೇಳುವುದಿಲ್ಲ, ಯಾವಾಗಲೂ ನಮ್ಮನ್ನು ಕೇಳದೆ ನಮ್ಮ ಅಗತ್ಯಗಳನ್ನು ಪೂರೈಸುತ್ತಾಳೆ. ದೈನಂದಿನ ಸವಾಲುಗಳು, ವ್ಯವಹಾರ ಮತ್ತು ಮನೆಯಲ್ಲಿನ ಅಡೆತಡೆಗಳನ್ನು ಜಯಿಸಲು ಅವಳು ಅಪಾರವಾದ ಭಾವನಾತ್ಮಕ ಮತ್ತು ದೈಹಿಕ ಶಕ್ತಿಯನ್ನು ಹೊಂದಿದ್ದಾಳೆ. ಅವಳು ಒಂದೇ ಸಮಯದಲ್ಲಿ ಎಲ್ಲವನ್ನೂ ಹೇಗೆ ನಿರ್ವಹಿಸುತ್ತಾಳೆ ಎಂದು ಕೆಲವೊಮ್ಮೆ ನಾನು ಆಶ್ಚರ್ಯ ಪಡುತ್ತೇನೆ.

ನಾನು ಇಂದು 'ಭಾರತ ದೇಶದ ಅತ್ಯಂತ ಕಿರಿಯ ಕವಯತ್ರಿ' ಎಂಬ ಗೌರವ ಪಡೆದಿದ್ದರೆ ಅದರ ಹಿಂದಿನ ಪ್ರೇರಕ ಶಕ್ತಿ, ಪರಿಶ್ರಮ ನನ್ನ ಅಮ್ಮನದು. ನನ್ನ ಜೀವನದಲ್ಲಿ ?ಅಮ್ಮ? ಎಂಬುದೇ ನನ್ನ ಪ್ರಪಂಚ. ಅವಳಿಲ್ಲದೆ ನನ್ನ ಜೀವನ ಸಾಧ್ಯವಿಲ್ಲ. ನನ್ನ ತಾಯಿ ನನಗಾಗಿ ಹಗಲಿರುಳು ಕಷ್ಟಪಡುತ್ತಾಳೆ. ನನ್ನ ಅಮ್ಮ ಕೆಲಸಕ್ಕೆ ಹೋಗುವ ಮಹಿಳೆ, ಮನೆಯಲ್ಲಿ ನನಗೆ ಬೇಕಾದ ಪ್ರತಿಯೊಂದು ಅಡುಗೆಯನ್ನು ರುಚಿಕರವಾಗಿ ತಯಾರು ಮಾಡಿ, ಕಛೇರಿ ಕೆಲಸದಲ್ಲಿಯೂ ಅಚ್ಚುಕಟ್ಟಾಗಿ ಕೆಲಸ ಮಾಡಿ ಎಲ್ಲರ ಮೆಚ್ಚುಗೆಗೆ ಪಾತ್ರಳಾಗಿದ್ದಾಳೆ.

ನನ್ನ ಅವಶ್ಯಕತೆಗಳನ್ನು ನಾನು ತಿಳಿಸುವ ಮೊದಲೇ ತಿಳಿದುಕೊಂಡು ಅದನ್ನು ನನಗೆ ಒದಗಿಸುತ್ತಾಳೆ. ಮನೆಯಲ್ಲಿರುವವರನ್ನೆಲ್ಲಾ ಚೆನ್ನಾಗಿ ನೋಡಿಕೊಂಡು ಮನೆಯನ್ನು ಸರಿದೂಗಿಸಿಕೊಂಡು ಹೋಗುವುದನ್ನು ನೋಡಿದರೆ ನಮ್ಮಮ್ಮ `Super Women' ಅನ್ನಿಸುತ್ತದೆ.

ನನ್ನ ಅಮ್ಮನ ಕನಸೆಲ್ಲವನ್ನು ನನಸು ಮಾಡುವ ಶಕ್ತಿ ದೇವರು ನನಗೆ ಕೊಡಲಿ ಎಂಬುದೇ ನನ್ನ ಕೋರಿಕೆ. ನನ್ನಮ್ಮ ಚೈತನ್ಯದ ಚಿಲುಮೆ ನನ್ನಮ್ಮ ಧೈರ್ಯಶಾಲಿಯೂ ಹೌದು, ಕ್ರಿಯಾಶೀಲಳು ಹೌದು, ಅವಳೇ ನನಗೆ ರೋಲ್ ಮಾಡೆಲ್. ನಕಾರಾತ್ಮಕವಾಗಿ ಎಂದಿಗೂ ಯೋಚಿಸದೇ, ಪ್ರತಿಯೊಂದು ಹಂತದಲ್ಲೂ ನನ್ನನ್ನು ಹುರಿದುಂಬಿಸುತ್ತಾ, ಸಕಾರಾತ್ಮಕ ಯೋಚನೆಗಳನ್ನು ನನ್ನಲ್ಲಿ ಬಿತ್ತಿ, ಜೀವನ ಎಂದರೆ ಏನು? ಎಂದು ಕಲಿಸಿರುವ, ಕಲಿಸುತ್ತಿರುವ ಶಿಕ್ಷಕಿ ನನ್ನಮ್ಮ. ತಪ್ಪು ಮಾಡಿದಾಗ ಗದರಿಸಿ ತಿದ್ದಿ ಹೇಳುವ, ಸರಿ ಮಾಡಿದಾಗ ಪ್ರೋತ್ಸಾಹಿಸಿ ಮುನ್ನುಗ್ಗುವಂತೆ ಹುರಿದುಂಬಿಸುವ ದಣಿವರಿಯದ ವ್ಯಕ್ತಿ ಮತ್ತು ಶಕ್ತಿ ನನ್ನಮ್ಮ.

ಅಮನ ಜೆ. ಕುಮಾರ್, 1G

ಡಂಕಣ ಜಕಣರ ನೆಚ್ಚಿನ ಬೀಡೆ...

ನೀವೆಲ್ಲರೂ ಖಂಡಿತವಾಗಿ ಕರ್ನಾಟಕದ ನಾಡ ಗೀತೆಯನ್ನು ಕೇಳಿರುವಿರಿ ಹಾಗೂ ಹಾಡಿರುವಿರಿ. ಅದರಲ್ಲಿ ಒಂದು ಸಾಲು ಹೀಗಿದೆ 'ಡಂಕಣ ಜಕಣರ ನೆಚ್ಚಿನ ಬೀಡೆ'. ಒಮ್ಮೆ ಯಾದರೂ ಈ 'ಡಂಕಣ ಜಕಣರು' ಯಾರು ಎಂದು ನೀವು ಯೋಚಿಸಿರುವುದುಂಟೇ? ಇಲ್ಲವೆಂದರೆ ಅವರ ಕಥೆಯನ್ನು ನೀವು ತಿಳಿಯಲೇ ಬೇಕು. ಅವರಿಬ್ಬರೂ ನಮ್ಮ ಕನ್ನಡ ನಾಡಿನ ಶಿಲ್ಪಕಲೆಯ ಇತಿಹಾಸದ ರತ್ನಗಳು. ಅವರಿಲ್ಲದಿದ್ದರೆ ಹೊಯ್ಸಳ ಸಾಮ್ರಾಜ್ಯದ ಕೀರ್ತಿ ಅರ್ಧವಾಗುತ್ತಿತ್ತೇ? ಹಾಗಾದರೆ, ಇವರಲ್ಲಿ ಏನೋ ವಿಶೇಷ ಇರಬೇಕಲ್ಲವೇ?

ಜಕಣಾಚಾರಿಯು ಕರ್ನಾಟಕದ ಶ್ರೇಷ್ಠ ಶಿಲ್ಪಿಯೆಂಬ ಹೆಗ್ಗಳಿಕೆಯನ್ನು ಪಡೆದಿರುವನು. ಇವನು ತುಮಕೂರಿನ ಬಳಿಯ ಕ್ರೀಡಾಪುರದಲ್ಲಿ ಹನ್ನೆರಡನೆಯ ಶತಮಾನದಲ್ಲಿ ಜನಿಸಿದರು. ಜಕ್ಕಣನೆಂದು ಪ್ರಸಿದ್ಧನಾದ ಈತನು ಹೊಯ್ಸಳರ ಮತ್ತು ಕಲ್ಯಾಣಿ ಚಾಲುಕ್ಯರ ರಾಜಶಿಲ್ಪಿಯಾಗಿದ್ದನು. ಮೊದಲು ಇವನು ಸಣ್ಣಪುಟ್ಟ ಮೂರ್ತಿಗಳನ್ನು ಕೆತ್ತುತ್ತಾ ತನ್ನ ಜೀವನವನ್ನು ಸಾಗಿಸುತ್ತಿದ್ದನು. ಹೀಗಿರುವಾಗ ಒಂದು ದಿನ ಜಕಣಾಚಾರಿಯು ತನ್ನ ಜೀವನವನ್ನು ತನ್ನ ಕಲೆಗಾಗಿ ಅರ್ಪಿಸಲು ನಿರ್ಧರಿಸಿದಾಗ ಪತ್ನಿ ಛಾಯಾದೇವಿ ಹಾಗೂ ತನ್ನ ನವಜಾತ ಶಿಶುವನ್ನು ಕ್ರೀಡಾಪುರದಲ್ಲಿಯೇ ಬಿಟ್ಟು ಉದ್ಯೋಗವನ್ನು ಅರಸುತ್ತಾ ತೆರಳಿದನು. ಪತಿಯನ್ನು ಕಳೆದುಕೊಂಡ ಛಾಯಾದೇವಿ ತನ್ನ ಮಗನನ್ನೂ ಸಹ ತನ್ನ ತಂದೆಯಂತೆ ಶ್ರೇಷ್ಠ ಶಿಲ್ಪಿಯನ್ನಾಗಿ ಮಾಡಲು ತೀರ್ಮಾನ ಮಾಡಿದಳು.

ಆಗ ಹೊಯ್ಸಳರ ಕಾಲದಲ್ಲಿ ಬಿಟ್ಟಿದೇವನೆಂಬ ಜೈನ ರಾಜನ ಆಳ್ವಿಕೆ. ದ್ವಾರಸಮುದ್ರವೆಂಬ ರಾಜಧಾನಿ. ಹೀಗಿರುವಾಗ ಒಮ್ಮೆ ಚೋಳದೇಶದಿಂದ ರಾಮಾನುಜಾಚಾರ್ಯರು ಬಿಟ್ಟಿದೇವನ ಅರಮನೆಗೆ ಬಂದಿದ್ದರು. ಆಚಾರ್ಯರ ನಾರಾಯಣ ಸ್ಮರಣೆಯಿಂದ ಪ್ರಭಾವಿತನಾದ ಚಕ್ರವರ್ತಿ ವೈಷ್ಣವನಾಗಿ ಬದಲಾದನು. ವಿಷ್ಣುವರ್ಧನ ಎಂಬ ನಾಮಧೇಯ ಇವನದ್ದಾಯಿತು. ಕೇವಲ ಭಗವಂತನ ಧ್ಯಾನದಲ್ಲಿದ್ದ ಈತ ಸಾಮ್ರಾಜ್ಯದ ಪ್ರತಿ ಗ್ರಾಮದಲ್ಲಿಯೂ ಒಂದು ಗುಡಿಯನ್ನು ಕಟ್ಟಲು ಆದೇಶ ನೀಡಿದನು.

ಮನೆಬಿಟ್ಟು ಬಂದ ಜಕ್ಕಣನ ಮೊದಲ ಕರ್ಮಭೂಮಿಯು ಸೋಮನಾಥಪುರ. ಅಲ್ಲಿ ಹಲವಾರು ಶಿಲ್ಪಿಗಳು ಒಂದು ದೇವಾಲಯವನ್ನು ನಿರ್ಮಿಸುವುದನ್ನು ನೋಡಿ ತಾನೂ ಅವರೊಡನೆ ಸೇರಿ ಗೋಡೆಗಳಲ್ಲಿ ಚಿತ್ತಾರವನ್ನು ಕೆತ್ತಲು ಪ್ರಾರಂಭಿಸಿದನು. ಹೀಗೆ 15 ವರ್ಷಗಳು ಕಳೆದವು. ಅವನ ಶಿಲ್ಪಕಲೆಯನ್ನು ಮೆಚ್ಚಿದ ರಾಜನು ಅವನನ್ನು ದ್ವಾರಸಮುದ್ರಕ್ಕೆ ಆಹ್ವಾನಿಸುತ್ತಾನೆ. ಅಲ್ಲಿ ಒಂದು ಬೃಹತ್ ದೇವಸ್ಥಾನವನ್ನು ನಿರ್ಮಿಸುವ ಮಹದವಕಾಶ ಜಕ್ಕಣನದ್ದಾಗುತ್ತದೆ. 18 ವರ್ಷಗಳ ಶ್ರಮದ ಫಲ ಜಕ್ಕಣನಿಗೆ ಸಿಗುತ್ತದೆ. ಅದೇನೆಂದರೆ ಅದ್ಭುತವಾದ ಹೊಯ್ಸಳೇಶ್ವರ ಮಂದಿರ. ಇದೇ ಈಗಿನ ಹಳೇಬೀಡು.

ಈ ಸುಂದರ ದೇವಸ್ಥಾನವನ್ನು ನೋಡಿದ ವಿಷ್ಣುವರ್ಧನನು ಜಕಣಾಚಾರಿಯನ್ನು ತನ್ನ ಆಸ್ಥಾನದಲ್ಲಿ ನಡೆಯುತ್ತಿದ್ದ ಶಿಲ್ಪಿಗಳ ಸಭೆಗೆ ಕರೆದುಕೊಂಡು ಹೋದನು. ಅಲ್ಲಿ ಮಂತ್ರಿಯೊಬ್ಬನು ಹೀಗೆ ಘೋಷಿಸುತ್ತಾನೆ:

ಹೇ ಶಿಲ್ಪಿಗಳೇ ಕೇಳಿ ಇಲ್ಲಿ ನಿಮ್ಮ ಒಡೆಯನದ್ದೊಂದು ಆಸೆಯಿದೆ
ಇಲ್ಲಿ ಬಂದಿರುವ ಯಾರಲ್ಲಿ ಅದನು ನೆರವೇರಿಸಲು ಸಾಮರ್ಥ್ಯವಿದೆ?
ಇಂದಿನವರೆಗೆ ಕಟ್ಟಿರಬಾರದು ನಾಳೆ ಮತ್ತೆ ಕಟ್ಟಬಾರದು
ಹೀಗೊಂದು ದೇಗುಲವನು ಕಟ್ಟಲು ಯಾರಿಗಾಗುವುದು?

ಈ ಪ್ರಶ್ನೆಯನ್ನು ಕೇಳಿ ಶಿಲ್ಪಿಗಳೆಲ್ಲರೂ ಬೆರಗಾದರು. ಎಲ್ಲರೂ ಇದು ಅಸಾಧ್ಯ ಎಂದುಕೊಂಡರು. ಇಡೀ ಸಭಾಂಗಣವು ಮಾತು, ಗದ್ದಲದಿಂದ ತುಂಬಿರುವಾಗ ಜಕಣಾಚಾರಿ ಮಾತ್ರ ಮತ್ತೊಂದು ಪ್ರಶ್ನೆ ಕೇಳದೆ ಈ ಕಾರ್ಯವನ್ನು ನಿರ್ವಹಿಸಲು ಕಂಕಣ ಕಟ್ಟಿಕೊಂಡನು.

ಆಗ ಮೂಡಿಬಂದ ಪ್ರಶ್ನೆಯೆಂದರೆ ಈ ದೇವಸ್ಥಾನವನ್ನು ಎಲ್ಲಿ ಕಟ್ಟುವುದು ಎಂದು. ಇದಕ್ಕೆ ಆಸ್ಥಾನದ ಪಂಡಿತರೆಲ್ಲರೂ ಒಮ್ಮತದಿಂದ ಯಗಚಿ ತೀರದಲ್ಲಿದ್ದ ವೇಲಾಪುರವೇ ಸೂಕ್ತವಾದ ಪ್ರದೇಶವೆಂದು ತಿಳಿಸಿದರು. ಜಕಣಾಚಾರಿಯು ತನ್ನ ಜೀವನವನ್ನು ಒತ್ತೆ ಇಟ್ಟು ಬಹಳ ಅದ್ಭುತವಾದ ಕೆತ್ತನೆಗಳಿಂದ ಕೂಡಿದ್ದ ದೇವಸ್ಥಾನವನ್ನು ನಿರ್ಮಿಸುತ್ತಾನೆ. 26 ವರ್ಷಗಳ ನಂತರ ದೇವಸ್ಥಾನದ ಕೆಲಸವೂ ಮುಗಿದಿತ್ತು, ಗರ್ಭಗೃಹದಲ್ಲಿ ಕುಳಿತು ಮೆರೆಯಲು ಸುರಸುಂದರನಾದ ಚೆನ್ನಿಗರಾಯನ ಮೂರ್ತಿಯೂ ತಯಾರಾಗಿತ್ತು. ಸ್ವಾಮಿಯ ಪ್ರತಿಷ್ಠಾಪನೆಯ ದಿವಸ. ಶುಭವಾದ್ಯಗಳ ಸದ್ದು ವೇಲಾಪುರದಲ್ಲಿ ಮೊಳಗುತ್ತಿತ್ತು. ಹೊಯ್ಸಳ ಸಾಮ್ರಾಟ್, ರಾಣಿ ಶಾಂತಲಾ, ರಾಮಾನುಜರು, ಜಕ್ಕಣನು ಮತ್ತು ರಾಜ್ಯದ ಪ್ರಜೆಗಳೆಲ್ಲರೂ ಸಂಭ್ರಮದಿಂದ ಅಲ್ಲಿ ಸೇರಿದ್ದರು. ಜನಸಾಗರದಿಂದ ಓಡೋಡಿ ಬಂದು ಒಬ್ಬ ಹುಡುಗ ಹೀಗೆ ಹೇಳಿದನು:

ಲಲಿತಲೋಚನ ಶ್ರೀಮುಖ ಶ್ರವಣಪಾಶ ಚಿತ್ರಾಂಗುಲಿತ ವರೋರು ಸುಕೇಶ
ರತ್ನಕುಂಡಲೀ ಶಂಖಚಕ್ರಧರ ಕೌಮೋದಕೀ ಶುಕ್ಲಾಂಬರಧರ
ಕಮಲಚರಣ ಸ್ವಲಂಕೃತ ಸುಗ್ರೀವನು ಈ ನಿಮ್ಮ ಕಲ್ಲಿನ ಕೇಶವನು
ಆದರೆ ಈತ ಪದ್ಮನಾಭನಲ್ಲ ದೇವಾಲಯದಲ್ಲೀ ಮೂರ್ತಿ ಇರುವುದಿಲ್ಲ
ಇದರಲ್ಲಿರುವ ದೋಷ ತರುವುದು ಹೊಯ್ಸಳಾಂತ್ಯದ ಘೋಷ
ತಪ್ಪು ಕೆತ್ತಿದ ಶಿಲ್ಪಿಯದ್ದು, ಪ್ರಭುವೇ ಇದನ್ನು ನೀ ಈಗ ತಿದ್ದು.

ಇದನ್ನು ಕೇಳಿದ ಜಕಣಾಚಾರಿಯು ಕ್ರುದ್ಧನಾಗಿ ಆವೇಶದಲ್ಲಿ ವಿಗ್ರಹದಲ್ಲಿ ದೋಷವಿದ್ದದ್ದು ಸತ್ಯವಾಗಿದ್ದರೆ ತನ್ನ ಬಲಗೈ ದಂಡವೆಂದು

ಬೇಲೂರು–ಕ್ರಿ. ಶ. 1117–1220

ಹಳೇಬೀಡು–ಕ್ರಿ. ಶ. 1121–1160

ಕೈದಾಳ–ಕ್ರಿ. ಶ. 1150

ಶಪಥ ಮಾಡಿದರೆ ದೋಷವಿಲ್ಲದಿದ್ದರೆ ತನ್ನ ತಲೆದಂಡವೆಂದು ಹುಡುಗ ಹೇಳಿದ. ರಾಜನಿಗೆ ಏನು ಮಾಡಬೇಕೆಂದು ಗೊತ್ತಾಗದೆ ಸಂಪೂರ್ಣ ವಿವಾದವನ್ನು ಇವರಿಬ್ಬರಿಗೆ ಬಿಟ್ಟ. ಆ ಹುಡುಗ ಆಗ ಎಂಟು ಅಚ್ಚೇರಷ್ಟು ಶ್ರೀಗಂಧವನ್ನು ತೇಯ್ದು ವಿಗ್ರಹದ ಮೇಲೆ ಲೇಪಿಸಿದ. ಮೂರು ದಿನಗಳ ನಂತರ ಎಲ್ಲ ಅಂಗಗಳಲ್ಲೂ ಶ್ರೀಗಂಧ ಒಣಗಿತ್ತು. ಆದರೆ ನಾಭಿಯಲ್ಲಿ ಮಾತ್ರ ಹಸಿಯಾಗಿತ್ತು. ಇದನ್ನು ಕಂಡವರೆಲ್ಲರೂ ಆಶ್ಚರ್ಯದಿಂದ ಅದು ಹೇಗೆ ಸಾಧ್ಯವೆಂದು ಚರ್ಚಿಸುವಾಗ ಹುಡುಗ ಬರುತ್ತಾನೆ. ಆ ಹಸಿ ಜಾಗಕ್ಕೆ ಉಳಿಯಿಂದ ಒಂದೇ ಏಟು ಕೊಟ್ಟು ಭಿನ್ನಪಡಿಸುತ್ತಾನೆ. ಆಗ ಎಲ್ಲರೂ ಅಚ್ಚರಿಯಿಂದ ಆ ಭಿನ್ನ ವಿಗ್ರಹವನ್ನು ನೋಡುತ್ತಿರುತ್ತಾರೆ. ನಿಜವಾಗಿಯೂ ಬಾಲಕ ಹೇಳಿದಂತೆ ಕೇಶವನು ಆಗ ಪದ್ಮನಾಭನಲ್ಲ ಮಂಡೂಕನಾಭನಾಗಿರುತ್ತಾನೆ. ಮೂರ್ತಿಯ ಉದರದಲ್ಲಿ ಬೊಗಸೆಯಷ್ಟು ನೀರು ತುಂಬಿದ್ದು ಅಲ್ಲೊಂದು ಕಪ್ಪೆ ವಾಸವಿರುತ್ತದೆ.

ಆತನ ಶಿಲ್ಪವಿದ್ಯೆಯನ್ನು ಮೆಚ್ಚಿದ ರಾಜನು ಆ ಹುಡುಗನ ಪರಿಚಯ ಕೇಳಿದಾಗ ಅವನು ತಾನು ಪ್ರಸಿದ್ಧ ಶಿಲ್ಪಿ ಜಕಣಾಚಾರಿಯ ಮಗ ಡಂಕಣಾಚಾರಿಯೆಂದು ಹೇಳುತ್ತಾನೆ. ಬಹಳ ವರ್ಷಗಳಿಂದ ತನ್ನ ತಂದೆಯನ್ನು ಹುಡುಕುತ್ತಾ ಊರೂರು ಸುತ್ತಿ ಅಲ್ಲಿ ಬಂದಿದ್ದನೆಂದೂ ತಿಳಿಸುತ್ತಾನೆ. ರಾಜನು ಡಂಕಣನಿಗೆ ಆ ಮೂರ್ತಿಯನ್ನು ಕೆತ್ತಿದವನೇ ತನ್ನ ತಂದೆಯೆಂದು ಹೇಳಿದಾಗ ಅವನಿಗೆ ಅತ್ಯಂತ ಸಂತೋಷವಾಗಿ ತಂದೆಯ ಕಡೆ ತಿರುಗಿ ನೋಡಿದಾಗ ಅಷ್ಟರಲ್ಲಿ ತನ್ನ ಮಗನು ಎದುರಿಗೇ ಇದ್ದಾನೆ ಎಂದು ಗೊತ್ತಿಲ್ಲದೆ ತನ್ನ ಗರ್ವದ ಪ್ರಾಯಶ್ಚಿತ್ತವಾಗಿ ಹರಿನಾಮ ಸ್ಮರಿಸಿ ಜಕ್ಕಣ ತನ್ನ ಬಲಗೈಯನ್ನು ಕತ್ತರಿಸಿಕೊಂಡಿರುತ್ತಾನೆ. ತಂದೆಯ ಸ್ಥಿತಿಗೆ ತಾನೇ ಕಾರಣವೆಂದು ತನ್ನನ್ನು ದೂಷಿಸುತ್ತಾ ಜನಕನ ಸಹಾಯಕ್ಕೆ ಡಂಕಣ ಓಡುತ್ತಾನೆ. ಆಗ ಜಕಣಾಚಾರಿಗೆ ಹೋದ ಕೈಗೆ ದುಃಖ ಪಡಬೇಕೋ ಮಗ ಬಂದನೆಂದು ಸಂತೋಷ ಪಡಬೇಕೋ ತಿಳಿಯದಂತಾಯಿತು.

ಕೆಲವು ಮಾಸಗಳು ಕಳೆದವು. ಅಪಾಣಿಯಾದರೂ ತನ್ನ ಕಾರ್ಯವನ್ನು ಮುಗಿಸಲು ಜಕಣಾಚಾರಿ ತನ್ನ ಮಗನ ಸಹಾಯದಿಂದ ಮತ್ತೊಂದು ಮೂರ್ತಿಯನ್ನು ಕೆತ್ತುತ್ತಾನೆ. ಚನ್ನಕೇಶವನನ್ನು ಪ್ರತಿಷ್ಠಾಪಿಸಿ ಭಿನ್ನವಾದ ವಿಗ್ರಹವು ಕಪ್ಪೆಚೆನ್ನಿಗರಾಯನಾಗಿ ಬೇರೊಂದು ಗುಡಿಯಲ್ಲಿ ಸ್ಥಾಪಿಸಲಾಗುತ್ತದೆ. ಈ ದೇಗುಲದೊಂದಿಗೆ ಉಭಯಾಚಾರಿಗಳ ಕೀರ್ತಿ ವೇಲಾಪುರವಾದ ಬೇಲೂರಿನಲ್ಲಿ ಶಾಶ್ವತವಾಗುವ ಜೊತೆಗೆ ಜಕಣಾಚಾರಿಗೆ ಅಮರಶಿಲ್ಪಿ ಬಿರುದು ದೊರೆಯುತ್ತದೆ. ಡಂಕಣ–ಜಕಣರ ಶಿಲ್ಪಕಲೆಗಳಿಂದ ಹೊಯ್ಸಳ ಸಾಮ್ರಾಜ್ಯದ ಕೀರ್ತಿ ದುಪ್ಪಟ್ಟಾಗಿದೆ.

ಒಂದು ದಿನ ಸ್ವಪ್ನದಲ್ಲಿ ಶ್ರೀನಿವಾಸ ಕಾಣಿಸಿಕೊಂಡು ತನ್ನ ಊರಿನಲ್ಲಿಯೇ ಚನ್ನಕೇಶವನ ಒಂದು ಗುಡಿ ಕಟ್ಟಿಸಲು ಜಕಣಾಚಾರಿಗೆ ಆದೇಶಿಸುತ್ತಾನೆ. ದೈವಾಜ್ಞೆಯನ್ನು ತನ್ನ ಕರ್ತವ್ಯವೆಂದು ಭಾವಿಸಿ ಪಿತಾಪುತ್ರರು ಕ್ರೀಡಾಪುರಕ್ಕೆ ತೆರಳುತ್ತಾರೆ. ಬಹಳ ಶ್ರಮದಿಂದ ಕೈಯಿಲ್ಲದ ಜಕಣಾಚಾರಿಯು ಮಗ ಡಂಕಣ ಮತ್ತು ಹಲವಾರು ಇತರೆ ಶಿಲ್ಪಿಗಳೊಂದಿಗೆ ಅವನ ಹುಟ್ಟೂರಿನಲ್ಲಿ ಚನ್ನಕೇಶವ ದೇವಾಲಯದ ಗರ್ಭಗುಡಿಯಿಂದ ಹಿಡಿದು ಗೋಪುರದ ಕಳಶದವರೆಗೆ ಎಲ್ಲ ಕಾರ್ಯಗಳನ್ನು ಮುಗಿಸುತ್ತಾನೆ. ಸರ್ವಾಲಂಕಾರಶೋಭಿತ ಚೆನ್ನಿಗರಾಯನ ಪ್ರತಿಷ್ಠಾಪನೆ ಮುಗಿದು ಸಾಯಂ ಮಹಾಮಂಗಳಾರತಿಯ ಸಮಯ. 'ಸರ್ವವ್ಯಾಧಿ ನಿವಾರಣಂ ಮಹಾವಿಷ್ಣವೇ ನಮಃ... ವೈದ್ಯೋ ನಾರಾಯಣೋ ಹರಿಃ' ಎಂದು ಜಪಿಸುತ್ತಿದ್ದ ಜಕಣಾಚಾರಿಯ ಕಳಚಿ ಬಿದ್ದ ಬಲಗೈ ಸಂತುಷ್ಟಗೊಂಡ ಭಗವಂತನ ಕೃಪೆಯಿಂದ ಮತ್ತೆ ಬೆಳೆದು ಬರುತ್ತದೆ. ಸಹಸ್ರನಾದರೂ ಸಹ ವೃದ್ಧನಾದ ಜಕಣಾಚಾರಿ ಮತ್ತೊಂದು ಕಲ್ಲನ್ನು ಕೆತ್ತುವುದಿಲ್ಲ. ಕೈ ಬಂದ ಕ್ರೀಡಾಪುರ ಕೈದಾಳವೆಂದು ಕರೆಸಿಕೊಂಡು ಅಮರಶಿಲ್ಪಿಯ ಕಥೆಯನ್ನು ನಿಜಕ್ಕೂ ಜನರ ಮನದಲ್ಲಿ ಉಳಿಸಿದೆ.

ಇವರೇ ನಮ್ಮ ಕನ್ನಡನಾಡಿನ ಹೆಮ್ಮೆ. ಇಬ್ಬರು ಶಿಲ್ಪಿಗಳ ಕಥೆಯೇ ಇಷ್ಟು ವಿಸ್ತಾರವಾಗಿದೆ ಎಂದರೆ ಇನ್ನು ನಾಡಗೀತೆಯಲ್ಲಿ ಬರುವ ಹಲವಾರು ವೀರರ ಜೀವನಚರಿತ್ರೆಗಳು ಹೇಗಿರಬಹುದು? ಇನ್ನೆಷ್ಟು ಕರುನಾಡ ಪರಾಕ್ರಮಿಗಳು ಇತಿಹಾಸದ ಪುಟಗಳಲ್ಲಿ ಕಳೆದುಹೋಗಿರಬಹುದು? ನಿಜಕ್ಕೂ ನಮ್ಮ ಈ ನಾಡು ಕಲಾವಿದರ ರತ್ನಬೀಡು.

ನಿನಾದ್ ವಸಿಷ್ಠ, 1B

ನಮ್ಮ ಜೀವನದಲ್ಲಿ ಗುರುಗಳ ಮಹತ್ವ

ಗುರುರ್ಬ್ರಹ್ಮ ಗುರುರ್ವಿಷ್ಣು! ಗುರುರ್ದೇವೋ ಮಹೇಶ್ವರಃ
ಗುರುಃ ಸಾಕ್ಷಾತ್ ಪರಬ್ರಹ್ಮ! ತಸ್ಮೈ ಶ್ರೀ ಗುರವೇ ನಮಃ

ಓ ಗುರುವೇ ನೀವು ದೇವತೆಗಳಿಗೆ ಸಮಾನರು. ನೀವೇ ಬ್ರಹ್ಮ , ನೀವೇ ವಿಷ್ಣು ಮತ್ತು ನೀವೇ ಶಿವ. ನೀವೇ ಪರಮ ಜೀವಿ ಮತ್ತು ನಾನು ಈ ಮೂಲಕ ನಮಸ್ಕರಿಸುತ್ತೇನೆ.

ಮನೆಯೇ ಮೊದಲ ಪಾಠಶಾಲೆ ಮತ್ತು ತಾಯಿಯೇ ಮೊದಲ ಗುರು ಎಂಬ ನಾಣ್ನುಡಿ ಎಲ್ಲರಿಗೂ ತಿಳಿದಿರುವುದರಿಂದ ನಾನು ಗುರು ಎಂಬ ಪದದ ಅರ್ಥವನ್ನು ಪರಿಚಯಿಸುತ್ತೇನೆ. 'ಗು' ಎಂದರೆ ಅಂಧಃಕಾರ 'ರು' ಎಂದರೆ ದೂರವಾಗಿಸುವುದು, ಗುರುಗಳು ನಮ್ಮ ಜೀವನದಲ್ಲಿನ ಅಜ್ಞಾನವನ್ನು ದೂರ ಮಾಡಿ, ಜೀವನದಲ್ಲಿ ಹೇಗೆ ಆನಂದದಿಂದ ಬದುಕಬಹುದು ಎನ್ನುವುದನ್ನು ಕಲಿಸುತ್ತಾರೆ.

ಗುರುಗಳು, ಮಕ್ಕಳನ್ನು ಜ್ಞಾನವಂತರನ್ನಾಗಿ, ಸುಸಂಸ್ಕೃತರನ್ನಾಗಿ ಮಾಡುವರು. ಗುರುಗಳು ವಿದ್ಯಾರ್ಥಿಗಳ ಬದುಕಿನಲ್ಲಿ ಪ್ರಮುಖ ಪಾತ್ರವನ್ನು ವಹಿಸುತ್ತಾರೆ. ಅವರು ತಮ್ಮಲ್ಲಿರುವ ಜ್ಞಾನ, ತಾಳ್ಮೆ ಮತ್ತು ಮಮತೆಯ ಮೂಲಕ ವಿದ್ಯಾರ್ಥಿಗಳ ಬದುಕಿಗೆ ಒಂದು ರೂಪವನ್ನು ನೀಡುತ್ತಾರೆ.

ಗುರುಗಳು ತಮ್ಮ ಶೈಕ್ಷಣಿಕ ಪ್ರಯಾಣದಲ್ಲಿ ಪ್ರತಿಯೊಬ್ಬ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ ಜೀವನವನ್ನು ಹೇಗೆ ಮುನ್ನಡೆಸಬೇಕೆಂದು ಮಾರ್ಗದರ್ಶನವನ್ನು ನೀಡುತ್ತಾರೆ. ನಮಗೆ ಕೆಲವೊಮ್ಮೆ ಯಾವುದು ಒಳ್ಳೆಯದು, ಯಾವುದು ಕೆಟ್ಟದ್ದು ಎನ್ನುವ ವಿಚಾರವು ಮನಸ್ಸಿಗೆ ಹೊಳೆಯುವುದಿಲ್ಲ. ಮನಸ್ಸಿಗೆ ಬಂದದ್ದನ್ನು ಮಾಡಿಬಿಡುತ್ತೇವೆ. ನಮ್ಮ ಮನಸ್ಸಿನ ಮೇಲೆ ನಮಗೆ ಹಿಡಿತವಿರುವುದಿಲ್ಲ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ಗುರುಗಳು ತಾಳ್ಮೆಯಿಂದ ನಮ್ಮ ತಪ್ಪನ್ನು ತಿದ್ದಿ ಬುದ್ದಿ ಹೇಳುತ್ತಾರೆ.

ಮನಸ್ಸಿನ ಮೇಲೆ ನಿಯಂತ್ರಣ ಹೊಂದಲು ಸಹಾಯ ಮಾಡುತ್ತಾರೆ. ಯಾವುದೇ ರೀತಿಯ ತೊಂದರೆಗೆ ಒಳಗಾಗದಂತೆ ನೋಡಿಕೊಳ್ಳುತ್ತಾರೆ. ಗುರುಗಳು ಯಾರಿಗೂ ತಾರತಮ್ಯ ಮಾಡದೆ ವಿದ್ಯಾರ್ಥಿಗಳ ಯಶಸ್ಸನ್ನು ನೋಡಲು ಬಯಸುತ್ತಾರೆ.

ಗುರುಗಳು ಜ್ಞಾನದ ಭಂಡಾರವಾಗಿದ್ದು, ವಿದ್ಯಾರ್ಥಿಗಳು ತಮ್ಮ ಭವಿಷ್ಯದ ಜವಾಬ್ದಾರಿಯನ್ನು ತೆಗೆದುಕೊಳ್ಳುವ ಆತ್ಮವಿಶ್ವಾಸವನ್ನು ಬಲಪಡಿಸಲು ಪ್ರಯತ್ನಿಸುತ್ತಾರೆ. ನಾವು ಅವರ ಪ್ರಯತ್ನಕ್ಕೆ ಪೂರಕವಾಗಿ ಸ್ಪಂದಿಸಬೇಕು. ಹೇಗೆ ಒಂದು ಕೈಯಿಂದ ಚಪ್ಪಾಳೆ ಸಾಧ್ಯವಿಲ್ಲವೋ ಹಾಗೆ ಕೇವಲ ಗುರುಗಳಿಂದ ಮಾತ್ರ ವಿದ್ಯಾರ್ಥಿಗಳ ಭವಿಷ್ಯವನ್ನು ರೂಪಿಸುವುದು ಅಸಾಧ್ಯ. ವಿದ್ಯಾರ್ಥಿಗಳೂ ಸಹ ಗುರುಗಳ ಮಾತನ್ನು ಕೇಳಿ ಸಕಾರಾತ್ಮಕವಾಗಿ ಪ್ರತಿಸ್ಪಂದಿಸಬೇಕು. ಇಲ್ಲದಿದ್ದಲ್ಲಿ ನೀರಿನಲ್ಲಿ ಮಾಡಿದ ಹೋಮದಂತೆ ಗುರುಗಳ ಪ್ರಯತ್ನಕ್ಕೆ ತಕ್ಕ ಪ್ರತಿಫಲ ಸಿಗಲಾರದು. ಹಾಗಾಗಿ ನಮ್ಮ ಜೀವನಕ್ಕೆ ಗುರುಗಳ ಕೊಡುಗೆ ಅಪಾರ, ಶಿಕ್ಷಕರ ಶಿಕ್ಷಣವಿಲ್ಲದೆ ನಾವು ದೈಹಿಕವಾಗಿ, ಮಾನಸಿಕವಾಗಿ, ಬೌದ್ಧಿಕವಾಗಿ ಅಭಿವೃದ್ಧಿಯನ್ನು ಹೊಂದಲು ಸಾಧ್ಯವಿಲ್ಲ.

ನಾವು ನಮ್ಮ ಜೀವನದಲ್ಲಿ ಮೂರು ಮುಖ್ಯ ವ್ಯಕ್ತಿಗಳನ್ನು ಮರೆಯಬಾರದು. ಅವರಿಗೆ ಅಗೌರವವನ್ನು ತೋರಬಾರದು. ಅವರೇ ತಂದೆ, ತಾಯಿ ಮತ್ತು ಗುರುಗಳು. ಹಾಗಾಗಿ ಮೊದಲ ಮಾತು ಕಲಿಸಿದ ಅಮ್ಮನಿಗೆ, ಜೀವನದ ಪಾಠ ಕಲಿಸಿದ ಅಪ್ಪನಿಗೆ, ವಿದ್ಯಾಬುದ್ಧಿ ಕಲಿಸಿದ ಗುರುಗಳಿಗೆ. ನಾನು ಸದಾ ಕೃತಜ್ಞನಾಗಿರುತ್ತೇನೆ.

ನಿಶಾಂತ್ ಎಸ್. ಗೌಡ, 1I

ಪಡುವಣದ ಪಯಣ

ನಿತ್ಯ ನೆತ್ತಿ ಮೇಲೆ ಉರಿವ ಸತತ ಸೂರ್ಯನ ಕಿರಣ ರಾಚಿ
ರುಂಡದಿಂದ ಮುಂಡದ ವರೆಗೂ ಬೆವರು ಸುರಿಸುವ ಭಾನುರಾಯ,
ದಣಿದ, ದಾಷ್ಟ್ಯ ಬಂದ ದೇಹಕ್ಕೆ ತಂಪು ನೀಡಬಾರದಾ ಎಂಬ ಬೇಡಿಕೆಗೆ,
ಮುಕ್ಕೋಟಿ ದೇವತೆಗಳು, ಪರಿಹಾರ ನೀಡದೆ, ಬಿಡುವರಾ?

ಪಡುವಣದ ಪಯಣದೊಂದಿಗೆ ರವಿ, ನಸುನಗುವಂತೆ ತೋರಿ,
ಪೃಥ್ವಿಯ ಜಲಧಿಯೊಳಗೆ ಮರೆಮಾಚುವ ಚೆಲುವು ಅದ್ವಿತೀಯ!

ಪಶ್ಚಿಮ ಕರಾವಳಿಯ ವಿಶಾಲ ಸಾಗರದ ತೆರೆಯೊಂದಿಗೆ,
ಪ್ರಕೃತಿಯ ಪ್ರಭಾವದ ಮೇರೆಗೆ ಕುಣಿವ ಅಲೆಯ ಸಮೂಹವಲ್ಲದೆ,
ಸುಮಧುರ ಕಂಠದ ಹಾಡುವ ಹಕ್ಕಿಯ ಕಲರವ ಕೇಳುತ್ತ,
ನಿರಾಳದ ಅತ್ಯುತ್ತಮ ಅನುಭವವನ್ನು ಮೀರಿಸುವುದು ಇರುವುದೇ?

ಪಡುವಣದ ಪಯಣದೊಂದಿಗೆ ನಮ್ಮೆಲ್ಲರ ನೆಚ್ಚಿನ ನೇಸರ,
ನಯನ ನೇತ್ರಾದಿಗಳಿಂದ ಕಣ್ಮರೆಯಾಗುವ ಚಂದ ಅದ್ವಿತೀಯ!

ಥಳಥಳ ಹೊಳೆವ ಪ್ರಭಾಕರನ ಕಿತ್ತಳೆ ಪ್ರತಿಬಿಂಬ ಸುಂದರ ಚಿತ್ರ,
ಚಿತ್ತ ಮುಟ್ಟಿ, ಸ್ವರ್ಗ ಸುಖ ನೀಡುವ ತಂಗಾಳಿ ಬೀಸುವುದು.
ಅಕ್ಷಿಯ ಅಳಿಸುತ್ತಿದ್ದ ಅಪಾರ ಬೆಳಕು ತೇಲಿ ಹೋಗಿ,
ಮನಃ ಶಾಂತಿ ಮೂಡಿಸುವ ಇರುಳಿನ ಕತ್ತೆಲೆಯ ಮೀರಿಸುವುದು ಏನಿದೇ ?

ಪಡುವಣದ ಪಯಣದೊಂದಿಗೆ, ಮರುದಿನದ ಮೂಡಣದ ಪ್ರವೇಶದ ನಂತರದ,
ದೀಪಾಂಜಲಿಯ ಸುಖವನ್ನು ಮನಸ್ಸಾರೆ ಸೋಂಕುವ ಬೆಡಗು ಅದ್ವಿತೀಯ!

ಅಭಯ್ ಶ್ರೀನಿಧಿ ಅಗ್ರಹಾರ, 2D

ನಮ್ಮ ಬೆಂಗಳೂರು

'ನಮ್ಮ ಬೆಂಗಳೂರು' ನೊಂದು ಬೆಂದು ಬಂದವರಿಗೆ ನೆರವನ್ನು ನೀಡಿರುವ ಈ ನಮ್ಮ ಬೆಂದಕಾಳೂರು. ಭಾರತ ದೇಶವು 1950ರಲ್ಲಿ ಗಣರಾಜ್ಯವಾದ ಮೇಲೆ ಭಾಷಾನುಸಾರ ರಾಜ್ಯಗಳ ಏಕೀಕರಣವಾಯಿತು. ಮೈಸೂರು ರಾಜ್ಯವು ಕರ್ನಾಟಕವಾಯಿತು. ರಾಜಧಾನಿಯಾಗಿದ್ದ ಮೈಸೂರು ನಗರವಾಯಿತು. ಬೆಂಗಳೂರಿಗೆ ರಾಜಧಾನಿ ಪಟ್ಟ ಒಲಿಯಿತು. ಈ ನಮ್ಮ ಬೆಂಗಳೂರಿನ ವಿಶೇಷತೆ ಇರುವುದು ಪರಿಸರದ ಸೊಬಗಿನ ಸೌಂದರ್ಯದಲ್ಲಿ, ಆಹಾ!! ರಸ್ತೆ ಬದಿಯಲ್ಲಿ ಬೆಳೆದು ನಿಂತಿರುವ ಆ ಮಲ್ಲಿಗೆ, ಪಾರಿಜಾತ ಹೂಗಳ ಪರಿಮಳದ ಘಮ ಅನುಭವಿಸಿದವರೇ ಬಲ್ಲರು.

ನಾಡಪ್ರಭು ಕೆಂಪೇಗೌಡರು ಇಂದಿನ ಚಿಕ್ಕಪೇಟೆ ವೃತ್ತದಲ್ಲಿ ರಾಜಧಾನಿ ಕಟ್ಟಲು ಶಂಕುಸ್ಥಾಪನೆ ಮಾಡಿ ಗುದ್ದಲಿ ಪೂಜೆ ಸಲ್ಲಿಸಿದರು. ರಾಜಧಾನಿಗೆ ನಾಲ್ಕು ದಿಕ್ಕುಗಳಲ್ಲೂ ಕಾವಲು ಗೋಪುರಗಳನ್ನು ನಿರ್ಮಿಸಿದರು. ಇಂದಿಗೂ ಆ ನಾಲ್ಕು ಗೋಪುರಗಳು ಇವೆ, ಅಂದಿನ ಬೆಂಗಳೂರಿನ ಸುತ್ತಳತೆಯನ್ನು ಸೂಚಿಸುತ್ತವೆ.

ಲಾಲ್‌ಬಾಗ್ ಉದ್ಯಾನವನದಲ್ಲಿರುವ ಬೆಟ್ಟದ ಮೇಲಿರುವ ಗೋಪುರವು ಆಗ್ನೇಯ ದಿಕ್ಕನ್ನು ಸೂಚಿಸುತ್ತದೆ. ಗವಿಪುರದ ಶ್ರೀ ಬಂಡೆ ಮಹಾಕಾಳಿಯ ದೇಗುಲದ ಹಿಂದಿನ ಗುಡ್ಡದ ಮೇಲಿನ ಗೋಪುರವು ನೈಋತ್ಯ ದಿಕ್ಕನ್ನು ಸೂಚಿಸುತ್ತದೆ. ಹಲಸೂರಿನ ಬಳಿ ಇರುವ ಗೋಪುರವು ವಾಯುವ್ಯ ದಿಕ್ಕನ್ನು ಸೂಚಿಸಿದರೆ ಇಂದಿನ ಕಾರ್ಪೊರೇಷನ್ ವೃತ್ತದಲ್ಲಿನ ಗೋಪುರವು ಈಶಾನ್ಯ ದಿಕ್ಕನ್ನು ಸೂಚಿಸುತ್ತದೆ.

ಬೆಂಗಳೂರಿನ ಪ್ರಮುಖ ಆಚರಣೆಗಳಲ್ಲಿ 'ಕರಗ' ಮತ್ತು 'ಕಡಲೆಕಾಯಿ ಪರಿಷೆ' ಅಗ್ರಸ್ಥಾನ ಪಡೆಯುತ್ತವೆ.

ಇನ್ನು ತಿಂಡಿಯ ವಿಷಯಕ್ಕೆ ಬಂದರೆ ವಿದ್ಯಾರ್ಥಿ ಭವನದ ಬಿಸಿ ಫಿಲ್ಟರ್ ಕಾಫಿ ಮತ್ತು ದೋಸೆಯು ಎಂತಹವರ ಬಾಯಲ್ಲೂ ನೀರೂರಿಸುತ್ತದೆ. ಬ್ರಿಟಿಷರ ಕಾಲದಲ್ಲಿ ಅನ್ನಕ್ಕೆ ಕೊರತೆ ಬಂದಾಗ ನಮ್ಮ 'ಹೆಮ್ಮೆಯ ಮಾವಳ್ಳಿ ಟಿಫನ್' ರೂಮ್ಸ್ ನವರು ರವೆಯಲ್ಲಿ ಇಡ್ಲಿ ಮಾಡಿ ವಿಶ್ವಕ್ಕೆ ರವೆ ಇಡ್ಲಿಯನ್ನು ಪರಿಚಯಿಸಿದರು.

ಕೆಂಪೇಗೌಡರು ಕಟ್ಟಿದ ಈ ನಮ್ಮ ಬೆಂಗಳೂರಿನಲ್ಲಿ ಅನೇಕ ಕೆರೆಗಳಿದ್ದವು. ಕೆಂಪಾಂಬುದಿ ಕೆರೆ, ಧರ್ಮಾಂಬುದಿ ಕೆರೆ, ಸಿದ್ಧಿಕಟ್ಟೆ ಕೆರೆ, ಸಂಪಂಗಿ ಕೆರೆ, ಮತ್ತು ಮಡಿವಾಳ ಕೆರೆ. ನಗರೀಕರಣದಿಂದ ಈ ನಮ್ಮ ಕೆರೆಗಳನ್ನು ನಾವು ಕಳೆದುಕೊಂಡಿದ್ದೇವೆ.

ಎಲ್ಲರನ್ನು ಎಲ್ಲ ಸಂಸ್ಕೃತಿಗಳನ್ನು ಗೌರವಿಸಿ ಸ್ವಾಗತಿಸುವ ಈ ನಮ್ಮ ಊರು 'ಗಾರ್ಡನ್' ಸಿಟಿಯಿಂದ 'ಸಿಲಿಕಾನ್' ಸಿಟಿಯಾಗಿದೆ. ನಮ್ಮ ನಗರದ ಭವಿಷ್ಯ ನಮ್ಮ ಕೈಯಲ್ಲಿದೆ. ನಗರದ ಸ್ವಚ್ಛತೆ ಕಾಪಾಡುವುದು ನಮ್ಮ ಆದ್ಯ ಕರ್ತವ್ಯ.

ಎಲ್ಲರನ್ನು ಅಪ್ಪಿ ಒಪ್ಪಿರುವ
ಜೀವ ಮತ್ತು ಜೀವನ ಕೊಟ್ಟಿರುವ
ಈ ನಮ್ಮ ಕಲ್ಯಾಣಪುರಿಗೆ
ನಾವು ಚಿರಋಣಿಯಾಗಿರಬೇಕು.

ನಿತ್ಯಶ್ರೀ ಕೆ.ಎಲ್., 2F

ಕವಿ

ಮನಸ್ಸು ಆವರಿಸಿತು
ಬಿಸಿಲಿನ ಮುಗುಳ್ನಗೆಯ ಕೊರಳಿನಲ್ಲಿ,
ಕವಿಗಳು ಪಾಪಪುಣ್ಯವೆರಡನ್ನು
ಮನಮುಟ್ಟುವಂತೆ ಚಿತ್ರಿಸಬಲ್ಲರು
ಕವಿಗಳ ತುಂಬು ಹೃದಯ ಕಾಗದದಲ್ಲಿ.

ಹೃದಯದ ಬಡಿತವನ್ನು,
ರಾಗ ಮಾಡಬಲ್ಲರು ಸಂಗೀತಗಾರರು,
ಆ ಬಡಿತವನ್ನು ಲೇಖನಿಯಲ್ಲಿ
ಮಹಾಕಾವ್ಯ ಮಾಡುವರು ಕವಿಗಳು,
ಶಾಯಿಯ ಕಲಾವಿದರು.

ಹೃದಯ ತುಂಬಿ ಹೊರಗೆ ಚಲ್ಲಿದಾಗ,
ಕವಿಯ ಹೃದಯ ಚೆಲ್ಲುತ್ತದೆ ಶಾಯಿಯಾಗಿ,
ಆ ನೀಲಿ ನೆತ್ತರವನ್ನು ನೂತನ ರೂಪ,
ಬ್ರಹ್ಮಾಂಡಗಳನ್ನು ರಚಿಸುವ ಅರ್ಹತೆ,
ಕವಿಯಲ್ಲಿ, ಬ್ರಹ್ಮ ಸರಸ್ವತಿಯರು ಕೈಯ್ಯಾಗಿ

ಚೆರಿತಾ ಕೈವಾರ್, 2G

ಅಧ್ಯಯನದ ಮಾರ್ಗದಲ್ಲಿ

ಕನ್ನಡ ತಾಯಿ ಮಾತು ಕೇಳು,
ಅರಿವು ಬೆಳಗಿದ ರತ್ನವಾರು,
ಓದು ಹಾದಿಯಲಿ ನಡೆಯೋಣ,
ಜ್ಞಾನ ದೀಪ ತರುಣ ಹೊರಳು.

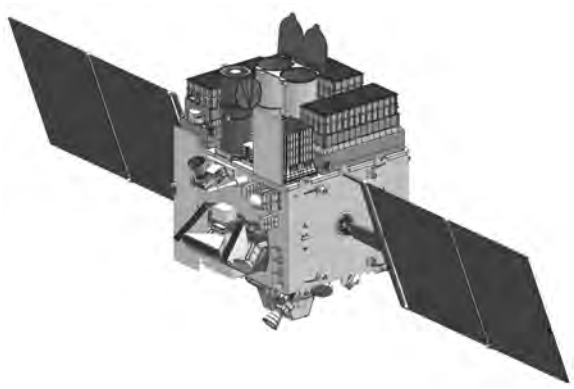
ಪಠ್ಯ ಪುಸ್ತಕದ ಲೋಕವಿದು,
ಗಾಯನ ನವನ ಬಾಳವಿದು,
ತಿಂಕಲ್ ಬಿಂಕಲ್ ಅಕ್ಷರಗಳು,
ಜೀವನವನ್ನು ಬೆಳಗಿಸೋವು.

ವಿದ್ಯೆಯ ವೇದವನ್ನು ಓದಿ,
ಭಾವನೆಯ ಬಾಗಿಲು ತೆರೆಯಿರಿ,
ಎಲ್ಲೆಡೆ ಅರಿವು ಬೆಳಗಲಿ,
ಭಾರತದ ಭವಿಷ್ಯ ಬೆಳಗಲಿ.

ಕಲಿಕೆಯ ಹಾದಿಯಲಿ ನಡೆಯೋಣ,
ಕನ್ನಡದ ಕೀರ್ತಿಯನ್ನು ಹರಿಯೋಣ,
ಜ್ಞಾನ ಬೆಳೆಸಿ ಮುಂದುವರಿಯೋಣ,
ಸ್ವಪ್ನಗಳ ಸಾಧಿಸಲು ಬಯಸೋಣ.

ವಿ. ಅಭೇಗ್ನ, 2G

ಬಾಹ್ಯಾಕಾಶ ತಂತ್ರಜ್ಞಾನಕ್ಕೆ ಭಾರತದ ಕೊಡುಗೆ



ಬಾಹ್ಯಾಕಾಶ ತಂತ್ರಜ್ಞಾನಕ್ಕೆ ಭಾರತ ನೀಡುತ್ತಿರುವ ಕೊಡುಗೆ ಇಸ್ರೋ ಎಂಬ ಸಂಸ್ಥೆಯ ಮೂಲಕ ವಿಸ್ತಾರವಾಗಲು ಪ್ರಾರಂಭವಾಯಿತು. ಭಾರತೀಯ ಬಾಹ್ಯಾಕಾಶ ಸಂಶೋಧನಾ ಸಂಸ್ಥೆ ಇಸ್ರೋ ಆಗಸ್ಟ್ 15, 1969 ರಂದು ರಚನೆಯಾದ ನಂತರ ಬಹಳ ದೂರ ಸಾಗಿದೆ. ಕೇವಲ 30 ರಿಂದ 70 ಕೆಜಿ ಪೇಲೋಡುಗಳ ಸಣ್ಣ ರಾಕೆಟ್‌ಗಳನ್ನು ಉಡಾಯಿಸುವುದರಿಂದ ಹಿಡಿದು 4000 ಕೆಜಿ ಪೇಲೋಡುಗಳನ್ನು ಬಾಹ್ಯಾಕಾಶಕ್ಕೆ ಕೊಂಡೊಯ್ಯುವವರೆಗೆ ಸಾಗಿದೆ. ಏಪ್ರಿಲ್ 19, 1975ರಂದು ಇಸ್ರೋ ತನ್ನ ಮೊದಲ ಉಪಗ್ರಹ ಆರ್ಯಭಟವನ್ನು ತಯಾರಿಸಿತು. ನಂತರ ಜುಲೈ 18, 1980ರಂದು ಭಾರತೀಯ ನಿರ್ಮಿತ ಉಡಾವಣಾ ವಾಹನ ಎಸ್.ಎಲ್.ವಿ. ಮೂರರ ಮೂಲಕ ಕಕ್ಷೆಗೆ ಇಳಿಸಿದ ಮೊದಲ ಉಪಗ್ರಹ ರೋಹಿಣಿಯಾಗಿತ್ತು. 2008ರಲ್ಲಿ ಭಾರತ 11 ಉಪಗ್ರಹಗಳನ್ನು ಉಡಾಯಿಸಿತು. ಅದರಲ್ಲಿ 9 ವಿದೇಶಿ ಉಪಗ್ರಹಗಳಾಗಿದ್ದವು. ಒಂದು ರಾಕೆಟ್‌ನಲ್ಲಿ 10 ಉಪಗ್ರಹಗಳನ್ನು ಉಡಾಯಿಸಿದ ಮೊದಲ ರಾಷ್ಟ್ರ ಎಂಬ ಹೆಗ್ಗಳಿಕೆಗೆ ಒಳಪಟ್ಟಿತ್ತು. 2013ರಲ್ಲಿ ಭಾರತದ ಉಪಗ್ರಹ ಮಂಗಳ ಗ್ರಹಕ್ಕೆ ತಲುಪಿತು. ಅದು ಭಾರತದ ಮೊದಲ ಅಂತರಗ್ರಹ ಮಿಷನ್. ಇದು ಮಂಗಳಯಾನ ಮಿಷನ್ ಎಂದು ಕರೆಯಲ್ಪಡುತ್ತದೆ. ಕೆಂಪು ಗ್ರಹದ ಅಂಶಗಳನ್ನು ಅಧ್ಯಯನ ಮಾಡಲು ಐದು ಉಪಕರಣಗಳನ್ನು ತನಿಖೆಗಾಗಿ ಕಳಿಸಿದ್ದರು.

ಹೀಗೆ ಇಸ್ರೋ ಸಂಸ್ಥೆಯ ಮೂಲಕ ಬಾಹ್ಯಾಕಾಶ ತಂತ್ರಜ್ಞಾನಕ್ಕೆ ಭಾರತ ಅಪಾರವಾದ ಕೊಡುಗೆಗಳನ್ನು ನೀಡುತ್ತಾ ಬಂದಿದೆ. ಆದರೆ ಬಾಹ್ಯಾಕಾಶಕ್ಕೆ ಭಾರತೀಯರ ಕೊಡುಗೆ ಕೇವಲ ಇಂದು ನೆನ್ನೆಯದಲ್ಲ. ಬದಲಿಗೆ ಬಹಳ ಹಿಂದಿನಿಂದಲೂ ನೀಡುತ್ತಾ ಬಂದಿದ್ದಾರೆ. ಅವುಗಳಲ್ಲಿ ಹಲವು ಉದಾಹರಣೆಗಳನ್ನು ನೋಡುವುದಾದರೆ ಕ್ರಿಸ್ತಶಕ 475–550 ಏಡಿ ರಲ್ಲಿ ಆರ್ಯಭಟ ಎಂಬ ಖಗೋಳಶಾಸ್ತ್ರಜ್ಞರು ಅಂದಿನ ಕಾಲದಲ್ಲಿ ಭೂಮಿಯು ಸೂರ್ಯನ ಸುತ್ತ ಅಕ್ಷದಲ್ಲಿ ಸುತ್ತುತ್ತದೆ ಎಂದು ಹೇಳಿದ್ದರು. ಅದಲ್ಲದೆ ಅವರು ತಮ್ಮ ಗಣಿತ ಪ್ರತಿಭೆಯನ್ನು ಉಪಯೋಗಿಸಿಕೊಂಡು ಸೂರ್ಯ ಮತ್ತು ಚಂದ್ರ ಗ್ರಹಣಗಳ ಮುನ್ಸೂಚನೆಗಳನ್ನು ನೀಡಿದರು.

ಕ್ರಿಸ್ತಶಕ 1500ಕ್ಕಿಂತ ಮೊದಲು ವೈದಿಕ ಸಾಹಿತ್ಯದಲ್ಲಿ ಸೂರ್ಯ ಚಂದ್ರ ನಕ್ಷತ್ರಗಳು ಇತ್ಯಾದಿಗಳ ಬಗ್ಗೆ ಅನೇಕ ಉಲ್ಲೇಖಗಳಿವೆ. ಸೂರ್ಯನು ಬ್ರಹ್ಮಾಂಡ ಪ್ರಭು ಮತ್ತು ಚಂದ್ರನು ಸೂರ್ಯನ ಬೆಳಕಿನಿಂದ ಹೊಳೆಯುತ್ತಾನೆ. ಭೂಮಿಯು ಗೋಳಾಕಾರದಲ್ಲಿ ಇದೆ ಎಂದು ವಿವರಿಸಲಾಗಿದೆ. ಹೀಗೆ ಬಾಹ್ಯಾಕಾಶ ತಂತ್ರಜ್ಞಾನವು ಶತಮಾನಗಳಿಂದ ನಡೆಯುತ್ತಿರುವ ಸಂಶೋಧನೆಯಲ್ಲಿ ಹುಟ್ಟಿ ಬೆಳೆದಿದೆ. ವಿಕ್ರಂ ಸಾರಾಬಾಯಿ, ಎ.ಪಿ.ಜೆ ಅಬ್ದುಲ್ ಕಲಾಂರಂತಹ ಮಹಾನ್ ವಿಜ್ಞಾನಿಗಳಿಂದ ಬೆರಗು ಮೂಡಿಸಿದ ಈ ಕ್ಷೇತ್ರವು ಮತ್ತಷ್ಟು ಮಗದಷ್ಟು ಬೆಳೆಯಲಿ ಎಂದು ಆಶಿಸುತ್ತೇನೆ.

ಸುಮೇಧ ಗಿರೀಶ್, 2F

Tokyo tales

Under the cherry blossoms, illuminated by the moon,
Masked by blankets of clouds, full of ethereal grace,
The branching titans dress in hues of pink and lavender,
Imploring from me the Tokyo tales of life's splendour.

In a bygone era, our hearts entwined in fleeting verse,
Our warmth, a sanctuary in sweater weather's gentle curse.
Falling asleep in each other's arms under the soft glow of lanterns,
With cups of sake, we shared our stories and cuddled under the moonlight.

Under the veil of night, we ventured where our heart's secrets lie,
Running careless fingers through her hair beneath the obsidian sky.
Sensations of euphoria intertwined with the cherry blossoms' fragrance,
A sense of belonging and safety, even through love's romance.

Glinting dew drops trickle down the tender green bamboo stalks,
In the peaceful solitude of nature, resonate our retrospective talks.
Her eyes shone an azure blue, her laugh a delicate and comforting guide,
Her hand in mine drove away all my fears when she was by my side.

We wandered through markets, vibrant with colours and sound,
Where the city's heartbeat in every corner could be found.
The sweet aroma of takoyaki wafting through the air,
In those moments, life was light, free from every care.

In spring's tender bloom, we found our sanctuary,
A world painted in pastel, a fleeting momentary.
Each petal that fell whispered secrets of love,
As we danced beneath the blossoms, with the moon above.

But as the seasons turned, so did the tides of fate,
The blossoms fell, and left us to contemplate.
Time, the silent thief, with its inevitable sweep,
Left us with memories, in our hearts to keep.

Our laughter echoed still, in the quiet of the night,
A haunting melody, a distant, fading light.
Yet within those shadows, a glimmer of hope remained,
For the love we shared, in our hearts sustained.

The summers came and went, with their golden light,
But it was under the cherry blossoms, where our love took flight.
In autumn's gentle embrace, we felt a tender sorrow,
Knowing that each day was borrowed from tomorrow.

Yet as winter's chill descended, we held each other near
Finding warmth in memories, in love that was clear.
Even in the coldest days, our hearts remained entwined,
A testament to the love that time could not unwind.

Now as I stand alone, beneath the cherry trees,
I feel your presence in the whispering breeze.
Though the years have passed, and the world has changed
Under these blossoms, our love remains unchained.

For every petal that falls, is a piece of our story,
A timeless reminder of our shared glory.
Under the cherry blossoms, illuminated by the moon,
Our love, a beautiful melody, will forever be in tune.

Saketh Vidyadhara, 2B

Pretences

There I stood on the side,
waiting for my train,
when I saw him.

So jolly and gay, so happy and lively,
Happily giggling away with his friends.
So excited he was about everything he spoke,
Spoke like he had not a worry in this world.
His hands were flying wildly, untamed and uncaring,
On who it might hit or what people might think.
His face lit up like a thousand different stars,
A source of energy that continued to last.

All I thought, standing there was,
what a god he must be, to be this carefree,
This accepting, this grateful, of the life of his,
When the train came,
And his friends shuffled front,
leaving him behind, alone at last.

With the rapidity of a dimming candle,
I watched his exterior slowly crumble.
The wall he built, to shield his true self,
Had started falling slowly, brick by brick.
I saw his broad shoulders fall,
His straight back hunching up,
His stiff hands flop with tiredness,
and his confident smile slipping down.

His face fell, and his eyelids drooped,
He looked so frustrated with life as a whole.
With the look of hopelessness and unshed tears,
He closed his eyes, wishing to never open them
again.

And as he slowly released a ragged breath,
And looked down at his trembling legs,
I could his body on the verge of collapse,
due to exhaustion, unfought and left bare.
Gone was his contagious smile and radiating
warmth,
And all that was left was an empty shell devoid of life.
And then, I finally realised, that he too, was human
after all!

Suddenly, gone was his moment of peace so true,
As he stepped into the train, realising that too.
With equal rapidity as I saw it fall,
He built his wall back up, from brick one.

He forced back a bright smile,
And his eyes won against all exhaustion.
He started jumping, with all energy lost,
And looked so lively and happy at last.

But now I knew, only too well,
That it was a disguise, too well-worn.
And gone was his true self,
locked away safely, in case it made a reappearance.

As he continued his pretence,
I couldn't help but wonder,
If I should reprimand him,
For his dishonest farce,
Or be in awe of his,
Selfless thoughts.

S S Thanisha Shree, 2F

The Path of Illumination

As I surreptitiously walk alone
Under patches of moonlight shone
In the cold deserted street
My life feeling obsolete

I'm a small fisherman's boat, completely lone
Full of fish, but destination unknown
Drifting in the vast expanse of ocean
Thrown off course by waves of emotion

My overwhelming feelings of despair and regret
Impede my disposition, caught under a net
Crushing my will into debris
The will to succeed and be free

When exacerbation couldn't be more
A nudge in my head to restore
The lost artefacts of perseverance and determination
Came to me as acts of emancipation

I felt a spark of fire
Deep within the embers of my heart, a desire
A feeling of hope, solid as concrete
That this phase of life was not yet complete
My vision and goal became clear
As into nihility evanesced my fear
Like the sunlight that impales
Through the morn desolate misty carpet that prevails

I feel content with joy and ambition
As I frolic into the next epoch of my journey, without inhibition
My spirit and soul, now unburdened and ebullient, roam free at last,
Identical to other souls in the Fields of Elysium so vast

As the soothing moonlight ripples through me
I sense inside me a revelation, a state of esprit
A tear glistens on my cheek
Welcoming my gritty determination so antique

As I surreptitiously walk alone
Under patches of moonlight shone
In the cold deserted street
My life feels complete.

Vidhat Jois, 2A

Nature And Its Mind

Oh! Man Treat Me With A Wise Thought
You Will Be Saving A Spot
For I Will Be Your Eternal Friend
Like A Shielding Rock Until The End
You Shall Stand Where I Stand
Broken Mountains Broken Land
Future Filled With Sorrow
Like The Smog Cloaking The Rainbow
Sun Shining Bright Upon Anger
Making It The Catastrophic Chapter
While The Sea Being Calm
Roars With Destructive Storm
Amongst The Chaos Is The Mother Earth
Helpless For Humanity Of Dearth.

D.Arpitha, 2J

The Tale of Two Little Hearts

Love - A word that ignites many feelings within us, reminds us of many experiences and many memories. But this story is one of a kind, a story of two 8-year-old kids who knew nothing except being great friends to each other. This is the story of Kanna and his friend Cupcake. On the first day of school, Kanna's friend had given Cupcakes baked by her mother to everyone in her class as she was new to the school. Since then, Kanna started calling her Cupcake even though after a few days he got to know that her real name was Mimi. Though Kanna and Cupcake knew each other only for a few days, it almost felt like they had formed a very strong bond.

They became great friends in a very short time period. They used to do everything together, from being in the same class, to eating lunch together to even creating their own little games such as teacher-teacher and doctor-doctor. Everyone who saw them thought these two kids would've known each other for ages as their bond was almost unbreakable. Cupcake always used to talk a lot and Kanna used to listen patiently and never waited for his turn to speak. Kanna used to tie Cupcake's shoelace as she was bad at it and would always wait for her so that they could go home together. Cupcake used to teach Kanna easier ways to remember the multiplication tables up to 10. Whenever Kanna's mom used to buy him chocolate, he would ask her to buy one for Cupcake too. Cupcake would teach Kanna how to draw while Kanna used to teach Cupcake how to colour. Through all these little acts, these two have developed immense attachment towards each other. Their friendship typically involves a lot of laughter, playfulness, and the kind of genuine companionship that makes their time together enjoyable and fulfilling.

It's been 10 years now, Kanna and Cupcake have become beautiful young adults both inside and outside. Even after a decade, their friendship remains the same, the love they have towards each other has no words. They provide each other with emotional support, celebrate successes, and help each other through challenges. Even after all these years, Kanna still ties Cupcake's shoelace while Cupcake teaches Kanna mathematics (except, now it's to differentiate and integrate).

Love shouldn't always be viewed from a wrong perspective, because love comes in all forms. The love and affection that we genuinely show towards anyone is always the purest form of love. At the end of the day, it is always the simple things that we do in life that will matter the most at the end. Making memories with our childhood friends and being able to hold that bond for years takes effort, commitment and an immense amount of love. Today's generation is getting used to quick fixes, and this is impacting their relationships with people in their lives. This simple story of Kanna and Cupcake is a light reminder to many to embrace the moments, friends and the relationships they have in life, as we never know when these would come to an end.

Mantha Sai Manaswini, 2J

Introduction To Positive Mental Attitude

I wish I were like them.....

I wish I had a car like that.....

I wish I could speak like them.....

I wish I had a lot of money.....

And so, the list of wishes goes on..... Adding to the burdens of this endless list, you have negative feelings, emotions, passions, habits, and beliefs. Thus, sooner or later your thoughts get entangled in these mental cobwebs. With these cobwebs in your mind, when you see a successful person, it often makes you feel that "that" person is someone special because he has something special inside him which is eluding us. Then, like an insect caught in a spider's web, you struggle to get free. Your conscious conflicts with your imagination and the will of your subconscious, and your wishes conflict with your capabilities.

An insect may not be able to avoid being caught in a web and once when trapped, it is unable to free itself. As in the case of a human, one may not have control over the different situations that confront him. There is one thing, however, over which each person has absolute, inherent control, that is, his mental attitude towards the confronted situation.

"The mind is its place, and in itself can make a heaven of hell and a hell of heaven.," so writes Milton about the thinking potential of your mind.

You feel you are not successful because you do not realize your inner potential.

Thus, by thinking in the right direction with the help of powerful tools like POSITIVE MENTAL ATTITUDE [PMA] and POSITIVE IMAGING [PI], you can succeed in any chosen field of endeavour.

Why does one need a tool like PMA or PI? Well, the answer is very simple-

As one goes through the marvellous paintings of our ancestors, one can find figures of men armed with spears attacking animals resembling buffalo or bison. Historians say that these drawings were part of primitive rituals designed to bring these cave-dwelling hunters' good luck in their ceaseless quest for food.

In other words, before the dawn of history, men were vividly imagining goals essential to their survival and reinforcing those images by painting them with primitive but lasting colours on the ceilings or walls of their caves.

Now, hundreds of centuries later, we do not go forth with sharpened silks or flint-tipped spears to hunt huge elephants or ward off sharp-toothed tigers. But modern man still must make a living in a tough, competitive, and sometimes hostile world. The 20th-century salesman who meets his customer through the concrete canyons of a modern city is not very different from his remote ancestor in his primary goal, which is to put food on the table of his family. And just as the caveman tried to reinforce the image of himself as a successful hunter, the modern breadwinner reinforces and believes in his ability to wrest a living from the world that surrounds him.

One may ask as to – How does this PMA or PI help us?

1. First, a PMA creates an aura of optimism and enthusiasm and helps you live in this profound sense.
2. A PMA not only creates opportunities but more importantly it makes you realize the many opportunities that already surround us.
3. A PMA helps you take initiative by developing in you a 'GO FOR IT' attitude.
4. A PMA may not turn around the very world for you but it will surely change the way you look at it.

Thus, by changing yourself for the better, this world becomes a better place to live in.

Then comes the question of how one can implement

PMA/PI in their day-to-day life.

Well, the first and foremost step in PMA is faith.

Faith in oneself.

Faith in one's action and more importantly the faith that problems can be overcome.

So, once you gain faith, you can go through the problem-solving phase in the following manner:

1. Do not panic- Fear paralyzes the will and the mind thus making a person less creative and less resourceful.
2. Get organised- Figure out exactly what assets are and what your liabilities are and only then do you get a clear picture of your problem.
3. Think- Look inside your head for new ideas, and new possible sources of solutions for your problem. Your problems can become assets if they force you into creative thinking. You may strike a vein of gold that will last the rest of your life. If the need arises do not hesitate to ask others for help because unless and until you ask for help, they won't know that you need some assistance.
4. Lastly and most importantly, Visualise- Picture or image yourself as worry-free, and have faith that the picture can become reality. Imagine vividly the relief, the happiness, the peace of mind that you will feel when you finally overcome your problem. Imagine yourself as a worthwhile person; as if you were someone with both your aspiration and respect and gradually this is what you will come to be. As you can imagine, you will be, in the long run.

As Brian Lanker rightly puts it:

'The better we feel about ourselves, the less time we have to knock somebody else down to feel tall.'

Thus, any problems can be tackled effectively using PMA and with each victory, we grow in wisdom, stature, and experience. We become a better, bigger, and more successful person each time we meet a problem and conquer it with a positive attitude. These repeated victories over the problems are the rungs of our LADDER OF SUCCESS.

All those who have achieved success were able to do so because they knew that high expectations, which are born out of a positive attitude, are the key to everything. As Leo Burnett puts it:

'When you reach for the stars, you may not quite get one, but you won't come up with a handful of mud either.'

A word of caution – helpful as it is, PMA or PI is not a substitute for action but a supplement to it." You can visualize yourself being a pianist, but unless you also practice, it's not going to happen. It's still the doing of things that counts.

Despite all our well-intended efforts through a positive attitude, sometimes we may not succeed in achieving our goals.We may be disappointed if we fail.But we are doomed if we don't try.

And do not forget that we may have to fight a battle more than once to win it.

"If you think you are beaten, you are.
If you think you dare not, you don't.
If you'd like to win, but think you can't,
It's almost certain you won't
Life's battles don't always go
To the stronger or faster man;
But sooner or later the man who wins
Is the one who thinks he can."

V.Abhegna, 2 G

Scandic Adventure!

All it took was a Boeing 747 and an Airbus A320 to transport me to my destination - Scandinavia! As an aviation enthusiast, I had a quick chat with the pilots in the cockpit before disembarking and feeling the biting cold.

I had just arrived in Bergen, Norway! This small town was fantastic. I went on a fjord cruise, and boy I tell you- it was freezing! I captured some stunning photos of Bryggen's colourful houses and the serene fjords with my camera. On the cruise, I saw a lot of snow-covered mountains, half-frozen waterfalls and quite a few isolated houses. I was surprised how this town was not bustling with tourists!

The following day, during a short flight to Tromsø, I was absolutely thrilled to look out the aeroplane window - The Aurora Borealis was in full bloom!

I could not wait to land and stare at them from the ground! As soon as I touched down in Tromsø, the Northern Lights Capital of the World, I rushed to a spot just outside the city and was mesmerised by the bright green lights dancing across the sky under a starry background- It was a dream come true! After about 2 hours of clicking pictures in -15°C Arctic cold, it was 12 AM - my birthday was here. This was my best birthday ever. In the morning, I walked through the streets of Tromsø, exploring all viewpoints, building snowmen, plane spotting and clicking numerous photographs. It soon became evening and I managed to get an amazing picture of the Arctic Cathedral with snowy mountains and trees in the background! Later, I went on the Fjellheisen - a mountain cable car. From up there, I could see every bit of this beautiful city, Tromsø! Out of the 37 countries I've been to, Norway definitely takes the cake!

Pranav K Srikanth, 2C

The Open Road

"Where there's a whip, there's a way, Marshall me lad. You better get those revs up or you'll be findin' all new ways to rub your back" the old codger cackled. "I ain't soft on ya but I bet my last gallon those slavers ain't better...."

Marshall woke up with a start. The low rumble of engines had grown louder. Too loud. The desert wind was warm. Not helping with his motor. He'd stopped for a while to let the Greyhound cool off, but her V8 was still too hot to run very long.

"Come on..... I gotta get going." He scrambled about inside, looking for some water to speed up the cooldown. He had to be careful though. Out here, water was worth its weight in gas. While the water sizzled in the bonnet, he climbed back in the driver's seat and started the car. As her engine roared to life, he eased the Greyhound back onto the road and started putting some distance between him and his pursuers.

As soon as he picked up some speed, Marshall started weighing his options. Surrender would be the choice with the least immediate risk. He'd be roughed up a little, but alive. The unacceptable part was what they'd do to the Greyhound. She was a '68 Nova. Not that it mattered. What they'd want was her engine. V8s are hard to come by these days. The turbo charger too. They'd gut her inside and out. No way he'd let that happen. Without his ride, he was as good as dead, at the mercy of whatever hot shot fancied himself a warlord.

"I could fight em. I might even win....". He quickly expelled the thought. "Nah....". If it were a couple Interceptors, maybe. But they were on Juggernauts. He'd be outmanned and outgunned.

There was only one thing for it then. Give em a run for their fuel. "Let em eat ya dust boy, till they get to thinkin', "Nah. This bugger ain't worth the gas". They'll sod off soon enough". One of the old coot's rare moments of wisdom. Marshall said a silent prayer for him as he decided on his course of action.

Whatever confidence he'd gained in that idea leaked out the exhaust as soon as he looked at the fuel gauge. The plan was sound. No doubt about it. But there was only one problem. He had only about a hundred miles of gas left. Not good. This lot had caught his trail four hours ago. Their Juggernauts were slower but they made up for it in range. As fast as the Greyhound was, she'd be out of gas in a couple hours. The Juggernauts never leave for a hunt without enough gas for three days.

The Waste stretched far in all directions, as far as the eye could see. Empty deserts with the occasional road cutting through. Of all this wide Waste, it was his road the buggers decided to hunt. "GODDAMMIT!!!!! Not now!".

Marshall needed a new plan. What he needed was a place where he could lose the Juggernauts, where the Greyhound could make it through and perhaps most importantly, close enough to a place where he could refuel. He could make for the mountains. Two hours east. But where from there? The nearest gas camp was a day's ride away. He couldn't stay on the road or go out into the desert. No cover.

Then it hit him. The marshes.

The Waste was an interesting world to live in. On one hand, water is the most precious commodity, second only to gas. On the other hand, water wasn't actually all gone. Just irradiated, salty or both. This water is quite abundant in the marshes. Useless as all hell though, unless you were trying to lose a tail. Heavy ones at that. Just what Marshall needed.

The slavers were hunting on their Juggernauts. Heavy trucks built to haul goods in the Old World. The only things they hauled now were gas, slaves, and the men hunting them.

In the marshes, while the spry and light Greyhound would struggle very little, the heavy hunks of metal would get bogged down and stuck in the mud. Tailgate Town was only three hours away.

"Yeah.... that sounds good.... that sounds very good.... that'll do nicely....".

After a good long while, Marshall finally felt he'd scrape through. He might just see the open road.

S.P Vijay Moudgalya, 2J

L'esprit de l'escalier

In the gentle whispers of my soul, your absence resonates,
Crimson rivers flow from scars where your arrows once penetrated.
Love, once a grand theatre staged for you, both rhetorical and real
You were my fleeting oracle of joy, a tale I yearned to feel.

Not too distant, in a time we now fondly recall,
Our hearts conversed, Cups of Bordeaux as our backdrop enthralled.
Every word adorned with bright smiles, lasting and true,
Two souls entwined, incomplete yet harmoniously anew.

In the serene glow of the moon's pristine light,
We converse intimately, our secrets taking flight.
With hands intertwined, we explore the unknown,
Awakening to the scent of each other, in youth's own tone.

From sharing our sweaters to waiting for the sun
We stuck to each other for we had nowhere else to run
Exploring frontiers with each other was a dream
The love we gave each other was our only light beam.
But shadows grew where trust did fade
And slowly, our foundation swayed
Promises shattered, like glass they broke
In silence, our love became a choking choke

My eyes, they baulked at her departure, so keen,
As tears cascaded, obscuring the scene.
In their wake, memories, bittersweet and wistful,
Echoing her absence, in a heart now wistful.
Now I dance with her ghost in the halls of longing
Echoing with Whispers of love, once so strong, now haunting
Empty resonating echoes fill the space, a silent plea
Accentuated by wreaths of mistletoe, now one with the debris.

Glass of whiskey wistfully restrains the tear that now gleams
Shining upon the cracked pieces of my longing's dreams
For the Voice ,Unspoken and unheard by the sky's embrace
Gradually Dissolves my love to the darkness of the moon face.

In the corridors of thought, I wander, lost,
Chasing echoes of words, memories embossed,
Yet in the quiet stairwell, the truth's laid bare,
L'esprit de l'escalier, my silent despair.

Saketh Vidyadhara, 2B

Conceptual Breakdown of: To Pimp a Butterfly – Kendrick Lamar

"I remember you was conflicted
Misusing your influence
Sometimes I did the same
Abusing my power, full of resentment
Resentment that turned into a deep depression
Found myself screaming in the hotel room
I didn't wanna self destruct
The evils of Lucy was all around me
So I went running for answers
Until I came home
But that didn't stop survivor's guilt
Going back and forth trying to convince myself the stripes I earned
Or maybe how A-1 my foundation was
But while my loved ones was fighting the continuous war back in the city, I was entering a new one
A war that was based on apartheid and discrimination
Made me wanna go back to the city and tell the homies what I learned
The word was respect
Just because you wore a different gang colour than mine's
Doesn't mean I can't respect you as a black man
Forgetting all the pain and hurt we caused each other in these streets
If I respect you, we unify and stop the enemy from killing us
But I don't know, I'm no mortal man, maybe I'm just another n-"

Kendrick Lamar

Seemingly ambiguous poem, isn't it? Well, this is the poem that gets clarified, as it unfolds bit by bit throughout the track-list of one of the greatest albums ever made:

To pimp a butterfly.

A bold statement, perhaps. This is an attempt to justify said statement.

The beauty of the composition, as I understand it, lies in the lens it chooses to deliver a narrative, a social commentary.

Narrative because of the unhinged pictures it paints and the stories in it.

Social commentary because the artist does frequently take the third person perspective in the stories, but even when the artist is the first-person narrator, the characters symbolic of deeper themes discussed and self-realization portrayed in these stories make it a commentary on a much broader topic than the obvious focus of the album, that is, a black artist's life in predominantly black societies in capitalist America.

The broader theme is : That people rising either because of or despite the societies they're a product of, general social inequality, separating and yet being a part of their cultures.

The artist, Kendrick Duckworth Lamar, is a well-

respected and inspiring artist in the genre of Hip-Hop, in the culture of Hip-Hop for the messages conveyed in his discography and off-media works.

Important incidents of his life are key contexts for the narratives and some of them will be narrated in the explanations of the important songs in the track list of the album.

The literal narrative and the implied story in the context of the direct theme of the album shall be explained but the extension of it to the more universal themes as discussed before, should be obvious and is expected to be interpreted by the reader.

Tracklist:

Wesley's theory- Soulful Jazz samples and vocals mixed with smooth and inoffensive drumming make this song a treat for the trained and the untrained ear. This kind of musicality stays consistent for the most part except for a few tasteful exceptions.

Here, Kendrick introduces two personas explicitly and one implicitly.

One is a black artist, that is Kendrick himself, trying to make it big as an artist and the other is 'Uncle Sam'- the overwhelming capitalistic American industry. The third character is referred to in Hook as the girl he likes.

In the first verse, Kendrick talks about all his fantasies of material success and freedom in a vivid typical hip-hop fashion, the quote "When I get signed homie, Im'a act a fool" is the first line of the song.

In the second, Uncle Sam's persona tempts Kendrick to give in to the luxuries of celebrity lifestyle and disconnect from his purpose, quote, "What you want, boy? A house or a car? Forty acres on the moon…"

This is arguably the most important track as it establishes the storyline.

Essentially this is about Kendrick wanting to escape his miserable life and get rich in any way that he is tempted to choose by the industry, and battling those temptations so that he is not exploited by the industry and can be a role model for his people. Hence, before the verses begin, the question "Are you really who they idolize? To pimp a butterfly" is asked.

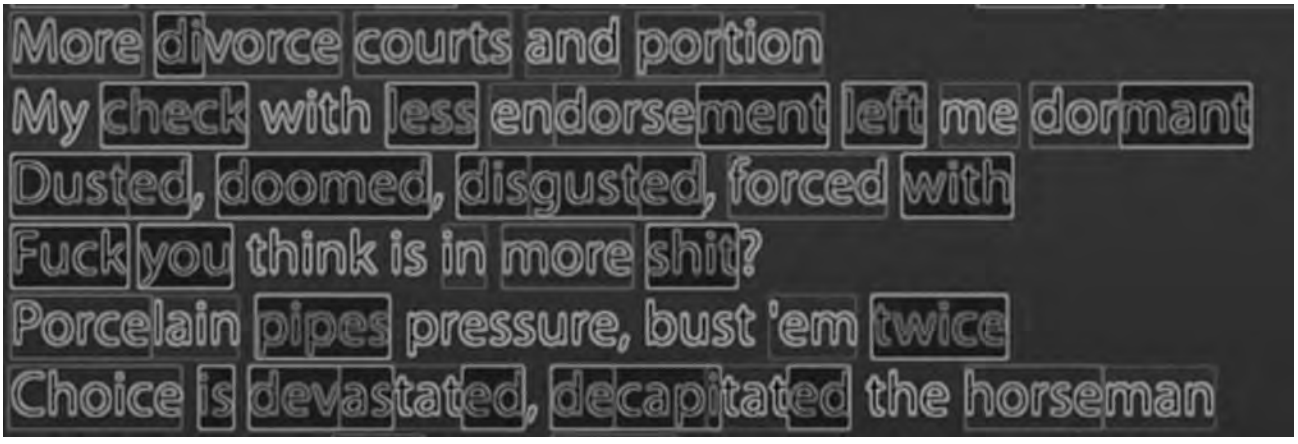
For free- The second track is mentioned mostly because it describes the third character.

The girl Kendrick likes is now a woman with a low moral scale and expects him to pay for her materialistic lifestyle and curses him for not being able to.

The character symbolizes the dark side of materialism in the industry which feeds on an artist until he has no more to give and then simply moves on to the next one.

This track also demonstrates a rap rhyming technique of using condensed rhyme schemes.

King Kunta-A replayable song, meant to be an earworm.



Clarifies the position of authority Kendrick has become in a new environment that is his new city, Compton, and the industry without selling his soul.

Referencing the story of Kunta Kinte from the movie Roots.

Institutionalized-Talks about the conditioning of Kendrick Lamar to life in his city of crime- Compton, to a point of no return.

These walls- Referring to his own walls, walls of a uterus to symbolize lust. Talks about the misuse of power Kendrick can do in a position of power.

Alright- The most popular song of the album. An empowering song used as the "Black Lives Matter" anthem. Talking about his(black American) journey.

Blacker the Berry- A satirical, Empowering song.

How much a dolla cost? – Narrates an incident where Kendrick misjudges an old man in South Africa when asked for money, and refuses to help him with a dollar.

There is realization that the man was god himself and now Kendrick has sinned.

U & I – Two songs that are counterparts of each other, U is hard to listen to, the reflection of self-hatred and blame for the conditions he couldn't change, whereas I, is a realisation of self love.

Mortal Man- A worthy ending to a masterpiece, also consists of a poem metaphorically comparing a struggling black man as a Caterpillar and a successful one who left his home as a free Butterfly, they both come to accept each other. This poem is supposedly narrated to another influential black man, Tupac Shakur.

Palanetra Hebbar, 2C

A Ray of Hope

When you have lost all hope
Not a possibility or a scope
When it matters the most
You are ready to pay any cost
When all is completely dark
In your mind's park
A gorgeous divine swan
Arrives and tackles that pawn

Attempt to feel
And break open the seal
For it will spin fortune's wheel
And modify fate's design
An agreement which you sign
One day you'll find the key
To the dungeon's door
You will thank me and ask for more
If you encounter tangled webs and yarn,
You needn't curse, "Darn!"
With Clotho spinning the thread of life
Lachesis measuring our fate,
And Atropos severing the thread with a knife
I emerge as a force that shan't be contained
And fortify your soul when you needn't be drowned

I am nothing and everything
All I am, is people asking for
Hope.
Hold on, pain ends!

Akanksha Rajiv, 2G

Shattered Reflections

We were woven in a story, every thread intertwined,
I trusted every promise, thought your heart was kind.
You spoke with the sweetness that masked the cruel deceit,
But behind every "I care," was a venom I didn't see.
Your laughter's a cloak that hides a ruthless game,
You play the perfect friend while igniting silent flames.
In the mirror of our moments, I saw a twisted guise,
And now the truth's a shadow that darkens all the skies.

You spun your tales in whispers, like a serpent in the night,
While the world adores your image, I'm consumed by the fight.
You're the darling of the crowd, a masquerade so grand,
But I'm left with the fragments of what I thought was a hand.
Everyone loves the mask you wear, the face you carefully design,
But I see the shattered reflection, the truth that's so unkind.
I'm haunted by the echoes of the secrets that you keep,
The way you twisted stories, left me lost and deep.
Each compliment was hollow, every gesture had a cost,
In the garden of our friendship, I was the flower lost.

They see your charm, your glimmer, while I'm left with the scars,
You dance in their adoration, I'm left alone with the dark.
In the silence of your cruelty, where the whispers are confined,
I wrestle with the image of a truth that's so unkind.
So I'll unearth my own path, beyond the shards of trust betrayed,
I'll walk through this darkness, let the light illuminate the way.
In the quiet of my healing, I'll piece together what is real,
And though the wound is deep, it's a strength that I will feel.

So here's to the shadows that reveal the truth we see,
To the depth of understanding, and the strength to just be.
In the wreckage of your smile, I'll find my own design,
For in the shattered reflections, I reclaim what's truly mine.

Shivani Shankar, 2C

The Jester

He, who is the life of the crowd
And makes the masses giggle out loud,
Is looked down upon
As the curtains are drawn,
And is treated very much like his own jokes
To be laughed and scoffed at by blokes
Who believe a measly jester like him
Lives a life cold and dim
Making a fool out of himself to earn some bread
His dignity and honour, buried and dead!
But little do they know,
That he who puts his honour at stake
Does not do it for livelihood's sake,
But rather to make the people smile
And make them forget their worries for a while,
For he knows the value of a hearty laugh
And the healing power it carries along
For the heart, filled with joy that beats,
To the tune of the merry song,
Composed by a soul that swore
To bring grief upon itself to bring joy to some more,
And walked a path deemed divine,
Sights of smiling faces in his heart, enshrined!
Such a man's honour should stand bright and tall
For he who brings joy to others is the noblest of them all!

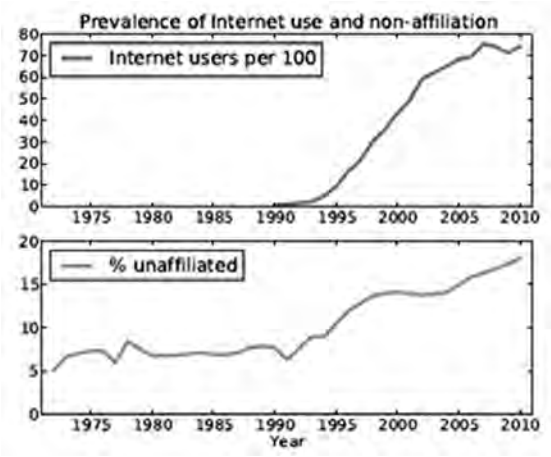
Arya Thejas V, 2B

Technology: A friend or foe of spirituality

The digital revolution has taken the world by storm. It has had a great impact on various aspects of society, but in this article, I shall explore only the effect of technology on the spirituality of a person. Various works have been published by well-known authors and philosophers regarding the relationship between technology and spirituality, but the first philosopher who made a pivotal change in the ideas on this topic was Teilhard de Chardin. One of his impactful works, The Phenomenon of Man, published in 1955, was considered a masterpiece due to its breathtaking ability to intricately weave together the threads of a growing, united human consciousness with technology and scientific progress. However, not everyone believed that digital progress was a catalyst for spirituality. In fact, critiques of technological progress in the face of spirituality began long before the ideas of de Chardin. The Abolition of Man, published by C.S. Lewis in 1943, was a philosophical work in which Lewis argues that scientific progress, in the hands of modern education, without appropriate involvement of human morality and spiritual principles, could very well erode the spiritual values of a person.

It is no shock that technology, or in this case social media, has become as personal to many as their belief or faith in a higher power. That intimacy, leading to faith in technology itself, can be seen as a hindrance to spirituality for individuals. People may look up to different communities (in this case, spiritual) not because they believe these communities provide the right knowledge needed to lead an earnest and divine life, but rather because of their desire to simply be a member of a community they admire. They begin preaching the community itself rather than the values that it may instill within oneself. A study conducted by the Emerging Technology from arXiv organisation showed a significant drop in religious affiliation, which was closely accompanied by an increase in Internet usage.

At this point, it is easy to conclude that technology has only created negative impacts on one's personal spirituality; however, this is not the most accurate view. One forgets that technology is a tool in the hands of humanity. Social media has played an enormous role in cultivating interpersonal spiritual communities. Through such platforms, it is possible to convey



the cause of faith, the reason for belief, and knowledge on spiritual texts, teachings, and practices to a large audience who, due to their connectedness with technology, can easily be swayed or, rather, convinced. When curiosity about spirituality develops within a person, technology can significantly help cultivate that interest and provide the access required to communicate with like-minded spiritual seekers and practitioners worldwide. Furthermore, it is important to keep in mind that social media can contribute daily doses of wisdom and encouragement that inspire many to continue on their spiritual journey. In addition, exposure to diverse spiritual perspectives can broaden one's own understanding and help inculcate an inclusive approach to spirituality.

Therefore, it is essential to consider both sides of the argument. Focusing on only one aspect will fail to provide true and factual answers to an eager learner. An interesting point to ponder is how technological advancement will affect spirituality 50 years from now. Perhaps then we will finally have a more concrete answer as to whether technology is a friend or foe of spirituality.

Diya Dilip Padaki, 1C

There is no Free Lunch

Once, there existed a village named Ramanagara, known for the peace and tranquility it bestowed upon its inhabitants. One fine day, there came a mysterious man into the village, or that was what the rumors said. He was seen once or twice late at night. This piece of news became the most interesting topic to discuss in that village.

It was said that he usually went to each house and asked for some money that he could borrow from the people living there. You might agree that it was not such a big deal. However, there was another important piece of news with this. This important news had spread only to the most 'trustworthy' people - What was most surprising about his visits was that the very next day, the same house found a box outside the door, containing ten times the value they had given him the day before.

Somu, who saw this as a great opportunity to make money, greeted this piece of information with his eyes twinkling with greed. He was not a foolish man to believe any rumors that came his way without proper research. Upon investigation, he learned that the village headman had indeed found three hundred rupees after giving the man thirty rupees out of courtesy the previous night. Also, his very own friend had received a sack of rice in front of his door, after having given the man two handfuls of rice the night before.

Somu's mind started racing. All others in his village did not seem to know how great this opportunity was. But he, 'smart' as he was called from childhood, was clever enough! After hours of planning, he decided his course of action. He gathered all his life's savings and put them in a bag. He kept the bag along with him and stayed up late every night from then onwards, waiting for the mysterious man to arrive.

Days passed, without any sign of him coming. Somu was not going to give up. About two weeks later, there was a knock at the door at 12:30 a.m. Somu rushed to the door. He saw a man with a black hood, whose attire just looked the way people described it. As soon as the man asked for money, Somu thrust the bag into his hands and sent him away.

Somu could not sleep all night. 'Ten times the value of his life's savings!' The thought of the possible riches that he might find in the morning kept him wide awake.

The sun rose and he still waited.

And waited and waited and waited. He must be taking time since it was a huge amount, thought Somu. There was no sign for another hour. Finally, something came to his house, it was a post. "It could be a cheque!", thought Somu excitedly, ripping the cover as fast as he could. Out fell a note, but no cheque. The note read,

"Dear Sir,

I am sure this is definitely not what you expected. You see, I wanted money to go on a trip but I have only some. Therefore, I used the little money I had to create a false image of rewarding those who had helped me when I appeared to be in need of money. I did this because I knew someone who considered themselves smart would definitely keep a large amount to get rewarded. So now I have the money for my trip, thanks to you. Do not waste your time looking for me, I am already a few hundred miles away from you. Thank you again"

Meanwhile, the 'mysterious' man, happy with the money he received, made his way back to his own village. On the way, there is a film shoot going on, on the road. The scene being filmed was about a man

who had an accident and needed money urgently for the surgery. However, this 'mysterious' man, who did not know that it was just a film shoot, was overcome by pity for the man. Suddenly, he felt his trip was of no importance with respect to the man's 'need'. He thus rushed to the man and gave him all the money he got from Somu. Ignoring the surprised look on the man's face, the 'mysterious' man rushed off, saying, "Use this for your surgery". The film shooters kept the bag with them, not knowing what to do with it.

Meanwhile, Somu, who decided to earn some money at any cost, wandered from village to village searching for work. After looking for two days, he came across the same film shooting taking place. He went to the producers seated there and asked them for some role in the film, however small it might be. To his luck, they were short of one actor, and it was a prominent role. Somu acted very well, leaving everyone amazed. The film was a big hit, earning the producers a lot of money.

As a reward, they gave Somu a bag that looked familiar. Somu's heart jumped with joy! It was none other than the bag that he gave the man! Somu decided to never part with it again, no matter what was given in exchange.

What we must infer from here is that there is no concept of free lunch or free money. The best way to earn money and cherish it is to earn it by our own hard work!

Tanisha Karthik, 1I

The beauty of life

Scientists estimate there to be around 10 to the power 80 atoms in the entire universe

Let that sink in

We contribute to just a small portion of a vast, never ending universe, a bright yet dark cosmos of infinite length. Who knows what lies beyond what befalls our eyes

After all it is god's creation, spotless and perfect

Yet there was something missing...ah yes...

Life

It was that insignificant addition to his grand creation that added ethereal beauty to it.

He thought this universe needed one of you, one of me , one of us all.

Everyone that could have ever existed were never even born.

Countless perish, countless born, yet this small world of ours lives.

Most spend their lives in great thought that leads to their demise

They forget sometimes that there is more to life

It isn't a straight road from birth to death

It has humps and bumps, ups and downs and that's exactly what makes it beautiful.

So spending one's life in sorry or worry is pointless

Because there is more to life that just that

Life is art and it's best painted when it's lived to the fullest

Life a cycle of perfection and imperfection

Life is beautiful.

Gyan Shresht D, 1C

(Day)Dreamers

Even though I spent 13 years of my life in one school, if anyone were to ask a teacher, or one of my classmates who I was, they would not be able to tell you; I was invisible. Nobody is to blame but myself, I never raised my hand during class, never participated in anything, or won a prize during sports day. I have been a Bharatanatyam dancer since I was five years old and yet have not participated in a single dance event. I am a living testament to why it is important to go out of your comfort zone.

The fear of failure shouldn't be to an extent that it shuns your talent. I regret not trying harder in school, never raising that hand, but I don't want anyone else to have the same regrets. My fear was temporary but the regret I'll have to live with. Although I am not an outgoing person, I am a dreamer, quite literally dreaming throughout the day. It is always about what life would be like if I was popular. Turns out the constant daydreaming about being popular is ironically the reason I'm not. When I saw dance teams perform, the girls who performed beautifully had big smiles on their face with the trophy in hand were the winners, the ones who weren't on the podium were the losers. I have always been terrified of being the loser, I've only come to realize it was me, the watcher, who was a bigger loser, for I was not just a loser but also a coward. Great things are not achieved by people in their comfort zones.

Another quality that popular people had was their beauty. They not only fit into the beauty standards, but they define it. This had made me be repelled by my own reflection. We're all currently at that age in which superficial appearances are extremely glorified in the media. This has led adolescents to have very heightened expectations while losing sense of proportion. Every corner of social media is filled with people whose face and body has been deemed perfect. More often than not, it is all fake and modified by AI. The influencers also look like real people behind the phone, the filter, the lighting, and the makeup. Real beauty can never be achieved without a beautiful heart. People who find beauty in others, are the ones who everyone finds to be beautiful. When you change the way you look at things, the things you look at change. At the time I used to compare myself with other people who also did not have peer popularity. They did have something I envy most, academic and intellectual success. The reason why even teachers from my school wouldn't recognize me, I have never been a topper. The reason for my mediocre performance was also me. Daydreaming in class made me lose two very important things, a sense of reality and the lesson they taught that day. I was an amalgamation of the worst qualities of both these groups of people. There is nothing that will make a person want to be me. There were also the people who had both the qualities, the ones who have neither and everything in between.

My most recent revelation I have had is that all the people who I have envied share something in common, individuality. They don't try hard to fit into a certain stereotype. The academic achievers are hardworking, focused people, they don't compare themselves to others, they let their scores speak for themselves. The popular people take chances and let the world know their talents. Us daydreamers have always wanted to have the best of both worlds, with a little bit of courage. "It is the possibility of having our (day)dreams come true that makes life interesting." -The Alchemist.

Diya Premkumar, 2D

The Audio Revolution

About a decade ago, Dolby had introduced its "most significant innovation in years", the Atmos. It had taken the engineers seven months to set up the AMC Van Ness theatre in San Francisco. Room 10, which had been closed to the public for months, had turned into a laboratory. All of this, for the premiere of the film Brave, making it the first film ever to use the Dolby Atmos sound system.

Jump-cut to the present, Apple has partnered with Dolby to treat its users to the experience of "Spatial Audio", an immersive audio experience with multidimensional sound and clarity. Surround sound has been around from as long as the 1950's. To the ones unfamiliar with Surround sound, it is a technique used to augment sound for a richer & deeper feel, by using numerous audio channels from speakers. These speakers are then arranged in a method to accentuate the audio. As surprising as this may feel, surround sound is quite different from 3D audio. Surround Sound uses multiple speakers and audio channels to create a perception of sound closure, Whereas 3D audio uses as less as two speakers while placing different waves in different positions, to mimic and manipulate sound waves to natural sound waves.

Sony recently built their own 3D audio engine called Tempest, rather than relying on Dolby, like most other companies. The Tempest chip card works just like a graphics card, but for audio, which is built into all PS5's. This gives the players top-notch audio, without having to depend on the audio quality of sound bars and TV sets. The Healthcare industry has taken complete advantage of Spatial Audio to generate developments in the field of sound therapy. Wellness rooms were created utilising surround sound and other techniques to create a de-stressing environment for frontline workers during the Covid period. 3D audio has continued to help people who have suffered strokes, trauma etcetera. Netflix recently partnered with Senheiser, as it began to put out shows with 3D audio, to enhance its viewer's interest and connections to the shows. While Spatial audio is being used majorly in the healthcare and entertainment industry, it has also managed to please everyday users. Every FaceTime or video conference is now a delight with spatial, making it feel like the speaker's voice is reaching directly through the screen and not from the speakers or EarPods themselves. 3D audio and Surround Sound have brought in a revolution in the audio market and have widened the boundaries of immersive experiences, in every possible field.

Niyati N, 2I

No Rain, No Gain

It happened some years ago. As the rain poured down, bringing nostalgic memories to some and melancholy to others, spoiling people's clothes and letting plants enjoy to their hearts' content, washing the dust off roads and car tops, I longingly looked out of the window, wanting to get drenched. However, I knew that this wouldn't happen. Just like any other mother having kids of my age, my mom too would not permit me to get drenched. But that day was different. When I asked my mom if I could go out in the rain, she glared at me at first and eventually broke into a broad grin. The part which surprised me the most was when she said that she would join me too. Then, it happened! We went to the terrace and I could feel the drops of water tingling on my face. I still remember the feeling – the cold drops of water cooling my body and making me forget all about the problems of life at once. The feeling of raindrops falling on my face, relaxed my mind. I immensely enjoyed this experience in the rain. Little did I know that cold and cough, followed by fever would embrace me the very next day!

Prachi Kamath, 1F

The Pain Behind The Smile Of Every Driver

Introduction

The world we live in today is a dynamic and interconnected tapestry of diverse cultures, societies, and systems. From technological advancements to global challenges, our planet presents a complex landscape that shapes our daily lives and the future of humanity. In this world, where people are worried about their own work, the unsung heroes of our daily life are the drivers.

Drivers are entrusted with safely transporting thousands of people daily, but their stress levels are high among the other jobs. This responsibility can be stressful, as auto, cab and bus drivers are responsible for the safety and well-being of their passengers. They must also navigate busy streets, unpredictable traffic, and inclement weather conditions, all while ensuring that they are on time. Here is detailed information about the drivers and their lives.

Bus Drivers:

Thousands of bus drivers around India work long hours with unreliable vehicles and on dangerous roads, for little pay. Along with other jobs in the transportation industry, bus driving is often cited as one of the most stressful jobs. Most of the time, they are either on a night shift or are sleeping in the bus on the outskirts of the city to start working the next day in the general shift. If they managed to reach home some nights, their children would have been fast asleep.

They have to keep calm through the unruly traffic on the roads and commuters who keep getting off and on the bus while it is on the move and asking to open the doors on traffic signals. Bus drivers have to complete the given number of trips per day. Even a five-minute delay results in a cut off in their salary.

Since the buses are long and large in size the position of the driver cannot cover the vision of the entire road. The main problem faced by bus drivers is the bikers and auto drivers who drive recklessly and overtake through the blind spots of the driver. Despite so many problems they keep a smile on their face and help us reach our destination on time.

Auto and Cab drivers:

At some point, every Bangalorean would have had an experience with an auto-rickshaw or a cab driver. They usually start their day at six in the morning, and park by midnight spending the least time with their families.

Many people have this common question "Why do these drivers ask for extra fare, and how often do they do it?" For this question what most of the auto and Cab drivers answer: "To be honest, We do it every single day. It's not easy being on the road. Traffic is a nuisance, and we only seek to make a little extra for our home. 10 to 20 rupees is a big amount for someone who earns a daily wage and it makes a big difference for us."

However, Ola and Uber have introduced their subscription-based model for drivers in several cities. Instead of per-ride commissions, drivers will now pay a fixed daily or weekly subscription fee. This predictable income stream could lead to potentially higher earnings, especially for hustlers who clock in long hours and by this drivers can no longer face the problem of income. However many drivers don't use Ola and Uber and overcome many problems from commuters every single day in their lives.

Conclusion

Despite the vehicle they drive most of the drivers face the same problems. The problems stated above are the statements taken from the Real-life experiences of the drivers. Thanks to all the drivers who helped me in this article. I would like to conclude my article with the quote "A smile can hide the pain, but the eyes always reveal the truth."

Saurav S Reddy, 2H

Magical mornings, a Joy to Behold

In this realm where dreams unfold.
Lies a land of wonders untold,
Where sun-kissed skies meet dewy grass.
Magical mornings come to pass.
With first light's gentle caress,
Nature awakens, in pure finesse.
The birds, they sing their symphonies,
Whispering secrets to the ancient trees.
Golden hues paint a horizon wide.
As dawn's magic starts to glide.
A tapestry of colours, vivid and bright,
Creating a masterpiece of pure delight.
Mist glides upon the meadows green,
As if the world is caught up in a dream.
Dewdrops sparkle like scattered jewels,
Reflect the enchantment of magical duets
Whispering winds carry fragrant scents of blooming flowers and sweet incense.
The air, alive with the blessings of the Divine,
As if Nature herself has a sacred design.

So, rise with the sun, embrace dawn. In this realm of magic, let yourself be born.
For these extraordinary mornings, behold A joy that transcends a story yet untold.

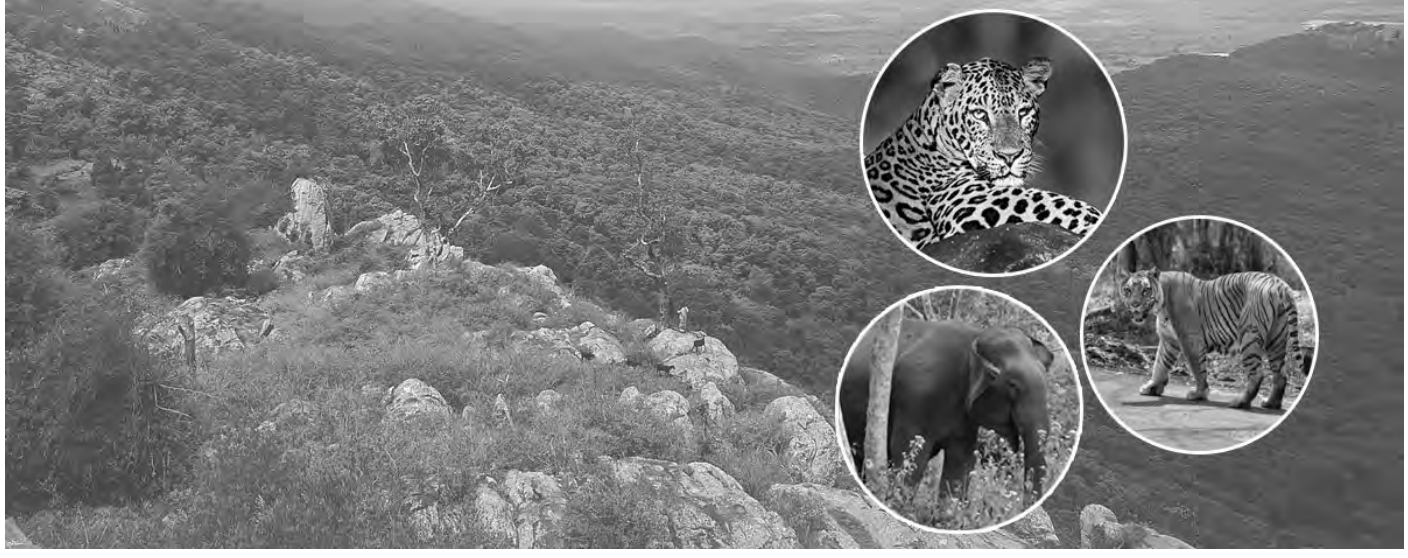
Aarna A M, 1F

Driving through Karnataka's Forests

As I sit to write this down, I reminisce about the quarantine days. Being in one place for too long brings about a need to spend time in the wilderness and 'touch grass', as they say. That, coupled with my insane curiosity about nature and my father's love of animals lead us on a journey to explore Karnataka's forests.

I remember the first time I ever saw a forest. It was on a weekend trip to Bannerghatta National Park when I was eight. This time, when we returned in 2022,the place seemed so familiar yet so different. Two hundred and fifty square kilometres of vast wilderness with a hilly terrain of granite sheets under moist deciduous forest valleys and scrubland. We went on the safari and spotted wild deer, elephants, foxes and even a baby bear! Did you know that the forest officers place rock salt in strategic locations in the national park so that the animals do not become iodine deficient? The forest is also home to magnificent black bucks and spotting them is a treat to the eyes. There is another forest stretch in Shimoga that is significantly smaller than the Bannerghatta forest but is similar in terrain-The Lion and Tiger Safari at Thevara Koppa. I remember driving through the lush green forest in the monsoon season in the safari jeep, the rain gently trickling down the trees as we drove by. It was a short drive, but a memorable one. We could not spot many animals there, but the lion and tiger rescue camp is an admirable effort at increasing the population of these predators in India, and hence ensuring ecological diversity. There are many areas of the forest which we were not allowed into as they house elephant rehabilitation camps.

Another memorable, and rather terrifying trip was through the Punajur State Forest Reserve in BR Hills. We had been to visit the Biligiri Ranga temple in the morning and due to tiger sightings in the vicinity, visitors weren't allowed to leave until eight in the night! After we were instructed about how to stay safe in case of a wildlife encounter, we got into the car and set off home. We could spot a spotted deer and wild mongoose running across the road. Halfway through the journey through the dense forest,we encountered a wild elephant! Six thousand kilograms of pure strength and intelligence, it stood in the way, perhaps looking for a place to spend the night. My father, who was driving , switched off the car headlights and we all anxiously tracked each movement of the tusker with bated breath. It was a relief as the elephant made its



way deeper into the forest, out of sight, and the path was cleared. Of course, I have to mention Bandipur National Park in the list of thrilling forest encounters. We were driving along the beautiful forest trail, very close to a watering hole surrounded by dense bush when my father abruptly stopped the car because he had spotted a herd of elephants. In about three seconds, our entire car was drenched as a nearby elephant had playfully decided to splash an entire trunkful of water onto our poor vehicle. We later learned that these elephants has been tamed by the tribal people of the region to prevent them from ruining the community's crops. These elephants now lives symbiotically with those tribes. However, the most breath taking of all our forest journeys was the Bhadra Wildlife Reserve in Muthodi, one of the largest continuous stretch of forest in India. Situated at an elevation of over six thousand feet, this reserve is home to over 120 different species of flora and fauna. We set off from Chikmagalur with a packed lunch and drove through an ever rising road, surrounded by gently flowing streams. The wildlife reserve is only open in the wee hours of the morning or just before sunset. We reached the sanctuary gates, after which only authorised Wildlife Department vehicles were allowed. As we waited for the forest officers to set up a jeep for our further journey, we ate lunch in the silence of the lush green trees. The cold, rainy weather made for an incredible journey. We spotted Malabar squirrels ,a dancing peacock, multiple bison and saw the oldest teak tree in the state of Karnataka. One of the notable moments of the journey was that the Jeep had to drive across a makeshift log bridge in the Somavahini River. We even had a close encounter with a leopard chasing a wild dog! The jeep came to a screeching halt and the leopard, sensing danger, swiftly and nimbly made its way into the depths of the forest.

This journey we've set out on has not only been educational but also surprisingly calming and inspiring. Being in the forest truly heightens the senses and brings out an astute sense of observation of every little thing. These little trips we've taken, driving through the wilderness has also brought us closer together as a family and has helped us discover our shared love for nature and its conservation. This wild journey has only just begun, and I couldn't be more excited! Karnataka's vast and wild forests provide us a chance to know more about our land and our history and in turn gives us an opportunity to find out more about ourselves along the way.

-Samudyatha.S 2D

Shadows of Friendship

Shadows of friendship I can no longer call my own,
Thoughts of moments and faces that can no longer make me smile,
Pain of loneliness – silent and unseen,
Laughter and words that once filled the air with warmth,
Turn out to be echoes lost to time.

Though paths diverge and years may pass,
Though people may leave and companions be lost
Though worlds divide, stories told, memories shared
A fleeting touch, a glimpse, a trace,
Forever reside, right there.

As the sun gave way to the moon's embrace,
And clouds scattered to let the light of thoughts shine
I reach for memories, grasping air.
In the stillness, moments linger, faces unnamed.

Shadows of friendship I can no longer call my own
Just a whisper, just a breath, forever known.

Shadows of friendship I can no longer call my own
Recede from my sphere, but their warmth endures,
subtly overgrown.

Shreya Ravi, 2I

Emotional Aversion

Laid a lovely lad on a lousy couch
Torn apart by the tedious, treacherous tasks,
That befall upon his tender countenance, for he is,
Thwarted thoroughly by tens of thousands, time and again
For his supposed sins- perhaps inadvertent, perhaps not!
Yet, society persuades him to smile with warmth,
And in all sanity, be gentlemanly
With his fuming and firing feelings, finely suppressed
Beholding the bottled-up emotions with benevolence!
For, he is contained of the XY chromosomes,
And the patriarchal patronage of masculinity to preserve.
And a tear drop would cost him dearly.
With weakness portrayed by his watery, wet iris!
"A lad crying? What sorcery!" screams society.
Afterall, anger and rage does not affect his chivalry,
Or perhaps, a nonchalant expression suits him best.
But a perilous sob is a scornful sin!
Pardon me; Is the breakdown seen in women,
A humdrum, regular and rather pitiable sight,
Yet the sight of a hurt man shedding tears
Perceived as the epitome of embarrassment,
Thus provoking uncanny events in their precious lives?

Abhay Srinidhi Agrahar, 2D

Memories

With a tick of a clock,
And a petty little mock.
How the time flies so fast,
All the moments could barely last.

And so do we make memories,
For we can keep them safe in our treasuries.
Keep them all in here we forget.
Cherish them all, in a pretty casket.

Looking back at the memories
That possess within its stories,
Puts one in a state of euphoria,
Never willing to leave the perfect utopia.

Harshada P, 1J

Love, Lies, Bleeding

I was a love carrier for Victoria,
I was a tie between two souls,
I did mean sorrow but the faces bloomed.
The Greek defined me Amaranthus ,
But I did die in the heart of the world
Coz, now I am a portrayed figure of
hopelessness.
Given away for my scent but
I became a main ingredient in ritual .
Choose to be a bit different,
but that laid me down.
Yet, I did not perish
cause I cherished.

Shivani.S, 1E

Imperfectly Perfect

Will you listen to me,
Even though I hate the sound of my own voice,
Will you bear with me,
as I tighten the grip on my vice,
All the little imperfections,
morph into over-amplified emotions.
Three hundred trains of thought,
millions of battles fought, all lost.

It's beautiful truly, all the words you convey,
Can I honestly say if I may,
The gift of life isn't given to many,
It's simple really, don't you dare worry.
Life's worth living, stressing isn't the answer,
I don't know what to say, except that you
make mine better.
Your brilliant mind, ambition, the perfect drive,
Worry not, it'll be okay, you'll find a way to thrive.

The numbers on the scale terrify me,
The meals I've skipped are starting to haunt me.
I look in the mirror in absolute despair,
Picking apart the reflection,
so much so seems to be the problem.
Heads turn, the comments churn,
In my stomach, I begin to burn.
And flaws jump out and tears fall,
Unfought and left bare.

There is no need to count the calories,
You will still be a part of the success stories.
A scale cannot dictate your worth,
It sucks to see you dragged down to your worst.
I know you can't tune out the snide remarks,
But at least you know you can reap better rewards.
Maybe the shame won't turn into a noose,
Maybe the pain will turn into your muse.
You aren't made to fit clothes, perfect and new,
The beauty within, is what's truly you.
Remember when I was told,
That I had no emotions.
Remember when I was told,
That they wished I wasn't born.
If only that were true,
Then maybe I wouldn't have to
Pretend that I love them still.
Then perhaps, they'd get an out too,
From all the acting like they'd understood me,
From the misfortune that they call parenting.

Parents always wish you the world,
Even though they don't think it through.
But it's your chance to realise,
It's their first time living too.
You might feel its an exaggeration,
When you hear stories of dreams forgotten,
Of egos stamped, tears shed and broken families,
All for you and your innocent memories.
In a few decades, in their place,
We'll stand, and put on a brave face,
But right now in a teenage daze,
Don't light your future ablaze.

The fading light doesn't scare me,
The dark has already burrowed in my bones,
I couldn't avoid it if I tried,
And that's excluding all the days I've cried.
But to keep looking for the light,
Demands all that I am,
It's taking too much to not give up,
I'll just hide till the sun comes up.

I know that you just want to vanish,
But you've got reputations to tarnish,
Moreover it isn't easy for everyone either,
When they all have their own storms to weather.
So toughen up, grow up and do it quick,
Cause your candles are running out of wick.

Nithyaa Vishwas Bhootanahosur, 2F

Moonshot: Humanity's Bold Leap into the Unknown

"We choose to go to the moon in this decade and do the other things, not because they are easy but because they are hard" - President John F. Kennedy

Dedicated to the thousands of Apollo era aerospace engineers, astronauts and personnel.
On the 55th anniversary of the moon landing.

One of the most revolutionary periods in human history occurred in the aftermath of the bloodiest war the world had ever seen. The calm following World War II was gradually shattered as President Harry S. Truman rolled out the containment policy and the Truman Doctrine of anti-communism. With the dawn of the nuclear age, the world watched as two superpowers, the United States and the Soviet Union, locked in an intense struggle to prove the superiority of their respective economic systems. This Cold War extended beyond military might, encompassing governance, economics, science, politics, soft power, and hard power influence.

Welcome to the middle of the Cold War. The year is 1956, the US Embassy in Moscow. The newly formed CIA has established a base in the embassy. Multiple reports of a possible Soviet space program are being sent in. As the State Department and the CIA review these reports, one thing becomes clear: the Soviets have German scientists just as we do.

Operation Paperclip brought in the best German minds who had been working on the "Wunderwaffe" (Wonder Weapons) intended to win the war for Germany. While these weapons did not achieve their goal, the underlying science showed promise, and the victors quickly recruited these scientists to help with future advancements. Most scientists chose the United States for its freedoms and massive funding for science and technology. The Soviets, determined not to miss out, resorted to kidnapping scientists and forcing them to work. These scientists not only helped the Soviets develop the atomic bomb but also initiated a space program. As the CIA briefs the Ambassador, who then briefs the newly elected President Dwight D. Eisenhower, it becomes clear that we are behind the Soviets. Investigations are ongoing in Congress, but until they conclude, the executive's hands are tied.

Progress on this front is scant, but suddenly, from Soviet Kazakhstan, a rocket is launched by the Soviet space program. On October 4, 1957, the Soviets officially put the first artificial satellite, Sputnik-1, into low Earth orbit. Sputnik-1 orbited for 101.5 minutes and sent a constant beeping signal for its duration. In response, Congress authorized the National Aeronautics and Space Act, immediately creating both the National Aeronautics and Space Administration (NASA) and the Defense Advanced Research Projects Agency (DARPA). They appointed a certain Wernher von Braun as the director of the Marshall Space Center, which began developing hypersonic flight. Director von Braun was no stranger to the aerodynamics of rockets. As a young man, he worked on the V-2 rocket for the Allgemeine SS. He was smuggled out of Germany at the end of World War II under the CIA Operation Paperclip. He worked on US Army ballistic missiles and later US Air Force ballistic missiles before joining the newly founded NASA.

By 1961, the US had sent Explorer-1 and Alan Shepard as the first American man in space, following Yuri Gagarin's flight a month earlier. The two superpowers were now locked in a horn-to-horn competition to dominate space. A new president had entered the White House by then. President John F. Kennedy was not content with incremental progress and ordered a manned landing on the moon by the end of the decade. Wernher von Braun began working on the massive Saturn V rocket that would send a man to the moon. Under the leadership of President Kennedy, the direction of von Braun, and the tireless work of many in the administrations of NASA and the White House, the Apollo Program was brought to life. Soon, an Apollo mission was sitting on the launch deck in Cape Canaveral, awaiting launch. Apollo 1 was intended to be a test flight, to gather telemetric data and identify errors in the launch process. As everyone prepared for launch, fueling was almost complete. Suddenly, every light in the Houston Control Center lit up, and as the operators processed the information in front of them, they looked up at the screens to see the rocket destroyed. The 100% oxygen fuel canister had ignited and exploded, killing all the astronauts present.

Apollo missions 2-6 were either cancelled or destroyed during flight or fueling. Undeterred and determined, the Apollo program pressed on. Finally, with Apollo 7, spaceflight was achieved. Apollo 8 and 9 flew around the moon, testing many systems and contingency scenarios. Apollo 10 performed a mock landing on the moon over the Sea of Tranquility, conducting low-orbit reconnaissance of the landing site. Finally, on July 16, 1969, Neil Armstrong, Buzz Aldrin, and Michael Collins launched from Launch Complex 39 and set course for the moon. They cruised for four days before approaching the Sea of Tranquility on 20th July 1969. Michael Collins remained in the command module as Neil Armstrong and Buzz Aldrin detached and descended to the lunar surface. The tension in Houston was palpable. 650 million people worldwide tuned into their TVs and radios, watching as a small animation of the Lunar Lander approached the surface. Neil Armstrong, piloting the Lunar Lander, brought it to a hover over the landing zone and then gently down. Armstrong and Aldrin radioed in, "The Eagle has landed." Every man, woman, and child who heard those words, regardless of nationality, celebrated. Humanity has become an extraterrestrial species. As Neil Armstrong stepped onto the lunar surface and Buzz Aldrin planted the American flag, Armstrong's words echoed across the world: " That's one small step for man, one giant leap for mankind." It was clear that the United States now ruled space. The thousands of men and women who tirelessly worked day and night, facing failure at every turn, demonstrated the indomitable human spirit and the will to achieve greatness.

The pioneering spirit of the Apollo era went cold after Apollo 19, but almost 50 years later, A new space race has begun, and many more nations have joined the race, including India landing on the Lunar south pole in 2023 under the Chandrayaan-3 Mission.

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Anish Jois , 1C

Bharat Through the Decolonial Lens

In the contemporary mainstream media, there has been the arrival of a new term that is decolonization. This term ignites the curiosity in one's mind as to how it could be different from already existing theories and terminologies related to colonization. But on further research one realizes that this is a solution to all those problems rather than just another theory or perspective. The proper understanding of the word decolonization requires us to understand the history of the world and the schools of thought on it. The opinions on world history had four main classifications.

Firstly the "modern" school of thought that Columbus' voyage was and must be seen as a "glorious and heroic achievement", marked the beginning of the Christian West's "destiny" to "liberate" non-Christian indigenous societies from their wretched existence.

Second the "postmodern" school of thought which is seen as a response to Europe's claims over modernity and rejects the grand narratives woven into it. However, this school's opposition to modernism is largely in the realm of culture.

Thirdly the "postcolonial" school of thought which enjoys a significant overlap with postmodern thought and even draws from it, too rejects the universalizing claims of Eurocentrism albeit in the political realm; however, it uses the very same tools as the colonizer instead of deconstructing it and questioning colonial presumptions. For instance, while the postcolonial school focuses on the local, it tries to universalize the local, thereby falling prey to the same universalizing tendency of colonialism. Unfortunately, our country is part of postcolonial thought currently. We have a self-governing system but the system is untouched from the pre-independence era which was structured according to the convenience of our colonizers. The constitution is itself a very good example of how we are self-sabotaging ourselves. Even though it was written by Indians, they were prey to the same postcolonial thought. And the original constitution also underwent heavy changes during the emergency period which changed the fundamental nature of it. So how can a book which was fundamentally changed by certain people for their own political gains be held as the law of the land ? Therefore, there is a need to discuss, debate, and make the best decision regarding the future of the country. The constitution is just an example. The three main pillars of a democracy-the legislature, executive and judiciary are all still working with the same protocols that were prevalent during British rule.

Fourthly the "Decolonial" school of thought, akin to postcolonialism, challenges European universalism, particularly in the political realm. However, where the decolonial school differs from postcolonial thought is its identification of the element of "coloniality." According to the decolonial school, postcolonialism gives the impression that the colonial mindset or consciousness ended with decolonization, when, in fact, it survived decolonization and continues to impact " decolonized/independent "societies. It also rejects the totalizing universalist claims of Europeanism in a much more balanced fashion. That is, instead of treating the European position as the sole universal benchmark, decoloniality prefers to treat it as but one of the options or subjectivities within the global pool of thought. Therefore, it rejects Europe's monopoly over time, space, and subjectivity.

Now to talk about another burning issue in the country. 'Secularism." This word not only ignites the intellectuals to a heated debate but also holds the potential to cause riots in the country. So, when one sees the origin of the word they realize that it is not outside the scope of Christian thought. The sum and substance of this distinction is elaborated by Hugh of Saint Victor in De Sacramentis Christinae Fidei:

"There are two lives, one earthly, the other heavenly. By one the body lives from the soul, by the other the soul lives from God. Each has its own good by which it is invigorated and nourished so that it can subsist, the earthly life is nourished with earthly goods, and the spiritual life with spiritual goods. Among laymen to whose zeal and forethought the things that are necessary for earthly lie pertain, the power is earthly. Among the clergy, to whose office the goods of the spiritual life belong, the power is divine, the one power is therefore called secular, the other spiritual." Hence, we can see that secularism finds its roots in the protestant reformation which was anything but neutral. It has become imperative for us to realize our preconceived notions and reflect upon ourselves before wearing the cap of "reform" and attacking the uniqueness of our own civilizational institutions like temples. Temples that were centers of heritage and patronized our culture are today under the "secular" state. How can a country be called "secular" when the religious institutions of the majority are under state control which uses the revenue from these temples for other issues. How can a country be called majoritarian when its majority is treated as eighth-class citizens and is discriminated against constitutionally, culturally, and financially. These are some tough questions that our country must ask itself if it wants to retain its civilizational uniqueness as the oldest civilization.

S Krupa Shankari, 2I

Bitter Sweet

Class 10th grade
the memories of which, I wish would fade,
Last year, if you told Me I'd miss it,
I would've pushed you into a pit.
I hated that place's toxic mindset,
Thankfully, I got out of that twisted net.
I definitely don't miss my classmates.
If I ever saw them again, in their face, I would shut the gates.

Turns out, my old school was innocent,
regardless of all the rules that were bent.
There was absolutely no drama there,
but you could always count on us to play Truth or Dare.
I really miss my huge school building
with its huge ground, & garden that needed tending.
I used to be reckless every day
because that place kept all my fears at bay.
All of us were eager to leave,
but now we all miss it, I believe.

I'm over it, I guess,
but this new school has made my life a mess.
10 hours of every day is spent here,
this will be my life for the next 2 years, I fear.
An hour and a half of every subject I hate,
and the first few minutes of every class spent wishing the teacher would be late.
short breaks & lunch breaks are fun, unlike physics,
in which we learn about the workings of a gem.
I better get used to this new schedule of mine,
Cause I don't want to hate life, not when I like it just fine.

Bhoomika K.R, 1F

The Etymology of Tea

Food is an integral part of human culture. So much so, that anthropologists and historians use food as a means to ascertain what certain peoples lived like. Foods are viewed as tools with the help of which we can understand the complexities of cultures and societies across the world and how they interact with each other. We even have sub branches of anthropology (study of humanity), etymology (study of the origin of words) and other such fields of study that deal entirely with the relation between food and human history. Food Anthropology is one such branch that has helped us draw the connection between politics and food. Sidney Mintz is one such example who further cemented the idea of viewing the study of food as a key insight into human social life. He is also known as the "Father of food anthropology" for his 1985 work 'Sweetness and Power' which linked British demand for sugar with the creation of the British Empire and exploitative industrial labor conditions. The study of Food in this respect is truly a fascinating and invaluable means to understand our past and more importantly, ourselves.

The topic this article aims to introduce is the study of the names of foods, otherwise Food Etymology. This field of study helps anthropologists and historians delve into complex questions such as migration, diets, cuisine, trade, agriculture and even the politics of various cultural groups in history.

Tea, also known by its scientific name Camellia sinensis, is an evergreen shrub native to East Asia. The beverage of the same name is popularly brewed by pouring hot water or milk over the leaves of the Tea Tree (dried or fresh) and letting it steep into the medium. It has a stimulating experience on humans due to Caffeine in it. Tea is described to have a cooling yet slightly bitter taste to it, due to tannins, and some varieties also have some grassy undertones that make it taste fresher. It is by far the most popular drink consumed across the world after plain drinking water and is truly a global phenomenon. It has a special place among foods considered for this article, for it showcases a beautiful example of how trade affects the names of foods.

The etymology for Tea is roughly divided into two root words, te and cha. This is associated with the native habitat of the Tea tree, East Asia. Tea was first domesticated, grown and consumed by the Chinese people and some Burmese peoples.

The root word for the plant in the Northern part of China is cha' , and this is where most trade over land occurred with different regions such as present day Russia, Arabia, Turkey and Northern India. Now, the words for tea in these countries are chay, shayi, çay, and chai respectively. These words are all directly derived from the Mandarin pronunciation of Tea around Present day Hong Kong and Guangzhou, which then was picked up by the Northern Chinese people. Russia and Arabia got the Tea from direct land trade with the North Chinese through the Silk Road. Turkey got it indirectly from Arabia and Tea then reached the Northern parts of India from Arabia and through the influence of the Islamic Invaders of the medieval age. A truly remarkable example of how land trade affects the way words are pronounced.

The root word for the plant in the Southern regions of Asia especially Southeast Coastal China and Malaysia is te, primarily in the Amoy dialect of the

Hokkien people of South China and this is where most trade over Sea occurred historically. The earliest example of this is the Tamil word for Tea which is Tēnīr. This name came to be due to extensive trade between the Tamil Kings and the people of South Coastal China and the Malay peninsula in the 4th to 8th Century CE where the pronunciation for Tea is either te or teh. Later trade between the 17th century Portuguese, the Malays and the Hokkien people brought the word to Europe where it became popular in what is now The Netherlands, Britain and France and Germany where the words for Tea are thee, tea, the' and tee. The immense popularity of Tea in Europe led to the nascent Colonial powers spreading Tea cultivations across the Globe and as a result, the name for Tea as well.

These two examples bring out how important and impactful trade and commerce is on even trivial things such as the names of commonplace foods. Colonialism, slavery and exploitation, economy and industry are all byproducts of this natural human tendency. Food etymology and anthropology combined answer the questions we have about the origins and impact of food on human society.

Fun Fact:

The modern European word for Mango comes from the Tamil word maanga or maankay. Trade with the Portuguese brought the fruit to the Caribbean and Portugal where the Portuguese word for the fruit became manga, and therefore Mango once reaching Britain.

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J S Nithin Reddy, 2H

Human Sacrifice

Silicon-chip-shoulder-billionaires-to-be,
Look ma, no brains, no meaning, or empathy!
Look, ma, I'm rich, you don't need to worry about me!

The truth is easy to forget because it's hard to comprehend,

And sometimes a thousand kids die on the way to me making a billion,

No, don't get me wrong, this world is like family,

Blood runs darker than water,

But the shade of my deception is richer,

Poverty is inherited, money is made,

The grass is greener on the side that can have it repaired,

Cut your teeth and make a killing,

Even if you have to kill yourself,

Maybe you're just soft,

Or maybe you're dumb or lazy,

It's all your loss,

You either slave or you starve,

You see, this world is a dark forest and we are all hunters in a paradox,

When everyone is a future corpse,

And everyone who dies is born,

We are equal, the numbers lie,

That's life,

That's the essence of being human

Sacrifice.

Snigdha Priya V, 2C

The Indian Air Force- Epitome of Valour

The aerial arm of the Indian armed forces, established on October 8th, 1932, the Indian Air Force (prefixed with 'royal' pre-independence) is responsible for controlling the Indian airspace and conducting aerial operations in coordination with the army and navy, hence playing a crucial role in the nation's defense.

The Indian Air Force has achieved remarkable feats in the past, taking part in four wars. In 1942, the No.1 Squadron arrived in Burma, flew low level and bombed 20 Japanese air bases in Thailand causing the rapidly advancing Japanese forces in Burma to halt, In December 1961, Assisted the Indian army in the annexation of Goa, a former Portuguese colony under 'Operation Vijay' which eventually led to their surrender. On 13th April 1984 Under 'Operation Meghdoot' India gained full control over the most sought-after Siachen glacier in Ladakh, with HAL Chetak and HAL Cheetah deploying troops to altitudes of around 5000 meters, emerging victorious in this hostile terrain. In response to the Pulwama attack in 2019 carried out by Jaish-e-Mohammad (JeM) killing 40 CRPF personnel, The IAF was quick to respond, A group of 12 Dassault Mirage carried out attacks on the JeM camps in Pakistan-occupied Kashmir and Balakot.

Today, the Indian Air Force operates with around 1,70,000 active personnel and 1,40,000 reserves with approximately 2000 aircraft in service, Under the motto "Touch The Sky With Glory" (Nabha□ Spr□śa□ Dīptam) they are clear with their intentions and ready for action. The IAF also has a special unit called Garud Commando Force, which aims to counter terrorism, reconnaissance, and suppress enemy defense forces.

The Indian Air Force is the 3rd most powerful air force in the world behind the United States and Russia and ahead of China and Japan. Its aerial prowess is exemplified by a wide range of efficient fighters which include:

Sukhoi Su-30MKI, a Russian long-range multirole fighter licensed by HAL has a maximum speed of Mach 2.0 (twice the speed of sound) and is also equipped with Brahmos, Astra and Rudram missiles. HAL plans to upgrade Sukhoi with better radar, cockpit and missiles. Currently 259 aircraft are in service.

LCA HAL Tejas (Sanskrit for radiance) is the first indigenously built, delta wing multirole combat fighter designed by ADA (aeronautical development agency) and manufactured by HAL, comes in with mach 1.8 and is the lightest supersonic combat aircraft, equipped with Asraam and Astra missiles truly making it a force to be reckoned with, is currently operated by the 18th and 45th squadrons. Currently, 33 aircraft are in service with 123 on order. (INSET : HAL TEJAS)

Dassault Rafale, French-built delta wing multirole fighter jet by Dassault Aerospace,currently has 36 aircraft in service.

Other fighters still in service are Anglo-French Sepecat Jaguar, Soviet-made Multirole Mikoyan MiG-29 fighter and MiG-21 interceptor, Dassault Mirage 2000. Active helicopters include HAL Prachand, a light multirole attack helicopter, HAL Dhruv utility helicopter, with the armed version being HAL Rudra, HAL Light Utility helicopter(LUH),

CH-47, and Mil Mi-17. The IAF also has a special unit called Garud Commando Force, which aims to counter terrorism, reconnaissance and suppress enemy defense forces.

The Indian Air Force decided not to import stealth fighters like the Russian Su-57, and instead focus on indigenous efforts such as the 5th generation HAL AMCA (Advanced medium combat aircraft) which is expected to be inducted by 2030. The prototype development of HAL Tejas Mark 2(Medium Weight Fighter) is underway. The development of new aircraft is to decommission the outdated aircraft like Mirage 2000 and Mig-21. IAF plans to conduct 'Gagan Shakti' the biggest multinational air exercise to be conducted on Indian soil which will test the air force's capabilities and preparedness for high-intensity operations. The Indian defense sector is undergoing rapid modernization and expansion which has definitely instilled fear in our vicious neighbours.

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Pruthvish R, 2H

Lilac scent

Hints of vanilla but mostly reminiscent of roses,
A deep, rich floral fragrance reaches my senses
Beasts of dance which i thought by now were fossils
Arise from within, playing with the faint soft music.

Darkness and the unknown scent with bitter-sweet melodies.
All together, seems for my stress, a remedy
Arms in the air, subtle but happy dance moves,
In an oversized tee with bare feet, no shoes.

Something tells me to trust and close my eyes,
And instantly I'm in a world pretty but full of lies.
It doesn't hurt to believe this for a few minutes in my mind,
I wish everything was so perfect and everyone so kind.

But All the Black keys make the listeners crave for the whiteness
And the white keys seem like a miracle coz you know how's music without it.

Similarly, how will you know the true worth of happiness,
If in other emotions, you never stayed away from it?

So remember, that music is never composed of only keys white.
Just how In a place dark if you've never been, there is no value of light;
Like, If lilacs were not only in spring, its scent wouldn't be appreciated-
Same way, our life, if perfect and forever, would only be humiliated.

And thus, seamlessly all this freshens me with not a bit effort,
Doing these small things once in a while does anything to me but hurt.
To know that this life is beautiful as it is indeed,
These small moments with the lilac-scent are all that I need!

Vanshika Rathi , 1F

From the Vedas to the Bhagavad Gita: Exploring the Roots of Hinduism

Hinduism is one of the oldest and most complex religions in the world, with a rich history that has roots since the dawn of time. It is in fact not a religion, but a way of life that has been shaped by countless philosophical, cultural, and social influences over the centuries. In order to understand the origin of Sanatana Dharma, it is essential to explore the roots of this ancient way of life, from its earliest scriptures to its most revered texts.

In this journey, we will try to briefly understand the sacred texts; Vedas, Upanishads, and the Bhagavad-Gita, a philosophical masterpiece that has come to be regarded as the heart of Hinduism. Through this exploration, we will gain a deeper understanding of the fundamental principles that underpin Sanatana Dharma and the evolution of its beliefs and practices over time.

The Vedas are the oldest and one of the most sacred scriptures of Hinduism, composed in Sanskrit and having four main sub scriptures which are:

The Rigveda:

The Rigveda Samhita, organised into ten mandalas or books, is an elaborate collection of religious and philosophical works, which provides a unique insight into the beliefs and practices of ancient Hinduism. It serves as the foundation of Hinduism and has influenced countless generations of Hindus over the centuries. The hymns address various issues, including societal norms and ethics.

The Yajurveda:

The Yajurveda holds a prominent position among the four Vedas in Hinduism. It is also called Adhvaryuveda, named after the adhvaryu, the chief priest who performs the sacrifices according to its guidance. The Yajurveda is divided into two major parts - the Krishna Yajurveda and the Shukla Yajurveda. The Krishna Yajurveda focuses on rituals, while the Shukla Yajurveda emphasises meditation. Its influence has shaped Hindu traditions and continues to guide spiritual practices in India

The Samaveda:

The Samaveda is considered the Veda of melodies or chants and is closely associated with music and its power to uplift and invoke spiritual experiences. Derived from the root word "saman," meaning melody or chant, the Samaveda is believed to have originated from the Rigveda, the oldest Veda. It is a collection of verses from the Rigveda that are set to music and sung during rituals and ceremonies. The melodies and chants of the Samaveda are regarded as a form of divine expression and are considered to have a profound impact on the mind, its emotions, and the spiritual well-being of individuals thereby connecting individuals with the divine.

The Atharvana Veda:

The Atharvana Veda focuses on various aspects of daily life, including healing, rituals, magic, and social issues. The hymns in the Atharvana Veda are believed to provide remedies for ailments, protection against evil forces, blessings for prosperity, and guidance for leading a righteous life.

The Upanishads

The Upanishads explore the nature of reality and the paths to spiritual liberation. They introduce the concepts of Brahman, the all-pervading ultimate reality, and Atman, the eternal self. The Upanishads discuss different paths to self-realisation, such as

Karma Yoga, Bhakti Yoga, and Jnana Yoga. They remain a source of wisdom and inspiration, inviting individuals to explore their inner selves and discover the divine within.

The Bhagavad Gita: the essence of Hindu Philosophy and Ethics

The Bhagavad Gita is a revered scripture of Hinduism that encapsulates the essence of Hindu philosophy and ethics. It is a sacred dialogue between Lord Krishna and the warrior prince Arjuna, set on the battlefield of Kurukshetra which presents profound teachings on various aspects of life, spirituality, duty, and the nature of the self.

At its core, the Bhagavad Gita explores the concept of dharma, the righteous path, and duty that individuals must fulfil in their lives. Lord Krishna imparts wisdom and guidance, emphasising the importance of fulfilling one's duty selflessly, without attachment to the outcomes. The Bhagavad Gita also offers insights into different paths of spiritual realisation, such as Karma Yoga (the path of selfless action), Bhakti Yoga (the path of devotion), and Jnana Yoga (the path of knowledge and wisdom).

Relevance of the Vedas, Upanishads and The Bhagavad Gita in today's world:

The Vedas, Upanishads, and Bhagavad Gita are highly relevant in the modern world, offering valuable guidance and assistance to individuals seeking meaning, spirituality, focus, and morality. They provide an understanding of wisdom and spirituality and shape our identity. The Upanishads explore concepts emphasising self-realisation, self-liberation, and the pursuit of enlightenment. The Bhagavad Gita offers practical guidance on duty, righteousness, and self-realisation, providing a blueprint for personal growth. In today's complex world, these scriptures offer comfort, wisdom, compassion, and sustainable living. They continue to help us in deepening our understanding of human consciousness and Nature. The Vedas, Upanishads, and Bhagavad Gita are sources of wisdom, guiding individuals in their search for meaning and a balanced, ethical life in the contemporary world regardless of time and place.

In conclusion, the texts are not only religion specific but have a takeaway for every human being and the transition from the Vedas to the Bhagavad Gita represents an evolution in Hindu thought and spirituality. The Vedas have laid the foundation for religious rituals and the understanding of cosmic principles, while the Upanishads have delved deeper into philosophical inquiries. Finally, the Bhagavad Gita has emerged as a practical guide, addressing the complexities of life and emphasising duty, ethics, and the paths to spiritual realisation. Together, these sacred texts offer a comprehensive understanding of Hindu philosophy and continue to inspire individuals on their journeys of attaining spirituality and enlightenment.

Parjanya Shankar, IB

Life Lives Long

The world changes for a reason
The person you love the most
Leaves one day for a reason
The bad guys you hate exist today for a reason
And for the fact my friend
"everything in this world happens for a reason"

It's the poor who suffer for food
It's the rich who suffer for joy
It's the mother who starves to feed her son
It's you who fights the whole world
And for the fact my friend
"The world is full of problems and life...
Life is all about solving them!"

Leisha Girish Reddy, 2E

Sober Truth

Pharmacology, the science of drugs, addresses all aspects of drugs in medicine, including their mechanisms of action, both physical and chemical.

Drugs are required to prevent, diagnose, treat, or relieve symptoms of a disease or abnormal condition. However, when used excessively or without proper prescription and control, it leads to drug addiction. Drug addiction is a chronic brain disease. It causes a person to take drugs repeatedly, despite the harm they cause. Approximately 275 million people used drugs worldwide in the past year. About 13.5% of the U.S. population aged 12 and older reported using an illicit drug in the past month. Commonly abused drugs include heroin, cocaine, methamphetamine (meth), MDMA (ecstasy/molly), and so on.

While gathering information for this essay, I spoke to a few of my friends. Being 16 years old, each somehow knew more about drugs and their usage than Google could ever provide me. There is a growing trend and awareness to take action against this global threat, and it should be encouraged, as it's not just damaging our economy but also our personal lives and the people around us.

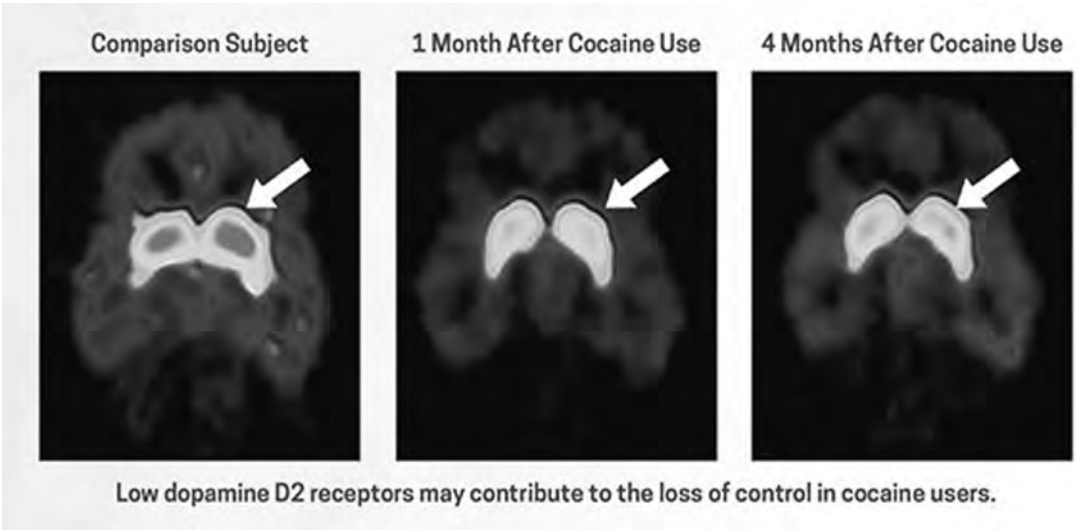
There are multiple reasons why people tend to lean on drugs and take the major risk of addiction:

1. People suffering from mental disorders like ADHD or PTSD and so rely on drugs as a means of coping with anxiety, and depression but instead end up making it worse. Living in an unhealthy environment leads to consuming drugs as an escape but we must know that drugs cause a larger side effect on our lives.

2. Peer pressure is the current increasing reason for the high consumption particularly by teenagers. In a few cases, genetics also plays a role in the chance of drug addiction.

3. Curiosity : However, the major setbacks in life due to the implementation of drugs in our daily lives are numerous. It can be dangerous and often hard to reverse such as:

a) Can lead to an increase in heart rate and blood pressure, long-term health impacts on kidney,



Low dopamine D2 receptors may contribute to the loss of control in cocaine users.

liver, heart, dental health and lungs and psychosis causing more anxiety and paranoia.

b) Can cause insomnia, reduced appetite, craving for other substances like toothpaste and cognitive issues.

c) Finance, work or social problems due to the tendency to take part in risky behaviours such as drinking and driving, unprotected sex and so on…

d) It affects the nervous system the most. The basal ganglia, prefrontal cortex and amygdala, play an important role in positive forms of motivation, including the pleasurable effects of healthy activities like eating, and socializing and are also involved in the formation of habits and routines. These areas form a key node of what is sometimes called the brain's "reward circuit." Drugs over-activate this circuit, producing the euphoria of the drug high. But with repeated exposure, the circuit adapts to the presence of the drug, diminishing its sensitivity and making it hard to feel pleasure from anything besides the drug. Drugs either mimic the structure of a natural neurotransmitter and send false signals or cause the neurons to release huge doses of natural transmitters amplifying the normal communication between neurons.

Drug Deaddiction and Rehabilitation

a. Legal Enforcement and Regulation - Governments around the world implement various rules and regulations to control drug addiction. These measures typically involve a combination of legal enforcement, public health strategies, and social services.

b. The popular rehab centers in India are Kshitij (Pune), Ananda Villa (Mumbai), Thamarassery (Kozhikode), Aasare (Ernakulam), The Chennai Rehab (Chennai), The Revive (Coimbatore) and in Karnataka-The Cadabam Group (Bengaluru) and The Revive (Mysore).

c. In India NIDA's (National Institute on Drug Abuse) mission is to advance the science on drug use and addiction and to apply that knowledge to improve individual and public health.

d. Similarly, there are multiple organizations raising awareness on drug addiction, we must all take steps to help those in need and contribute to our economy by encouraging rehab and providing hope at all points in life that they can change and we must provide support, only then will we succeed at unity and betterment of our society.

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Akanksha. S. Kattimani, IF

Sense Of Seasons

Oh, this year's summer was one that cannot be forgotten! The unbearable heat. The arid atmosphere. The parched, dry ground. The crisp rustling leaves roasted by the sun shone with its utmost glory for hours at a stretch. The warm mornings leading up to the humid and hot afternoons when the sun reached its zenith, followed by evenings that were neither pleasant nor relieving. This relentless and endless season of scorching summer seemed to last forever. Everyone hoped and wished for this harsh punishment given by Mother Nature to end at last. People quenched their thirst by indulging in chilled refreshments and precious water. It provided relief to tolerate this never-ending fury of the sun. It perhaps was indeed a stern response and warning from Mother Nature to mankind for the wrongdoings towards the environment. It is a pity that this is the bitter truth. The long dry spell of heat led to yet another alarming consequence. Water became scarce all around. Valuable and lifesaving water became even more precious and less available day by day. With no respite from the sun, this only made matters worse.

Then finally it arrived. The first shower greeted us at last. It was as if the clouds shed tears of joy just like us. The water from up above was welcomed with utmost happiness and immense pleasure by all. Oh, the sweet smell of rain! The Greeks rightly called it 'Petrichor', meaning, the satisfying natural fragrance of rain. The trickling of raindrops along the windows is a delight to witness at all times. Whether it be the calming sound of rain, or the pleasant aura it creates, rain is one of nature's greatest innovations. The long-awaited downpour filled our hearts and gave us a sense of ecstasy. How soon it made people forget what they had endured for the last few weeks! The sight, the smell, the sound, and the feeling of the initial drizzle brought a collective emotion of gratitude and thankfulness. It seemed to quench the thirst of all creatures alike. The plants relished the moistness of the damp ground and absorbed the nectar of life to their heart's content.

Then it rained and rained and rained, on and on. Now the rains are incessant. They are never-ending, and extremely relentless. There is water, water everywhere, every day. The lively shallow puddles on the paths have grown into big pools of muddy water. The small plants have been facing the brunt of the powerful downpours. People are now seeking warmth and coziness as a result of this wet, gloomy and dull atmosphere. It seems strange but very true that there is now a much-awaited wish for the rains to end. It would have seemed like such an unreasonable thought not so long ago but it is a valid one now. It is a matter of fact that these rains will end and the next season will arrive with yet another range of emotions in us and thus, the sense of seasons will continue!

Preksha Bindiganavile Krishen, 2D

7teen: Scarred for Life

A decade and a half
Four walls that laugh
Clouds for eyes
Wound and Wise
Drenched in rain of tears.

Can't reach red
Broke a pencil led
While I write my plight
As my only right
Tinnitus in my blinded ears.

Built my own cage
But barely of age
Swinging in a park
Patiently in the dark
Passion in my dreams disappears.

Shreya Murthy, 2H

When The Devil Came To India

436 confirmed kills before being shot to death. Almost a decade-long haunting of a tigress who lusted for human blood. Her attacks took place roughly between 1900 to 1907, before Jim Corbett, an Anglo-Indian hunter, tracker and author, shot the beast down. The first few kills were overlooked, keeping in mind the fact that the forests were dense with just a few scattered human habitations. It was only after the same tigress had killed over 200 people in Nepal did the authorities realize that they needed to take some serious action. In 1903 a community organized itself to drive out the offender. Although they originally intended to kill the man-eater, they failed to do so and driving it out seemed the best option, the tigress being driven into India, having to abandon her Nepalese territory in the Rupal region and move into the Champawat District of Uttarakhand. It was not very long before she started her hunting again, just in a new territory.

Not long before victim after victim, fell right under her paws.

In 1907, Jim Corbett was a young and inexperienced man-eater hunter, but he was asked to hunt down one of the most cunning, clever and ferocious beasts known to mankind. Corbett walked the forests in search of the tigress for four days before stumbling upon the 'deserted' village of Pali. As he settled down in the town square, he realized that the people of the village had been hiding in their homes. Upon talking to them, Corbett was told that they had been hiding for four days, from the tigress, from the devil. She had been roaming the roads around Pali for a week, roaring loudly in the night, waiting for her prey to come to her. But now, the people were running out of food, they had to go into the forest for some resources or the other. Hearing this, Corbett knew he had to get into action. He took one of the men from the village to tag along and headed to the location where the 434th victim was killed, finding only the remains of the bones and scraps of the young girl. Not very long after, the news of the 435th victim had spread. The kill was in the nearby Champawat, which was where Corbett decided to head next. There, he was told by the eye-witness about how the shaitaan, the devil, carried the woman in its jaw, all while she was still alive and screaming desperately for help. One day, while talking to the village head, a young man breathlessly informed him that the devil had made her 436th kill. Without wasting time, Corbett grabbed his rifle and headed towards the forest, looking for her. In the thick forest floor, he found it hard to move around as he could hear the tigress moving around, ready to pounce at any moment. As the sun began to set, the night and darkness creeping in, Corbett knew he stood no chance against her, and he wouldn't be able to fire at her quick enough, since he couldn't even see her. She was well hidden in the shadows. He decided to retreat to the village. He had to persuade the tigress into some open ground, where he could get a clear shot of her.

The next morning, he asked the villagers to stand on top of a small hill, opposite another hill, which at its foot had a small ravine. He wanted the villagers to make as much noise as possible at his signal, and attract the tigress into the open. Corbett would be stationed on the other hill, from where he would shoot her once she was within his vision. The eager villagers didn't even wait for Corbett's signal and started the ruckus before he could even climb the other hill. He hurried up, almost hurting himself in the process. The commotion had in fact lured out the tigress, her eyes wide open and ears tucked back at the amount of noise hitting her sensitive ears. Corbett wasted no time and fired, the bullet hitting the base of her back, above her tail, as she snarled in surprise and took off into the forest.

The beast had been shot, but not killed.

Corbett cursed his luck as his second shot missed to hit her, taking off into the forest after the wounded tigress. When he caught up to her, he found her low on the ground, glaring and snarling at him. She got up and pounced, ready to crush Corbett's skull with her outstretched paw, only for Corbett to shoot it. She fell to the ground, taking her final few breaths before her eyes closed, forever. Corbett was tired and relieved at the same time, he knelt down by her side once he knew she was out. Upon examining the shaitaan that haunted two countries, his heart broke. He discovered that both her upper and lower jaws were completely shattered, and in his words was "a cry against humanity".

A foolish and selfish hunter had shot her years ago, leaving back a grave wound without having the decency to finish her off but let her suffer in pain for all the years with an injury like that. The wound must have prevented her from hunting wild animals, and she resorted to prey on humans which was much easier since they weren't as fast, strong and agile as the tiger's usual prey.

Corbett announced to the citizens of Champawat that the tigress was dead. That she, the devil, wasn't coming back. The villagers wanted to destroy what remained of the tigress. Corbett understood the anger of the villagers towards her, he understood their joy, but he couldn't let the mutilation of her dead body. He managed to calm them down before handing over her body to them, which was carried through the streets of the villages to prove that the devil had been put down. It is unbelievable how one man's mistake caused the deaths of 436 innocent villagers and a tigress, terrorizing many more in the process.

It is often said that a tiger never forgets. Maybe this was her way of taking revenge. The foolish hunter was the reason behind her killings. Remembering this story, maybe we as humans, should take it as a lesson, take it as nature's fury, nature's deadliest, angriest form. However majestic the beauty of the tigress or nature, both are equally terrifying.

Diya Shetty, 2F

RV-A Place of Excellence

It gives us family of friends;
Which together can meet up all ends.

It is ever known as our second home; Where we stay as a family forevermore.

Its beautiful sky is filled with greenery and eagles so bright; Which sometimes having lunch is filled with fright;

It is nourished and flourished with skillful teachers; Who sow the seeds for our bright futures;

It balances perfectly between studies and extracurricular activities; Which enlighten our minds with positivities;

It gives our cricket and volleyball team a name everywhere; Which teaches us teamwork and skills to share.

It give us magnificent events and fairs;
Where cooperation and collaboration are there.

It s love in our hearts are never over;
Which creates bonds between us that last forever.

Dhaval Sai P.R., 1I

Dark Side of Engineering

The number of seats in engineering have been increased every year and also new branches are arising.

A few years ago, we just had Computer Science Engineering, Electronics and communication engineering, mechanical engineering, civil engineering and some other main branches.

But now we have sub branches in all of the above.

1. **Computer Science Engineering:**

- ❖ Cyber Security
- ❖ Cloud Computing
- ❖ Machine learning
- ❖ Data science

2. **Electronics and Communication Engineering:**

- ❖ Electronics and Instrumentation
- ❖ VLSI design and Tech

This has increased the number of seats in every college and hence the demand for engineers is decreasing.

We might feel that the increase in the number of seats are made for our benefit but it is actually decreasing the value.

In society everything depends on

Demand and supply: "Whenever the supply increases then the demand decreases" and in the same way the number of engineers passing out are increasing but the number of them getting placed is becoming less day by day.

In India about 1.5 million engineers are passing out every year but only about 2 to 3 lakhs of the freshers are hired in the academic year 2023.

There are many drawbacks such as:

1. **Outdated Syllabi:** Engineering curriculum in India is more concentrated towards theoretical knowledge rather than the real-world applications, practical knowledge and case studies. Most of the curriculums are relying more on textbooks.

   Teaching outdated programming languages such as Fortran, COBOL or Pascal which is no longer used in the industry. They are not introducing the new technologies which are emerging in the industry.

2. **Increase in number of colleges and seats:** Colleges are more concerned with increasing the quantity of engineers but the quality is reducing. Graduates lack practical skills and communication skills.

   Large numbers of graduates from various colleges make it difficult for the companies to find the appropriate employee and many skilled people are left out without being placed.

3. **AI Automation:** AI has replaced almost all the jobs in the IT sector.

   People need to develop new skills and keep updating themselves.

4. **No job until Masters is done:** In today's job market, there is no value for a degree until post-graduation is completed.

   This trend may increase the financial burden on students and also the entry to the work field will be delayed. There is no guarantee of employment even after masters is done, so it is a tough task to decide whether it is a good decision to choose for post-graduation or not.

These are the major reasons for the unemployment of engineers.

Challenges faced by General Merit students: The number of seats allotted for general merit students

are very less and also the cut off rank or percentile for them is too high.

But other castes have many reserved seats and quotas.

Solutions to overcome these problems are:

- By offering scholarships based on merit and academic achievement and not by caste
- By implementing interview selection rounds rather than depending on entrance exams

Even though General Merit students deserve a good branch and a good college, they miss out on opportunity because of the caste system.

Entrance Exams: Another dark side of engineering starts even before entering engineering, that is through the entrance exams. These exams which decide the aptitude of the students often become stressful while preparing for it. The number of coaching institutions are increasing because of this trend, which is the main cause of competition.

As we learn about the increasing trend of engineering and its dark side, it is essential to remember that engineering is not the only field in which we can create our career. We need to explore many other fields such as arts, humanities, BBA and many more which are equally rewarding.

It is better to create unique paths of career that suits our passion rather than going with the trend.

Nischal A S, 2H

Alchemy's Echo

In the alchemy of ancient lore,
Where mystics sought the elixir's door,
A science born of flame and flux,
From ancient texts to modern crux.

In Al-Razi's retorts, the distillation's dance,
Unveiled secrets in Arabian expanse.
From Paracelsus' remedies, a new age arose,
Chemistry's genesis, where knowledge flows.

Lavoisier, with balance keen,
Defined elements, their states serene.
Mendeleev's table, a periodic glance,
Organizing atoms, in symphonic trance.

From Faraday's electrolysis, sparks of insight,
Electric currents, in chemistry's flight.
Curie's radium, a luminescent spark,
Unveiling mysteries, in the quantum arc.

In Nobel's honor, laureates rise,
From Curie's glow to chemists' prize.
From Haber-Bosch's nitrogen yield,
To Crick and Watson's DNA revealed.
In labs ablaze with Bunsen's blaze,
Chemistry's fires in myriad ways.
From catalysts to polymer chains,
From medicines to technological gains.

From macrocosm to microcosm's fold,
Chemistry is woven, in stories told.
Of bonds that bind, reactions swift,
In the chemistry of life, a vibrant gift.

Through epochs turned, in chemistry's reign,
A legacy shaped, in each domain.
From ancient craft to modern lore,
Chemistry's history, forevermore.

Avni Vishwas, 1F

Architecture of Belur

The Chennakeshava Temple is located in the Belur taluk of Hassan District, Karnataka. It is an active Hindu temple and a major Vaishnava pilgrimage site. It is located on the banks of Yagachi River , a tributary of Hemavathi River. Belur is one among the 1,500 temples built during the Hoysala period of South Indian History. It is also known as Velur or Velapura in old inscriptions and medieval era texts. It was the early capital of the Hoysala kings. It was built in commemoration of his victory against the Chola Viceroy of Talkadu. The city was so esteemed by the Hoysalas that it is referred to as "Earthly Vaikuntha" (Vishnu's abode). One of the Hoysala kings, Vishnuvardhana commissioned the Chennakeshava temple dedicated to Vishnu in 1117 CE. The Hoysalas ruled the region for more than three centuries and to this day people from all over the region flock to the Chennakeshava Temple, Belur to admire the intricate works of art and sculpture and feel the old-world spiritual charm of the site. There is a strong tradition and popular belief in this region that the architect of this temple was Jakanachari

The entrance has a large rajagopuram and the temple sits in the center, facing the east. At its highest, the temple stands 37 meters tall and is made of Soapstone consisting of a Garbhagriha (Sanctum), a Sukhanasa (Vestibule) and Navaranga. The ground plan of Garbhagriha is star-shaped. The Navaranga pavilion is a large hall with beautifully designed and polished pillars and ceiling. Its outer walls are adorned with finely done artwork, with dancing girls in various postures. Narasimha, Mohini, and Lakshmi pillars are very attractive among the pillars of Navaranga. The Mohini pillar is one of the finest specimens, the pillar is cut vertically on a sixteen-pointed star plan. Other than the female avatar of Vishnu, the pillar has eight bands of carvings, including those of Brahma, Vishnu, Shiva, the ten avatars of Vishnu, the eight direction deities, mythical animals with the body of a lion but the face of other wildlife. The Narasimha pillar is another popular pillar of this temple. It is carved with miniature figures from top to bottom, such as a tiny bull (kadale basava). The local legend states that this pillar once could rotate because of how it was supported, but it no longer can be rotated. The central square of Navaranga has 4 pillars decorated with madanikas. The four central pillars are notable

for having been hand carved while the others were lathe turned. The main temple is called Vijaya-Narayana and the smaller temple next to it built by his queen Santala Devi is called Chennakesava in the inscriptions of his era, but these two temples are now called the Chennakesava temple and Chennigaraya temple respectively.

On the exterior, the walls have a Jagati platform sculpted horizontal, row of friezes comprising elephants, cornice surmounted by simhalatas or lions, small female figures in ornamental niches etc. The walls of the front part of Navaranga have screens that are sculptured with puranic scenes and durbar scenes of King Vishnuvardhana. The pillars have popularly known sculptures namely Darpasundari, Shukhabhashini, Natya mohini etc. The outer face of the walls of the Garbhagriha and the Antarala has been adorned with beautiful sculptures. Attached to the outer wall of Garbhagriha are three elegantly executed chariots containing Vishnu images facing cardinal points. The sculptural depiction of Vishnu as Lakshminarasimha, Varaha, Narasimha, many more. Shiva as Harihara, Nataraja, Surya Lakshmi, Kali, Durga, Bhairava and so on, are considered as the best representation of Hoysala Sculptural Art.

Undoubtedly, The Chennakeshava Temple occupies a distinct place among the architectural wonders of India. The importance and cultural contribution of the Hoysala Dynasty to Karnataka is immense. A visit to this vibrant state is incomplete without witnessing the scale of architecture, details and innovative styles of the Chennakeshava temple.

Surabhi Ramachandrapura Suresha, 1I

Gut-The Second Brain of our Body

The study of gut health in recent times is under the spotlight. Research has proven that the brain and gut are intertwined and can affect mood, cognition, and behavior. When a person suffering from diarrhea, stomach pain, and bloating can experience mood fluctuations. The second brain or the gut - called the enteric nervous system, along with the brain is responsible for such connections. The enteric nervous system's main role is to control digestion - from swallowing, to the release of enzymes. Constant communication is seen between the big brain to the enteric nervous system. This connection is due to the nerve signals, gut hormones, bacteria, and gut microbiome that live in the digestive system.

The gut microbiome plays a crucial role in the gut-brain connection. It is involved in neurological, mental, and functional gastrointestinal disorders. The gut microbiome produces several neurotransmitters that convey messages between the gut and the brain. The brain may also affect the functioning of the gut microbiome by changing the environment. The gut microbiome can affect almost every organ.

Therefore, we must maintain good gut health as the gut influences the immune system, mental health, sleep and digestion, and many other activities. Our lifestyle and the food we eat have immense effects on our gut. We must make sure we eat food rich in nutrients and those which help in the growth of good bacteria which in turn help in the overall physical and mental wellness of the body.

Dyuthi.K, 2D

The World of Music

Step into the enchanting world of musical instruments, where melodies and harmonies come alive through extraordinary creations. The instruments possess a remarkable ability to capture the essence of human emotions, allowing us to embark on a musical journey that transcends language and touches the depths of our souls. From the delicate whisper of a flute to the thunderous roar of a drum, each instrument holds a unique power, capable of evoking emotions and painting vivid sonic landscapes.

Dayanand Saraswati once said, "Though music transcends culture and time, and though notes are the same, Indian music is unique because it is evolved, sophisticated and the melodies are defined". When we hear the word 'music', we think of various forms of music like pop, rock, metal, rap. Indians may think of Hindustani classical, Carnatic classical and so on. But how often do people think about the instruments used while singing, which increase the beauty of the song?

Musical instruments compliment vocalists and are a magnificent piece of art. Also, they can be quite sensitive and fragile needing precautions while handling them because falls and jerks may damage them. Other factors like improper care, exposure to cold and/or hot temperatures or moisture during the monsoons and dust can harm the instruments. This is why special cases, boxes or covers are also manufactured for every instrument.

Like the different types of musical forms, there are various kinds of instruments in Indian classical music. Some of them include the Wind instruments, the Thaala instruments and the Metallic instruments. The wind instruments depend on our mouth and breath control. The Thaala instruments are played by the rhythmic tapping of our fingers.

One of the wonders of the musical world includes the clarinet, an instrument which is adapted from the western music. This instrument was introduced into a dance band in the 19th century by an ancestor of the Thanjavur Quartet, Mahadheva Natuvanaar.

The clarinet resembles the Indian Naagasvaram in physical appearance, consisting of a mouth hole, tubular body, keys to play notes and a typical bell shaped bottom. It is one of the most popularly used instruments on many occasions.

It also has a wide range, capable of playing three octaves or more. Its cylindrical bore and unique key system allow for a diverse tonal and expressive range, making it a versatile instrument suitable for various music genres, including classical, jazz, and folk.

This enchanting instrument has been played by many notable musicians throughout history. Benny Goodman, considered the "King of Swing," popularized the clarinet in jazz music during the 1930s and 1940s. Other renowned clarinetists include Artie Shaw, Sabine Meyer, Richard Stoltzman, and Martin Fröst.

One can perceive music as the doctor who cures while the instrument becomes the stethoscope that touches our heart and soul.

Aarna A M, 1F

The Forgotten Fastest Method of Communication

Prior to the mid-nineteenth century, the predominant mode of communication in India was through the medium of written letters. These letters were transported from offices to coal-powered trains, subsequently delivered by couriers to their intended recipients' homes, a process that could span several weeks. The advent of electricity precipitated significant advancements and innovations, among which was the invention of telegraphs in the early nineteenth century.

Telegraphs emerged as the swiftest method of communication upon their inception. A telegraph operates by transmitting electrical signals across stations via wire, facilitated by a transmitter and receiver. The transmitter, also referred to as the telegraph key, features a switch-like knob. Upon activation, this knob closes the circuit, thereby establishing contact with the base. The receiver, equipped with an electromagnet, initiates the movement of an armature connected to an ink roller upon receiving an electrical pulse. This motion results in the marking of a strip of paper with ink. Telegraph messages were conveyed by the transmission of electrical signals through wires established between stations. Additionally, Morse code was developed, assigning a sequence of dots and dashes to each letter of the English alphabet, thereby enabling the transmission of complex messages across telegraph lines. Operators were responsible for decoding Morse code into English and relaying the message.

The inaugural experimental telegraph line in India was inaugurated between Calcutta and Diamond Harbour in 1851. In 1854, the first telegraph line open to the public was built from Calcutta to Agra, covering 800 miles. The first telegram was sent on that day from Mumbai to Pune. A large number of telegraph lines were laid in the following years.

Messages communicated via telegraph were known as telegrams and were received by individuals either by the end of the day or within a few hours. This service was both eagerly anticipated and feared by the populace, as it facilitated the transmission of urgent news, whether positive or negative, including births, deaths, graduations, marriages, or significant business transactions. The telegram, or "Taar" as it was commonly referred to by the Indian populace, became the favored mode of communication. Initially, telegrams were often associated with ominous or distressing news, particularly concerning death, yet their utility for all types of messages gradually became the norm.

In the early years, the cost of transmitting a telegram over distances exceeding 400 miles was one 'anna' per word or one rupee for every sixteen words. Subsequently, the rates were adjusted, and the sender would be billed for a predetermined number of words. Over the ensuing 150 years, the cost of telegram transmission escalated to Rs 50 for fifty words. As individuals grew weary of the laborious task of composing lengthy messages, innovative codes were introduced to facilitate the communication of common phrases prevalent among the populace. These codes employed straightforward numerical representations to convey sentiments of congratulations or condolences, such as '1' denoting 'Heartiest Diwali greetings' and '8' signifying 'Best wishes for a long and joyful life.' By paying an additional fee, senders could ensure that their telegrams were dispatched on uniquely illustrated forms and adorned with vibrant envelopes.

The Indian Telegraph Act of 1883 was enacted to confer upon the Central Government the authority to lay telegraph lines across both private and public

domains. At the time of its enactment, India was under the dominion of the British Empire. Over the ensuing thirty years, the telegraph emerged as a pivotal tool for the British in upholding their control over India by quelling rebellions and acquiring vital information. Consequently, it was of paramount importance for the British to maintain supremacy over telegraphic infrastructure across the subcontinent.

The popularity of telegrams experienced an exponential rise, with a broad spectrum of individuals adopting this mode of communication. The advent of telephones did not detract from the telegraph's widespread adoption. From the 1950s to the 1980s, approximately one hundred thousand telegrams were transmitted daily, representing the peak of telegraphic communication. Nonetheless, with the advent of the telecommunications revolution in the 1990s and the proliferation of mobile phones, the use of telegrams witnessed a precipitous decline. By the late 2010s, the utilization of telegrams had significantly diminished, culminating in the telegram's relegation. The final telegram dispatched in India occurred on July 14, 2013.

Jishnu P S, 1 B

GENESIS

"One condones their own folly, a false hope, for the sake of gratification."

With cupped hands, I hold water. I watch it flow through the crevices of my hands. After my many futile attempts of holding it, I forgo.

A future I can seldom see, it doesn't remain stagnant in my hand either. But, I so keenly remain a convict of my mind, disturbed by the mosaic of my failures. We live in the confinement of fear. It drives us to the ledge everyday. It is a mere disguise- what you are. The gilded giant ball rises and sets, leaving behind nothing but a ray of yearning in each one of us. The mirror on the wall shows nothing but a crooked reflection screaming in the language of the dead, a puzzled air surrounding us. Why of this? What of this? We ask ourselves, a question none can answer.

Surrounded by people with a sharper insight than I, praying that one day I share their power. Will I ever succeed? The silent hint of malice dwells in the back of my mind. Every wrong choice I make, I would indeed live the bluebeards tale, leading the devils astray.

With a boulder on my shoulder, I am Sisyphus myself. The quote "one must imagine Sisyphus happy" is only a lie we were once told. How does one find happiness in a meaningless and an endless task if he has never achieved his end goal? The world is only an isolated place with scattered thoughts. If living meant putting it together, the struggles one faces is unnecessary. Its fate we cannot escape. I plunge to the deepest depths of my abyss, I mourn myself in solitude. I reason my figures with a higher power residing planets and light-years away. He passes judgement saying I am wrong, but I stubbornly refuse to accept that. I feel a tyrant taking over me part by part and all that will remain of me is dust and embers.

Living under prejudice is equivalent to living in another fool's paradise. One makes a loud noise, telling me their significance, but he's only a half an atom summed up in the whole universe. If a caterpillar knew what of its existence, it would not want to come to be.

And when the day ends and it's nightfall, I will learn, I will learn, I will learn...

D Tejaswi, 2H

Bubbles, Boxes and Bad AI Products

I was watching an old YouTube video from a channel I used to watch about a decade ago. The video was about music... it's not really important but what interested me was its take on auto tune in songs. It wasn't just this video but half of the internet back in the early 2010s hated the use of auto tune. The most common criticism of it being that it was soulless and therefore made the music soulless because whoever used auto tune clearly had no talent.

But how can auto tune, or any tool for human musicians bring or take away soul. I also wondered why people didn't hate on auto tune when it was used in songs with, say, good writing and good production? Did these elements balance the soulfulness?

I was watching the making of a song called 'Now and Then' by the band, The Beatles and how it was made from using AI to isolate the vocals from a cassette tape from the '70s because the vocalist had unfortunately died in 1980. The song was great and people liked it. Some didn't like the fact that it used AI but those people were few and far between.

After all, the Beatles were always innovating new techniques to record and play music so the use of modern technology for one last song felt natural.

These experiences made me wonder: do things like auto tune and AI make art bad?

Or does bad art make auto tune and AI stick out like sore thumbs?

Let's talk about auto tune first: really, it's only bad when you know it's being used. There are plenty of songs that use auto tune and benefit from it. Sometimes auto tune even gives the music its own style, its own identity

so clearly, and quite easily, we can come to the conclusion that autotune is not inherently bad.

Let's tackle AI now...

For the last few years, AI seemed like it was the way of the future! Humanity's biggest convenience since smartphones. Now, AI hasn't been a new term like cryptocurrency or NFTs. It has been around since the '50s. I'm sure you've heard 'AI' being thrown around in commercials since you were a child:

'Google uses AI to predict what you're about to search on chrome' et cetera, et cetera. But by 2022, AI has taken a new-ish meaning. Now AI was apparently almost at the level as it's shown in Sci-Fi movies. It could do your math homework, it could talk to you as if it was your friend, it could make art in just a few seconds, it would have the ability to make videos by next year, it could even do your physics homework if it wasn't too difficult.

and thus, the AI bubble had been blown. It was about this time that the NFT and crypto bubbles had burst and nowadays most people know to not buy into NFTs and most people knew what crypto coins were legit and what weren't. but the AI hype train didn't look like it could stop anytime soon.

The year is 2023, people are using AI art to make fake Pixar film posters and the internet is having some lighthearted fun. Chat GPT is a lot more advanced than it was last year and AI videos are out... and they are horrible. Now to be fair, AI art was still horrendous but we were told it would get better the more we used it. We were told the same for AI generated videos and hey, maybe they will get better.

Should they get better? I mean if they do, what's going to happen to human artists who put actual effort into work? The AI industry is so huge, unlike NFTs this concept can really ruin us in the future.

these were the questions we had going into 2024- basically, how big can the AI bubble get and when is it going to pop?

The month is April, 2024 and a new AI product called the Humane AI pin is released. You either know what it is or you haven't heard of it. Famous tech reviewer Marques Brownlee reviewed it on YouTube and the video went viral. The product was a $700 app in a small box with no touchscreen that radiated an aura of wanting to be bought out by a big tech company. Unsurprisingly, the reviews were, to say diplomatically, unkind. And this type of product wasn't an isolated incident. Many other AI in a box product were released and performed as badly as you would expect.

Later this year in June, Apple's WWDC (WorldWide Developers' Conference) gave AI defenders a much needed reality check by revealing Apple Intelligence. They treated AI generated responses and images as a feature instead of a product, a convenience instead of a solution. Just the way AI was treated by tech devices all these years. Even before Apple, Samsung had collaborated with Google to add AI features like better enhancing photos, filling in backgrounds and giving better summaries on topics you've searched.

After all is said and done I think it's safe to say that the AI bubble, though it hasn't popped, hasn't been getting bigger in the last half a year. AI art is mostly appreciated by confused old people who use Facebook, AI videos haven't been getting better, really AI music is the biggest problem we face and that's mostly concentrated in Spotify.

The only question remaining is this: is AI art inherently bad?

I think, the use of AI for art (isolating vocals, giving reference for paintings) can be done well but saying AI generated images are art is, well… stupid

AI is best when it's a feature. When it's a product, there is no place to insert a soul. AI is like a taxi driver; I can only give it instructions. I can't control whether it crashes into a tree or not.

Dheemanth J, 2G

Tinted Souls

Oh God, why Lord,
Is it hard to find
A smiling, tinted soul,
Among those of monochrome,
Whose speech befriends a growl.

Their eyes boast of
The frown they own
And wear it like a crown,
In front of those
Named as foes,
Sinking them in woe.

There are some who shine,
With their minds,
Filling friends with awe.
But God knows the unseen those
Are inhumane and vain.

Oh my god, where are they,
Those people loved by you,
Whose souls are coloured,
With gleaming 'kindness'
A rare superior hue.

Which cares not,
Whether money overflows our purse,
It cares not,
Whether our wit is worth its touch
It cares not
Whether we're stamped with glory,
Meet courtesy, a pal of humanity.

Hence, God, I pray thee,
Help me paint my soul,
And become your beloved,
And try to change the world.....

Induja.M, 1J

Mental Health and it's Awareness

Mental health awareness and attitudes have undergone significant changes over the decades. From the Baby Boomers to Generation Z, each generation has confronted unique challenges and advancements in mental health. This article examines these generational shifts and the progress made in understanding and supporting mental health.

Baby Boomers (1946-1964)

Attitudes and Awareness: For Baby Boomers, mental health issues were often cloaked in stigma and silence. Mental illnesses were poorly understood, and seeking help was stigmatized. The societal attitude was one of denial or minimization, with mental health rarely discussed openly.

Support and Treatment: Treatment options were limited and largely institutional. Psychiatrists and general practitioners primarily managed mental health, often relying on medication and institutional care. Support was typically family-based, with minimal public or community resources.

Generation X (1965-1980)-

Attitudes and Awareness: Generation X witnessed the beginning of a shift in attitudes toward mental health. While stigma remained, there was growing recognition of mental health issues. Media portrayals of mental health became more frequent, though often inaccurate or sensationalized.

Support and Treatment: The era saw the advent of more sophisticated psychiatric medications and the expansion of psychotherapy. Community mental health services began to grow, though they were still emerging and not universally accessible. Support systems started to include more structured programs and support groups.

Millennials (1981-1996)

Attitudes and Awareness: Millennials brought significant changes in mental health awareness. The rise of digital communication and social media played a pivotal role in normalizing mental health discussions. Public figures and celebrities began to share their experiences, fostering greater openness and reducing stigma.

Support and Treatment: There was a marked increase in mental health resources, including online therapy services and wellness apps. Schools and workplaces began integrating mental health programs and support. Despite these advances, issues of access and affordability persisted, and stigma remained in some sectors.

Generation Z (1997-2012)

Access and Awareness: Generation Z is distinguished by its openness and proactive stance on mental health. Social media platforms have become crucial in promoting mental health awareness, providing support, and reducing stigma. Young people are more likely to openly discuss mental health issues and seek help.

Support and Treatment: This generation has access to an extensive array of mental health resources, including teletherapy, mental health apps, and online support communities. Educational institutions increasingly offer mental health services and wellness programs. Despite these advancements, Generation Z faces high levels of anxiety and stress, often exacerbated by academic pressures and the pervasive influence of social media.

Generational Comparison

Stigma and Openness:

- Baby Boomers: High stigma, limited openness.

- **Generation X:** Decreased stigma, emerging openness.
- **Millennials:** Significant reduction in stigma, growing openness.
- **Generation Z:** Minimal stigma, high openness.

Access to Resources:

- **Baby Boomers:** Limited resources, primarily institutional.
- **Generation X:** Expanding access and more community-based services are needed.
- **Millennials:** Increased access, including digital platforms.
- **Generation Z:** Broad access, and extensive use of digital resources.

Challenges Faced:

- **Baby Boomers:** High stigma, lack of awareness and support.
- **Generation X:** Transitional phase with emerging resources but lingering stigma.
- **Millennials:** Balancing increased awareness with accessibility and affordability issues.
- **Generation Z:** High stress and anxiety despite extensive resources.

Impact of Technology

Technology has revolutionized mental health support. Online therapy platforms, mental health apps, and social media communities have made seeking help more accessible and less stigmatized. These tools offer anonymity and convenience, aiding in the reduction of barriers to treatment.

Challenges of Technology

While technology has facilitated access to mental health resources, it also presents challenges. Social media can contribute to stress, anxiety, and cyberbullying, with pressures to maintain an idealized online persona potentially impacting mental well-being.

Conclusion

The evolution of mental health awareness and support across generations reflects significant progress. From the stigma and limited resources of the Baby Boomer era to the openness and extensive resources available to Generation Z, there has been a notable shift in understanding and addressing mental health. Each generation has faced unique challenges, and ongoing efforts are essential to ensure that mental health support remains accessible, affordable, and effective for all. As societal attitudes continue to evolve, future generations are likely to benefit from even greater advancements in mental health care.

D Arpitha, 2J

The Guru

A gentle hand, a guiding light,
To make us see a far sight.
They open doors, pave a path,
To the realms of knowledge, day by day.

The limits we put, are pushed beyond,
By the people, who are profound.
They plant the seeds, with patience and care,
To make us grow, with grace and dare.

They're more than teachers, more than guide,
A shining beacon, by our side.
Challenge us, to reach more and more,
To climb great heights, and explore.

As a grateful student, I thank by heart,
For all the lessons and motive you've impart.
You're wisdom's flame always burns,
As in my soul, your teaching runs.

Namish G Holla, 1H

Goodbye Gift

We were driving further and further away from the city. The fluorescent lights were replaced by the ever-burning, twinkling stars. It was as if the skyscrapers were growing taller and taller till they reached high enough to break free of these earthly chains and became stars to be wished upon. My wish is to see this every night.

"We're here." I turned and saw his smile. That smile. The smile which made me believe that he could never be wrong. The smile which got us into trouble since we were four. The smile that almost always convinced me that everything was going to be alright. Almost.

"Are you sure this is a good idea?" I asked.

"As sure as the fact I'm six and a half minutes older than you."

"What if Dad finds out? He'll be super mad."

"Don't worry your itty-bitty head, I'll handle it." I gave him a skeptical look.

"Come on Sam," he whined, "it's my last day here and I want to do this. Pleeease." He looked at me with those puppy eyes. I could never say no to them, no matter how many times they got me in trouble.

"Fine, let's go." He was going to convince me eventually, might as well save time and agree now. He smiled again, like he was seven and had just bought an entire candy store.

I unbuckled my seat belt and got out of the car and started walking towards the wall. We had to sneak in lest the guard alerted Dad about our late-night excursion. I reached the "entrance." It was where the wall was closer to the ground due to the uneven terrain and poor planning. Dad had fired the architect as soon as he found out about it, but the damage was already done. And now it served for our trespassing.

I found the first foothold in the wall and started climbing. I reached the top and leapt. I stepped forward and heard a soft thud behind me. I turned around and he'd already straightened himself out. I'd never cease to wonder how he could be so stealthy and graceful without even an ounce of effort.

We walked toward the clearing. Our path was the gaps between the trees, littered with roots and leaves that crunched with every step. That was why Dad hadn't bothered to fix the wall. The trees hid the imperfection well and that was all that mattered to him.

The clearing was just as it's always been, half an acre of land with unkempt ankle-length grass, which separated the farmhouse from the forest. It was where the crickets and cicadas conducted their orchestras, where peacocks would stretch their tapestry of feathers and sunbathe. Where rabbits would come seeking solace from the cruel jungle, where sometimes sly foxes would cautiously venture. Where a piece of my soul would always reside.

"We've never been here this late." His voice scattered away the thoughts of peacocks and foxes.

"Dad never let us."

"Well Sam, Dad's not here now." There was a hint of resentment in his voice but I didn't want to read too much into it.

He stepped out into the clearing and held his hand out to me. I took it. I always felt different when I stepped into the clearing. Freer, calmer, safer, like as long as I was there, I would be free of these mortal chains, like the burdens of the world could wait. But his impatient hand tugged me back to reality. He was looking up at the sky with awe and reverence. He only looked at planes and jets that way. I looked up too.

The stars.

They were everywhere. Everywhere. I could count all the stars I've ever seen in my life and it wouldn't even be half of this. The sky looked like a black canvas with silver paint splattered all over it, there was barely a square inch of black abyss visible amidst the million twinkling specks.

"Wow," I heard him breathe beside me, "ever seen anything like this, Sam?"

Never, and I don't think I ever will. You're going to be up there after tomorrow."

"Yeah, jealous?"

"You wish."

I was jealous. Not of him, but of the sky which would keep him away from me for probably the next five years of our lives. I've barely gone half a year without seeing him, how am I supposed to survive for five years? Will I be able to survive? What if-

"Hey look, fireflies." His voice pulled me out of my spiraling thoughts.

There were fireflies, tons of them, emerging seemingly out of nowhere, with their flickering, yellow lights. Fluttering about drunkenly, without aim or destination, not at all like the meticulous honey bees in Mom's Garden.

He'd caught one in his hand and held it out to me. Amber light was spilling out of his cupped hands from the helpless creature caged between his fingers. He opened his palms and his prisoner slowly flew out, as if unsure of its freedom.

"They belong here, Sam, this is where they're meant to be. It'd be cruel to cage them elsewhere." He said, staring at his escaped prisoner, buzzing about happily.

"I know. You can't keep them forever, can you?"

No matter how much you want to, no matter what you're willing to give up.

"This is the best goodbye gift anyone could ever ask for," he said, turning to me. His eyes were shining with unshed tears. I could see my own sad smile mirrored in them.

"Goodbye, Sam."

"Goodbye, Sid."

Tanishka Manjunath, 2F

Hamaari Laado

[Context:In September of 1986, a tragedy occurred on the grounds of Karachi as the flight on board from Mumbai was hijacked. Over 20 innocent souls lost their lives.

Among them was 22-year-old Neerja Bhanot (AKA Laado) who was shot multiple times on her back while rescuing three unaccompanied children.]

Why did you harm her?
She was our armour
She could have chosen her
But she chose us
It was Pan Am 73
When she chose to be
The hero of thousands
Just two days before her birth anniversary
Her parents had to see her bury
She saw you arrive
And take away many lives
All she ever did was try to protect us
But you did not let her survive
She was not just beautiful
She was skilful and dutiful
She never gave up her oath
She is Neerja Bhanot

Rishita Prashanth Wazarkar, 1B

A Wave of Happiness

Behind every happening, there is a cause. Due to the cause, we have the action. Every life on earth similarly has a purpose, a singularly focused motive, to achieve a transcendental state of pure and unending happiness or bliss.

In today's busy world, we often forget the need to smile. Chasing one goal after another we never stop to just breathe in and appreciate the simple joys of our life. Looking at the bigger picture, and creating far fetching goals, people have begun to change the motive of living. It's living for money, fame, and ambitions now. It's not wrong, just stressful, and unhealthy. Most people don't even understand, nor do they try to comprehend that life's purpose is to enjoy the simplest of pleasures.

Eternal happiness is the goal of life. Every person tries to achieve this, but most don't understand that eternal happiness is not the same as external or material-based happiness. External happiness is what you experience when you get an A+ on a test or get a promotion at work. Eternal happiness is what you feel when you feel a soft breeze with the sweetest smell of rain. It's not overpowering, it can be easily ignored but if you pay attention, it gives you such a refreshing feel. That is what eternal bliss is! Eternal because it cannot be achieved, purchased, shared, or given. It can only be felt, it is a type of happiness only you can feel, it is yours and yours alone. It is indivisible which is why it is the most innocent and fulfilling of all types of bliss.

External happiness is like a line that you can only touch occasionally. It can be achieved only when an external effort is put forth. It is dependent on someone else. You may have worked day in and day out, but the cause of achieving this external happiness is not in your hands. To be able to achieve eternal happiness, you must recharge yourself by feeding on all sources of eternal happiness that you can. Then your life would be truly blissful.

Imagine, it's raining outside, and you have a few spare minutes. Sitting at the window, with a blanket over your feet, reading a light novel, munching on some cookies, or sipping hot coffee. That feeling is eternal. So precious, so unending. Humans desire that. Freedom from stress, from daily problems. It sounds so simple, but it has the power to refresh the soul. You come home exhausted, and you are welcomed by your overly excited dog, what you experience, that sudden change in mood, that is true happiness. When you hear music and find peace after a long day, that sensation of calmness and belonging, that feeling is the true goal... the true aim of life, to be in a state of immense self-satisfaction and pure joy. That is the meaning of being eternally happy.

Our body will vanish one day, and so will our name from the memories of those whom we love. The only thing we have is every moment and every second of our life. That is our one possession, the one thing we have. Every second we waste, it's one moment that's forever lost. We don't know how long we'll last, so let us try to make every single second count.

It is not so hard. Eternal happiness is easily achievable. When your mother returns home from work, greet her at the door with a hug. You've given her some eternal happiness; you've felt some yourself. Take a walk outside or just feel the cool breeze on the balcony. You've found some happiness. Just plant some flowers or do some gardening, write a poem, or tell yourself a joke, it's all going to give you some happiness, some eternal happiness.

Once you realize the point of life is not to attain paradise but to create paradise, once the aim changes from gaining joy to creating joy, your life becomes truly happy, and you finally reach a state of pure and unadulterated satisfaction. Happiness lies within us, around us and all we must do is reach out and touch it.

Spoorthi Naveen, 1A

Indian History with the Olympics

The evolution of India's presence in the Olympics is a captivating narrative of transition from historic domination in field hockey to diversified prowess across multiple sports disciplines. This transformation highlights the determination of Indian athletes to excel on the global stage, despite facing numerous challenges.

Shifting Paradigms: From Hockey to a Multidisciplinary Force

India's early Olympic success was predominantly centred around the field of hockey. The golden era from 1928 to 1956, during which India secured six consecutive gold medals, remains unparalleled in the annals of Olympic history. This period saw icons like Dhyan Chand emerge as legendary figures, whose prowess on the field captivated the world.

A New Millennium: Diversification and Breakthroughs

The dawn of the 21st century marked a significant shift in India's Olympic journey. The nation began to see success across different sports, breaking the longstanding singular association with field hockey. This diversification was spearheaded by trailblazers who inspired a generation of athletes to dream beyond convention.

1. Shooting:

Abhinav Bindra: Bindra's gold medal in the 2008 Beijing Olympics in the 10m air rifle event was a watershed moment for India. It was the country's first individual gold, demonstrating that Indian athletes could excel in precision sports.

Other Notable Shooters: Rajyavardhan Singh Rathore's silver in the 2004 Athens Olympics and Gagan Narang's bronze in the 2012 London Olympics further established India's reputation in shooting.

2. Boxing:

Vijender Singh: His bronze medal in the 2008 Beijing Olympics was a pioneering achievement for Indian boxing, inspiring many young boxers.

Mary Kom: The six-time world champion's bronze in the 2012 London Olympics solidified her status as a boxing legend and brought significant attention to women's boxing in India.

3. Wrestling:

Sushil Kumar: Sushil Kumar's bronze in the 2008 Beijing Olympics and silver in the 2012 London Olympics heralded a new era for Indian wrestling.

Sakshi Malik: Her bronze medal in the 2016 Rio Olympics was not just a personal triumph but a milestone for Indian women in wrestling, encouraging greater participation and interest in the sport.






4. Badminton:

Saina Nehwal: Nehwal's bronze medal in the 2012 London Olympics was a significant achievement for Indian badminton, marking the sport's rise in the country.

P.V. Sindhu: Sindhu's silver in the 2016 Rio Olympics and subsequent victories have established her as one of the world's top badminton players, bringing global attention to India's badminton scene.

5. Athletics:

Neeraj Chopra: Chopra's historic gold medal in javelin at the 2020 Tokyo Olympics marked a monumental achievement for India in athletics, highlighting the country's potential in track and field events.

Tokyo 2020: A Landmark Achievement

The Tokyo 2020 Olympics, held in 2021 due to the COVID-19 pandemic, was a milestone for India. The country achieved its best-ever Olympic performance, securing a total of seven medals. This included Neeraj Chopra's gold, two silver medals in weightlifting and wrestling, and four bronze medals across badminton, boxing, wrestling, and men's field hockey. The bronze in men's field hockey was particularly poignant, ending a 41-year wait for an Olympic medal in the sport and rekindling memories of the golden era.

Challenges and Aspirations

Despite the recent successes, Indian athletes continue to face significant challenges. The infrastructure for sports remains underdeveloped in many regions, and access to world-class training facilities is limited. However, initiatives like the Khelo India program and increased investment from both the government and private sectors are beginning to address these issues. The emergence of sports academies and leagues has also played a critical role in nurturing young talent.

Inspiring the Future

The achievements of contemporary athletes have not only brought glory to the nation but have also inspired a new generation of sports enthusiasts. The likes of P.V. Sindhu and Neeraj Chopra serve as role models, encouraging young Indians to pursue careers in sports. As the country continues to build on this momentum, there is growing optimism that India will emerge as a formidable force in future Olympic Games.

Conclusion

India's journey in the Olympics is a rich tapestry of historical dominance, remarkable individual achievements, and burgeoning multidisciplinary prowess. From the golden era of field hockey to contemporary successes in diverse sports, Indian athletes have consistently demonstrated resilience and excellence. As the nation continues to invest in sports development and nurture young talent, the dream of seeing India as a leading Olympic contender is increasingly within reach.

D. Arpitha, 2J

THE GEN Z PEEPS

(BORN ERA:1997-2014)

"Hard times create strong men, strong men create good times,

good times create weak men, and weak men create hard times."

The only generation where there is better technology, information, and lifestyle yet the one where there is no true bonding, trust, loyalty, responsibility and especially love.

People in this generation are of two types: old-school lovers who are slowly being influenced and others who are of the typical Gen Z type, who take everything to be easygoing and cool. Reliability in this generation has become difficult. One considers a thousand times before choosing among the above two types.

Waking up at noon, having brunch at 1 p.m., gaming at 2 p.m., scrolling and sharing reels the entire night and if anything seems contra distinct, getting into depression has become the lifestyle of the youngsters. People have tagged this generation to be the one with no purpose, no seriousness, mental issues and the one with existential crisis.

Love:

An amazing feeling where people commit to each other, but now it's replaced and has become a bagatelle. It's more of a hook-up culture now. The Gen Z does it differently: attraction to infatuation, dating to relationship, breaking up to patching up, benching to ghosting have become everyday doings.

Old-school lovers crave red roses, long-eye stares, deep talks, handwritten letters and the ability to understand a person. Now it is replaced by red flags, ignorance for long durations, stalking profiles, dry texts and the inability to understand the opposite person. The long hugs, those without bad intentions are replaced by cruel physical touches.

The motto that they follow is to find the right person who can match their wavelength. Until then, they follow a trial-and-error method which involves changing their partners constantly.

Gen Z spend most of their time on social media while very few spend it doing efficient and productive work. They expect the millennials to think like them in every aspect but when the millennials try to do so, it annoys them.

Competition:

Gadgets have taken the place of books. The screen time has increased and even exceeded. In this competitive world, it's been an arduous journey to grow as better citizens. The only way to succeed is by being concentrated and undistracted. There are many opportunities created because it's a hard task for the Gen Z to choose the one which would get them to succeed easily. This has got them stuck and is leaving their brains puzzled and do not know what to do next. They experience major anxiety, depression, and trauma.

Firstly, according to a 2019 study, published in the Journal of Abnormal Psychology, between 2009 and 2017 depression rates increased more than 47% among adolescents, 60% among teens and 46% among young adults, which has led to many suicidal cases.

Secondly, according to the report given by the Centers for Disease Control and Prevention (CDC), 6241 suicidal cases were registered in the year 2017, which majorly had their ages ranging between 15 and 14. Therefore mental stress has been greatly affecting people. While one should agree that this is the worst, shouldn't we pity ourselves for experiencing this type of trauma?

No, the reasons for anxiety and depression are the ones which make it worse. Kids of this generation

barely visit and spend time with their grandparents, rarely get off their beds and play outdoor games. They have forgotten face-to-face interaction. It's scientifically proven that through exercise, physical fitness and any workout, there is neither anxiety or depression because it gets the person completely involved in it and distracts them from any other traumatic thoughts.

Health:

The rate of sale of junk food has been increasing ever since this generation started. Healthy foods are replaced by fly-fed street and junk foods. Gen Z competes with all efficiency only to fall sick and get diseased. Surveys say that nothing is worse than getting work done by them. According to a recent study of 1300 managers, three out of four agree that it's more difficult to make Gen Z work than other generations, so much so that 65% of employees expressed they have to fire them more often. The biggest difference in Gen Z is that of professionalism. They cannot have direct personal conversations and hesitate to speak in public, as most of their conversations take place through texts and messages. There is the highest unemployment among the Gen Z. The approximate population of Gen Z is 2 billion where the workforce is 30% but by the year 2025, there are chances that there may be a fall in the workforce to 27%.

Addiction:

Few people keep scrolling, while few others play games online the entire day. Some fill their lungs with smoke, while others intoxicate themselves and live in a different trance and forget which generation they belong to. Of course, addiction existed in the previous generations too. But they were afraid of getting caught and eventually let go of them and took care of themselves and excelled in their work. Gen Z, there is no concept of deleting these addictions, but continue to worsen their career, health, and life.

The best part is that this generation has complete freedom and utilizing this in the right way is in their hands. These teens are the next youth and in turn, the power of this beautiful nation. It's up to Gen Z kids to adopt the right ways of becoming successful and living meaningful lives. Let the hard times create strong men.

Manya Shree M, 2D

Place I Need To Go

We work our way till we reach,
Though we fail,
And beseech ,
We fail to learn ,
Why we need .

Ups and Downs
And full of pain
Sleepless nights and
Sorrow fate
Just to reach ; where we need.

In the quiet hours before dawn's first light,
Where stars still shimmer in the silent night,
Our pen etches dreams and fears,
On pages filled with hopes and tears.

At last, when we reach,
the journey's end,
Where dreams ascend and aspiration transcend.
In halls where we dreamed to walk,
A place where we find our existence

In the quiet corners where dreams take flight,
Where shadows linger and hopes alight,
There dwell the hearts who dared to strive,
Yet found their paths in life's grand drive.

Laksh Sakala, 1C

The Gray Brick Building

Everyone knows it happened. They're out to get him. They're out to get him and no one's looking, so of course what he should do is run, run, run. It happened. It still happens. The boy is always sorry.

That construction "job" paid nothing, and then the cops showed up, and that old grump on that street with the free water fountain said he should get money, and the boy was hungry and he stole someone's food, he steals food, he does that all the time now, and everyone must know by now, so of course, the boy should run, run, run.

It's been three years, and rotten black floorboards and large florid men who scream about "the rent was due last year, woman!" and gray brick apartments all fell through and died that old lifetime ago, and mama went away that one time when the power went out- why that one time? It wasn't the first time. Did the boy do something? He didn't do something, that was it. He didn't do anything, the building went dark, mama went away, and no one was looking, no one saw the boy, so he ran, ran, ran.

The boy came back to the gray brick building, to its syrupy-smokey-smelling street and the dust caked on the opaque glass windows when the noises stopped and the people took the machines away. And that day when the sun was setting, the boy hid behind a trash can. And that large florid man was shaking another large florid man's hand, and that Another-Man wore a fine green suit. It stood out to the boy in the browns and the grays of his reeking street, and he stared. Both men went away in big black cars, so fast and furious, kicking up dust. The boy stared. He stared till the sun set and the moon arose and Somebody kicked him out. Because the gray bricks he came back to where on the ground in pieces, opaque glass carpeted unset cement at his feet, and there were new machines coming.

The boy has no money. He is hungry, and no one is ever looking in this city, so he repents preemptively, pale little hands wrap bone-tight around an iron construction rod the size of the boy's arm, and he stumbles through an alley. These bustling skyscrapers have glass facades for nothing, because there's darkness shoved over the little street, and shadows swallow the four-foot child, the child swallows his fear, and he bares his white-tight knuckles. The five-foot man walking out of the night's mouth doesn't think to look, so no one is looking, and no one sees the boy, so he swallows his bile and turns towards his target, and does what he does best- run, run, run.

The boy's footsteps aren't louder than the man's breathing. There is a pause, and then there's a crack, and then the man screams and falls. The alley looms at the boy, the glass towers are suddenly gray brick and cement, and there's screaming at the door and the blood on his hands stays wet and red though he paws through his victim's Vuitton coat with dry brown dirt on his hard little palms. The man groans out a single, half-formed curse, his hands go to his head, and the boy finds a wallet in the left breast pocket- the one with the monogrammed lines in gold on the thick green coat. Four lines that cross over each other, like an upside-down streetlamp whose pole crosses the two other lines. And suddenly, the boy feels less guilty for taking the wad of cash from his equally well-monogrammed black leather wallet (the boy knew because his father had had a belt made of the stuff), and he fumbles dirty cash- three weeks' worth of meals and maybes into his pocket before he runs. Polaroids of his victim's all-white sparkling happy family and his useless all-black credit cards are thrown right back in the still-groaning man's large, rich, red face. The boy turns away and does what he does best- run, run-god, no.

Aman Sood is having a bad, bad day. Student loans don't pay themselves on jobs that aren't there for humanities graduates. Tomorrow is the third installment. And of course, today, when he thought

he could maybe get one worthwhile thing done, he was half an hour late. And a minute of delay might mean lives ruined.

Because Palk Alley has a gray brick building being sold to a construction giant to make space for the newest mega-apartment project, and all the tenants would- being legally unregistered- be displaced. In college, Aman had started a project to find public funding to acquire places such as these before urbanizing capitalists did, and restore, renovate and repurpose it to be a haven for homeless children. Three weeks ago a large-scale NGO had taken them in as a subsidiary project. Aman had been their representative for their first big job- the real start of everything.

Aman sighs to himself, turning the corner of the street to go to Palk Alley. He shivers at the sudden dark of the little street, but steels himself to move, glancing around to make sure nobody is waiting to mug him, or stop him otherwise. He has a lot of cash on him right now, and only a minuscule amount of which is his. There's no movement from the left or from the right. Concluding that he's safe, he takes a step forward, only for a child to crash into him.

"Kid?" He mutters, bending down not to scare him. The boy's face was cut, emaciated and pale. "Hey, what's your name?"

The boy stares. "I'm gonna call you Abhay for now," Aman says softly, "until you decide to tell me."

Aman stands up, hand still on Abhay's shoulder. He may or may not have a chance to save the buildings now, but helping just the boy is still one worthwhile thing.

Snigdha Priya V, 2C

Wings and woes

A bird flies free across the sky,
singing to his heart's content,
feeling nothing short of invincible,
with everything he desires
at his disposal,
until captured and locked
against his will.

Here he sits in a cage,
astray,
away from his flock,
resigned to
his fate,
forced to sing—
no longer with delight.
What he once loved
now fills him with hate.

None in this world is
born to be
confined, conformed, or filled with
such agony.
Dejected, isolated, and doubted,
cut off from the world
he once knew, now shrouded.

Life's inner workings
are inexplicably strange;
how in a moment things
can change.
One day free—
the very next, caged.

-Niharika Ramesh, 1D

Déjà Vu

Hmm, even though it's my first time meeting you, I feel like I've known you for a thousand years. It's my first time in Switzerland, and it's so pretty, but why do I feel like I've already been here? Wow! Ice hockey is such an exhilarating game, but why do I feel like I've known this before?

Feels familiar, doesn't it? Experiencing something for the first time but feeling like you've already done it before. I'm sure everyone here today has felt something similar at least once in their life, and no, it is not just a random sensation or your brain playing tricks on you. This is a phenomenon that has been puzzling scientists for years.

But first, before we dive in, what is déjà vu?

Déjà vu is French for "already seen." It describes the fascinating and strange experience where you feel that something is very familiar, but you also know that this feeling of familiarity should not be as strong as it is. For example, you might be walking to school when you suddenly feel like you've been in that exact situation before. Of course, you have been in that situation before – you've walked to school many times – but the feeling is so strong and so connected to the present that it feels overwhelming. Déjà vu experiences are often described in movies and books because they can make people feel like they have somehow seen into the future. They are mysterious but cool experiences that can actually tell us a lot about how our minds, particularly our memories, work.

So, what causes déjà vu?

This is a really important question, but it is still a mystery. We can get some clues from groups of people who report more déjà vu than most. One of these groups contains people who have a condition called temporal lobe epilepsy.Epilepsy causes brain cells to send out-of-control electrical signals that affect all the brain cells around them, and sometimes even the entire brain. These signals can move through cells in the brain like dominoes, each one knocking over the next. This is called a seizure and can result in people with epilepsy briefly losing control of their thoughts or movements. This tells us that déjà vu is probably linked to the temporal lobe of the brain. In people who don't have epilepsy, déjà vu could be a mini-seizure in the temporal lobe, but one that doesn't cause other problems because it stops before it goes too far. This suggests that déjà vu might be caused by a strong feeling of familiarity. The familiarity is signalled by brain cells in the temporal lobe but is noticed and ignored by another part of the brain that checks whether all the signals make sense. This part of the brain may well be in the frontal lobe, the area just above your eyes. The frontal lobe is also important for decision-making.

There is a theory that suggests déjà vu occurs due to memory wiping of past lives. This theory is often associated with the concept of reincarnation, which suggests that after death, a person's soul is reborn into a new body. According to this theory, déjà vu happens when a person's current experience triggers a memory from a past life. However, since the memory of their past life has been wiped clean during the reincarnation process, they cannot recall specific details of that experience. As a result, they experience a feeling of familiarity with the current experience, even though they have never encountered it before in their present life. While intriguing, this theory is a belief rather than a scientifically proven explanation for déjà vu.

Who experiences déjà vu the most, and what does this tell us?

Young people experience déjà vu the most. Having said this, depending on how old you are, you may still have to wait a while until you have your first déjà vu experience. A very small number of people say they had their first déjà vu by the age of six. More

people report their first experience happening before they were 10 years old. The reason it takes a while is that you need to be able to work out whether the feeling of familiarity is stronger than it should be. For many younger children, this may be difficult to judge.

By the time you're between 15 and 25, you will probably experience déjà vu more often than you will after that. The number of déjà vu experiences reported steadily decreases after the age of 25. This puzzles researchers because we are used to thinking that memory issues increase with age, not decrease. This may suggest déjà vu isn't a memory problem at all. The experience of déjà vu may actually be a sign of a healthy mind that is able to spot incorrect familiarity signals.

How do scientists investigate déjà vu?

Research on déjà vu falls into two main categories: observational studies and experimental studies. In observational studies, researchers measure aspects of the déjà vu experience (who experiences it, how often it happens, when it happens, etc.) and look for patterns. These studies have shown that young people report déjà vu more than older people.

In experimental studies, researchers attempt to trigger déjà vu in people (one of the stranger ways they've tried is by squirting warm water into people's ears!). The idea behind these studies is that if we can figure out what causes déjà vu, we might understand more about how our thought processes work.

Experimental studies of déjà vu are difficult to carry out. It's easy to get people to say they've had déjà vu in an experiment, but hard to tell if they genuinely experienced it. Participants may give the "right" answer, trying to please the researchers. This makes it hard to know whether someone truly had déjà vu or just said they did.

Déjà vu is an intriguing and unusual experience where something feels very familiar, but we know it shouldn't feel that familiar. The experience is important because it shows us that memory involves a series of steps, some of which can go wrong. Young people seem to be better at spotting when things feel more familiar than they should. While déjà vu remains a mystery, it's a fascinating subject for scientists to continue investigating. Perhaps one day, you'll be the one to uncover the secrets of déjà vu.

Aarna A M, 1F

The Merchant of Venice

In the streets of Venice was the play in set;
Antonio, a good kind soul and Bassanio, an extravagant friend.
Portio, as honest and polite as her beauty-
Shylock, a mean Jew- for no one can be like him.
3000 ducats or a pound a of flesh was the bond
Between the nasty Jew and the generous Antonio.
For Bassanio was the bond signed, to take part
In the lottery of caskets of Portia.
The lord of Belmont would be he who got
Fair Portia's counterfeit and such was the luck of Bassanio.
The bond dues—Antonio's live's at threat!
Then comes Portia as wise Daniel in disguise and extricates Antonio
For the Jew had no other way than to believe in the Lord
Thus is the play of love, loyalty and justice;
H're's Shakespeare's The Merchant of Venice.

Sanjana.A.J., 1J

Power of Knowledge

Knowledge is essential for the betterment of society and humanity's progress in the world.

It enlightens minds, broadens perspectives, and encourages critical thinking. It improves our life experiences by empowering and inspiring us to achieve greater things.

Knowledge is like a bottomless ocean. The deeper you dive into it, the more vast it seems. Thus, there are no limits in the world of knowledge.

The power of knowledge is evident in its ability to help us understand others and make positive choices for everyone.

It fosters empathy and understanding among people, bridging gaps by encouraging communication and mutual respect.

When you gain knowledge in areas such as Science, Medicine, Politics, and Mathematics, you can contribute to the betterment of the world.

Knowledge gives birth to inventions and discoveries. From scientific breakthroughs to technological innovations, it fuels progress. It enhances the quality of life, advances healthcare, and addresses societal challenges.

Knowledge allows individuals to flourish in life. Similarly, it helps prevent wars and brings peace to the world, enabling nations to prosper.

Knowledge plays a crucial role in diplomacy and governance. Informed decisions based on knowledge can prevent conflicts and promote peace.

Individually, knowledge empowers people to achieve their goals and aspirations.

Collectively, it enables societies to adapt to change and overcome obstacles. It opens doors to success and unites people like never before.

In essence, the power of knowledge lies not only in its accumulation but also in its application for the betterment of humanity.

By valuing and promoting knowledge, we pave the way for a brighter and more sustainable future.

Raghav A Tallam, 2J

Our Moral Compasses

In the unfathomable journey of life,
Complete with hurdles and cryptic paths of strife,
The accomplices we willfully determine,
Assist our lives as sensors in trials of landmines.

True friendship is a distant quirk,
That is a few steps on for the perks,
Opposing their honest loyal friends,
Breaking the tender hearts without amends.

When breezes blow at our faces in the bliss of sunset,
When we lay overthinking in our comfy bed,
Our hearts beat, yearning for someone,
To open our hearts, we lock for everyone.

Memories with friends are for lifetimes,
Harmony, pleasure and glee at their primes,
In the end, can we even comprehend
An existence without our fond friend.

Hitesh.A.R, 1A

RV PU Cyclothon

We awoke before dawn and watched the sunrise over the lands of an independent India once again, but on that day, the sun had seen India in her 78th year of freedom. Perhaps the sun shone brighter, or maybe it was our eyes that gleamed with patriotism and love. Either way, there was an unmistakable magic in the air and pride in our hearts.

Our enthusiasm was evident as we cycled to our college to experience an event driven by the creative foresight of our teachers and management—the RV PU Cyclothon, aimed at raising awareness about the importance of keeping our country and its air clean. Our forefathers fought for our independence, and it is now our responsibility to preserve and improve the land for which they gave their lives.

Around 200 RVians, along with staff and teachers, donned their helmets and geared up to spread the message of love for our motherland, showing that love through efforts to improve the environment of our city and country.

We cycled through the heart of Bengaluru, passing through the greenery of Jayanagar, evoking memories of old Bengaluru. We rode past landmarks like the famous Ashoka Pillar and the Lalbagh Main and West gates. By the end of the route, back on the grounds of RV, I am sure every student was ready to do it all over again, this time with renewed vigour.

The flag hoisting was carried out with the utmost respect and patriotic fervour, and the young voices of the students, along with the others present, echoed with love and devotion as we sang the national anthem.

The dignitaries of the day were Mr. Nikhil A. Murthy, Assistant Secretary of RSST, and the founders of "Team Hasiru," an NGO making real change and taking action to save Bengaluru's greenery. Mr. Chirag S. Rao (Founder, Managing Trustee, Team Hasiru) and Mr. Sharath T. P. (Founder, Trustee, Team Hasiru) enlightened the students with a message about how to be the change they wish to see in the world. The students pledged to plant seven trees each, displaying their commitment to giving Mother Earth the tools she needs to heal herself. As Mr. Sharath rightly said, to save our environment, we must find balance—both within ourselves and in the world around us—much like riding a bicycle.

The other esteemed guests of the day, along with our Principal, Mr. Thejesh S; Mrs. Sayini Tejaswini, Head of the Biology Department; our other beloved teachers from the Biology Department, who organised this event; and Mr. Charles Lorou, also graced the gathering with their wise words and sound advice.

As August 15th is also the birth anniversary of one of Karnataka's bravest freedom fighters, Sangolli Rayanna, his dedication to our motherland was remembered as Mr. Manjunath G., a faculty member in the CS department, gave a heart-rending speech about Sangolli Rayanna's glory, courage, and unwavering will to free our nation.

The event concluded with a hearty breakfast, and the students were back on their cycles, this time heading home. During the ride back, and likely forever, I am certain the students will reminisce about this day, cherishing the lessons learned and the memories created. The RV PU Cyclothon was, once again, an unforgettable day—one that the students will treasure in their hearts always.

Cheritha Kaiwar, 2G

Ajit Doval: The Architect of Modern Indian Security

Ajit Doval, currently serving as the National Security Advisor (NSA) of India, is one of the most influential figures in shaping India's security policies. His career is a testament to his deep expertise in intelligence and strategic affairs, making him a key architect of India's modern security framework.

Early Life and Education

Ajit Doval was born on January 20, 1945, in a small village in Uttarakhand, India. His early education laid the foundation for a distinguished career in public service. He graduated from the University of Agra and later earned a degree in economics, which further honed his analytical skills and understanding of geopolitical dynamics.

Career in Intelligence

Doval's career began with the Indian Police Service (IPS) in 1968, where he quickly distinguished himself as a talented officer. His deep interest in intelligence and security matters led him to the Intelligence Bureau (IB), where he held various pivotal positions. Over the years, he developed a reputation for his sharp analytical mind and operational efficiency.

One of his most notable contributions came during the Indian-Pakistani conflict in the 1990s. Doval played a critical role in counter-insurgency operations and was instrumental in several high-stakes missions. His experience in handling sensitive security issues earned him accolades and established him as a key player in India's intelligence community.

National Security Advisor

In May 2014, Ajit Doval was appointed as the National Security Advisor by Prime Minister Narendra Modi. In this role, Doval has been influential in shaping India's security policies and strategies. He is known for his strategic foresight and ability to manage complex geopolitical situations.

Under his leadership, India has taken a more assertive stance on security issues, including counter-terrorism operations and regional diplomacy. Doval's approach often emphasizes a blend of hard and soft power, reflecting a nuanced understanding of global security dynamics.

Key Contributions

1. **Counter-Terrorism Strategy:** Doval has been a central figure in formulating India's counter-terrorism strategies. His efforts in strengthening internal security and countering cross-border terrorism have been pivotal in enhancing national safety.
2. **Diplomatic Engagement:** Doval has played a crucial role in India's diplomatic engagements with neighboring countries, including Pakistan and China. His strategic negotiations and crisis management skills have been vital in maintaining regional stability.
3. **Policy Reforms:** Doval has been involved in several policy reforms aimed at modernizing India's security apparatus. His focus on integrating technology with intelligence operations has been instrumental in enhancing the effectiveness of security measures.

Legacy and Impact

Ajit Doval's impact on India's security landscape is profound. His expertise and strategic acumen have not only strengthened India's internal security but also enhanced its standing in global geopolitics. Doval's career reflects a deep commitment to national service and a relentless pursuit of excellence in the field of security and intelligence. As India continues to navigate complex security challenges, Ajit Doval remains a key figure in shaping its future. His legacy as a dedicated and strategic National Security Advisor will likely influence India's security policies for years to come.

Chiranth R, 2E

Different Hues

No flower, has the same fragrant scent,
No person in this world, for the same task is sent.
No two people of the same characteristics are made-
Just like all flowers have their unique shade!

What will our world be, with no differences?
Same choices, same minds and the same preferences.
No one will be unique, no new ideas will be born,
Everyone will do the same job, from dusk till dawn.

Some plants grow in shade, others in light,
All very different but equally bright.
Same way some are good at sports, some at writing
Some may enjoy at home and the others while skydiving.
The world is Full of vivid colours,
Various animals and unique flowers,
8 billion people in the world have a different hue-
Vibrant, beautiful, so different and new!

It is important that every difference we respect,
Everyone in their own way to shine, we should let
No individual on this planet is exactly the same,
And to be who they are, no one should face shame!

Vanshika Rathi, 1F

Identity Crisis

There once lived a man In a faraway place
Who didn't know who he was,
T'was some kind of depression or
So I heard was the cause

He travelled far and wide
Around the world, Searching for his soul
But all that did to his mind
Was take a greater toll

For he could find nothing
That made him happy
And nothing to set him free
From the burdens put on by his family
So they could live in luxury
The man sat on his computer All day long, wondering
Why did he feel so forlorn
"This isn't who you are," said his heart
"This is who you have to be," said his mind
And the man lay there in confusion
No one pitying his poor plight

But somewhere in the corner of his heart Is a bird waiting to be set free
So that it can fly around Until it finds that one tree
The heart is the man's best friend
And the mind the nemesis
For it's the only thing keeping him
From solving his identity crisis.

-Shivani Shankar, 2C

दैनिक जीवन में विज्ञान

विज्ञान मानव के लिए एक महान वरदान है। मानव के इतिहास में, उसके जीवन के लिए विज्ञान के उदय से बेहतर कोई घटना घटित नहीं हुई हैं। जब विज्ञान का उदय हुआ, उस समय विश्व, अज्ञानता और विपत्तियों से घिरा हुआ था।

विज्ञान ने मनुष्य की अज्ञानता को दूर भगाने व उसकी मुश्किलों को कम करने में सार्थक भूमिका निभाई है। विज्ञान मानव का निष्ठावान सेवक है। चाहे वह घर, खेत या कारखाना हो, जीवन के प्रत्येक क्षेत्र में विज्ञान हमारी सहायता करता है।

विज्ञान ने हमारे जीवन में भारी परिवर्तन ला दिया है। वे दिन बीत गए जबकि सम्पन्न व्यक्ति ही ऐश्वर्य का मजा लेते थे। विज्ञान ने उन्हें सस्ता, सहज और सुलभ बना दिया है। विज्ञान की सहायता से माल का उत्पादन बड़े पैमाने पर होने लगा है। अब ये वस्तुएं सस्ती कीमतों में बाजार में बिकती है।

पुस्तक, संगीत और मनोरंजन के अन्य साधन आज आसानी से मिल जाते है। रेडियो, टेलीविजन और सिनेमा ऐसे साधन हैं, जिनसे हम अपना समय आनंदपूर्वक गुजार सकते है। निस्संदेह, साधारण व्यक्ति के जीवन में पहले से बहुत अधिक अंतर आ गया है।

चिकित्सा के क्षेत्र में भी विज्ञान हमारा निष्ठावान सहचर है। वह प्रत्येक दृष्टि से हमारे स्वास्थ्य का ध्यान रखता है। विज्ञान द्वारा मानव के विभिन्न असाध्य रोगों के इलाज हो रहें है। पोलियो, हैजा तथा प्लेग आदि के विनाश से अब मानवता अपने आपको सुरक्षित पाती है। विज्ञान की सहायता से हम रोगों को फैलाने वाले कीटाणुओं को जड़ से उखाड़ फैंकने में समर्थ हो जाते हैं।

विज्ञान ने हमारी यात्राओं को सुखद बना दिया है। आज हम दूरस्थ पवित्र तीर्थ स्थानों में जाते समय अपने संबंधियों तथा मित्रों से बिछुड़ते हुए रोते नही है। विज्ञान ने समय और दूरी पर विजय प्राप्त कर ली है। गाड़ियाँ, वनों और मरुस्थलों को सुरक्षित पार कर जाती हैं और मनुष्य तेज गति तथा आराम से अपने गंतव्य तक पहुँच जाता है।

हवाई जहाज एक घंटे में सैकड़ों किलोमीटर की दूरी तय कर लेता है। आप अपना नाश्ता दिल्ली में, दोपहर का खाना लंदन में और रात का भोजन न्यूयार्क में कर सकते है। महीनो का काम अब कुछ घंटो में पूरा हो जाता है। गृहिणियों के लिए तो विज्ञान एक वरदान है। अब उसे अपना सारा समय रसोईघर में बिताने की आवश्यकता नहीं पड़ती।

उसके कार्यभार को कम करने के लिए अनेक उपकरणों का विकास हो गया है। अब रसोई के सारे कार्य बिजली के यंत्रों की सहायता से किए जा सकते हैं, जिससे खाना पकाना बहुत आसान हो गया है और खाना बिना गन्दगी और धुंए के पलक झपकते ही तैयार हो जाता है।

आज गृहिणी कपड़े धोने, प्रेस करने से लेकर फर्श आदि साफ करने के काम बिजली के यंत्रों की सहायता से करती है। आज की गृहिणी को विज्ञान का सब से अधिक आभारी होना चाहिए क्योंकि इसने उसके बहुत से काम आसान कर दिए हैं। अब उसे विश्राम, अध्ययन और अपने बच्चों के साथ अधिक समय बिताने के अवसर प्राप्त होते है।

श्रमिक-वर्ग भी विज्ञान के विकास से बहुत लाभान्वित हुआ। उन्हें धूल-मिट्टी के कार्यों को अपने हाथों से नही करना पड़ता। अब उन्हें कोयले और लोहे की खानों में खुदाई का काम अपने हाथों से नही करना पड़ता। प्रत्येक कारखाने में सुख और सुविधाओं के सभी साधन मौजूद है जिन्हें विज्ञान ने प्रदान किया है।

।।भगवद्गीता।।

भगवता कृता गीता भगवद्गीता। अस्य गीतोपदेश: इति नामान्तरमपि वर्तते। श्रीकृष्ण: अत्र उपदेशक: श्रोता च अर्जुन:। वैदिकसनातनानां तथा वर्णाश्रमाणां धार्मिकानां हैन्दवानां च धर्मग्रन्थत्वेन स्वीकृतं इमां भगवद्गीताम्। अस्यां गीतायाम अष्टादशाध्याया: विद्यन्ते। इमां गीतां 'मोक्षशास्त्रं', 'ब्रह्मविद्या', 'गीतोपनिषत्' इत्यादिभि: नामभिरपि व्यवह्रीयते। प्रत्येकस्यापि अध्यायस्य प्रत्येकं नाम्ना विशिष्यते अन्यभ्य: कृतिभ्य:। कृष्णार्जुनयो: संवादानुरीत्या अध्याया: विभक्ता:। श्रीमद्भगवद्गीताख्यं शास्त्रं वैदिकवाङ्मये वेदस्थानं प्राप्तम इति कोविदमतम्। त्रिकाण्डात्मकत्वात, समस्तवेदार्थसारवत्वात, सर्वशास्त्रमयत्वात, सर्वसाधारणलोकोपयोगत्वाच्च इयं गीता वेदवदिति वदन्ति बुधा:। गुह्यादुह्यतरं ततोपि गुह्यतमं शास्त्रमिति आचार्या: सर्वे सङ्गिरन्ति।

Anagha Indrakanti, 2E

विज्ञान के वरदानों का अंत यही नहीं होता है। यह सेवक शिक्षा प्रदान करने की सेवा भी करता है। विज्ञान द्वारा बड़े-बड़े मुद्रणालयों का निर्माण हुआ है जो मस्त मूल्यों पर बड़ी संख्या में पुस्तके छापते हैं। इसने मानव के अज्ञान को मिटाने के लिए अनेक साधन उपलब्ध कराए हैं।

दुनिया के प्रत्येक कोने की खबरें समाचारपत्र, रेडियो और टेलीविजन के माध्यम से प्राप्त हो जाती हैं। इसके कारण हमारे समाज से अज्ञान और अंधविश्वास समाप्त होता जा रहा है। अब सीधे-सादे व्यक्ति को कोई चालाक व धूर्त व्यक्ति धोखे से ठग नही सकता है।

तथापि, तस्वीर का दूसरा रूख भी है। हथियारों के क्षेत्र में विज्ञान ने मानव का सबसे बड़ा अहित किया है। यद्यपि प्रारंभ में बारूद के आविष्कार को मानव की बहुत बड़ी उपलब्धि समझा गया था, परंतु बारूद के आविष्कार का दिन मानव के लिए बहुत भयानक था। क्योंकि धीरे-धीरे बारूद का प्रयोग युद्ध के सैकड़ों नए विनाशकारी हथियारों को बनाने में किया जाने लगा।

अत: यदि मानव विज्ञान का प्रयोग अपनी सुख-सुविधा कें स्थान पर विनाशकारी कार्यों के लिए करने लगे, तो उसके लिए भला कौन जिम्मेदार हो सकता है? यदि हम अपने आप विनाश के यंत्रों के ढेर लगाते जाएगें तो इसमें विज्ञान का क्या दोष है?

आधुनिक युग परमाणु ऊर्जा का युग है। अब या तो पूर्ण विनाश की स्थिति उत्पन्न होगी या ऐसा युग आएगा जब यह शक्ति मानव के श्रम को हल्का करके, विश्व भर में उसके रहन-सहन के स्तर को बढ़ाने में सहायक होगी। इसका निर्णय तो स्वयं मनुष्य को करना है कि वह परमाणु बम से विश्व को विनाश के कगार पर पहुँचाना चाहता है या परमाणु ऊर्जा से इसका पुन: निर्माण करना चाहता है।

Akanksha, 2G

समय समय समय

आज कल तो किसी के पास समय नहीं है।
ना माताजी को बच्चों को चाँद दिखाकर खाना किलाने का
ना पिताजी को बच्चों के साथ खेलने का ।
किसी के पास समय ही नहीं है,
क्या करे, मनुष्य है हम ।।१।।

आज कल तो किसी के पास समय नहीं है।
ना बच्चों को दोसतों के साथ खुली हावा में खेलने का,
ना किसी से घुल-मिल कर बातें करने का ।
किसी के पास समय ही नहीं है,
क्या करे, मनुष्य है हम ।।२।।

आज कल तो किसी के पास समय नहीं हैं।
ना चाचा और चाची को बच्चों को उपहर और ख़ुशी देने का,
ना रिश्तों को संभालकर घर को बचा लेने का ।
किसी के पास समय ही नहीं है,
क्या करे मनुष्य है हम ।।३।।

आज कल तो किसी के पास समय नहीं हैं।
ना गुरु को बच्चों को सही मार्ग दिखाने का,
ना दादी को कहानी सुनाने का,
ना नाना से आशीर्वाद देने का,
ना खुली हवा में सांस लेने का,
ना सास को आपने बहू को बेटी बनाने का।
किसी के पास समय ही नहीं है,
क्या करे मनुष्य है हम ।।४।।

आज कल समय तो है,
पर रिश्ते नहीं, कान है
मगर सुननेवाले नहीं, मकान है
पर घर नहीं, माँ हैं
पर ममता नहीं, मोबाइल है
मगर सच्चा प्यार नहीं, दुनिया हैं
मगर दुनियदारी नहीं, ।।५।।

अभी भी समय है सुधरने का,
तो देर किस बात की?
क्षमा करो और करने दो, दोस्त बनाओ और खुद बनो,
चलो सारे मिल कर औरों को समय दे,
चलो सारे मिल कर औरो को समय दे,
अभी भी समय है सुधरने का, तो देर किस बात की? ।।६।।

DHAVAL SAI , 1I

प्रकृति

प्रकृति जीवंत जीवन रूपों और गतिशील पारिस्थितिक तंत्र की एक सिम्फनी है जो अस्तित्व का एक सामंजस्यपूर्ण और जटिल वेब बनाती है। जंगलों की हरियाली, महासागरों का शांत नीला, जानवरों के विविध आवास और लुभावने परिदृश्य हमें उस दुनिया की विशाल भव्यता की याद दिलाते हैं जिसमें हम रहते हैं। यह एक ऐसी दुनिया है जो हमें सांत्वना और जीविका दोनों प्रदान करती है, जिससे हमारा अस्तित्व इसके संरक्षण के साथ जुड़ा हुआ है।

प्रकृति द्वारा प्रदान की जाने वाली पारिस्थितिकी तंत्र सेवाएं बहुह हैं। वन पृथ्वी के फेफड़ों के रूप में कार्य करते हैं, ऑक्सीजन का उत्पादन करते हैं और कार्बन डाइऑक्साइड को अवशोषित करते हैं। आर्द्रभूमि हमारे पानी को फ़िल्टर करती है, जिससे हमें जलयोजन के स्वच्छ और ताजे स्रोत मिलते हैं। मधुमक्खियां और अन्य परागणक फसलों के विकास को सक्षम करते हैं, वैश्विक खाद्य सुरक्षा में योगदान करते हैं।

हालांकि, प्रकृति के नाजुक संतुलन के लिए बड़े पैमाने पर अवहेलना खतरनाक परिणामों की ओर ले जा रही है। शहरीकरण और कृषि के लिये निरंतर वनों की कटाई से निवास स्थान का नुकसान हो रहा है, जिससे कई प्रजातियों का विलुप्त होना पड़ रहा है। ग्रीनहाउस गैसों का अत्यधिक उत्सर्जन जलवायु परिवर्तन को बढ़ा रहा है, बढ़ते तापमान और अप्रत्याशित मौसम पैटर्न कमजोर समुदायों को धमकी दे रहे हैं।

हमारे ग्रह और भविष्य की पीढ़ियों की भलाई सुनिश्चित करने के लिए, संरक्षण और टिकाऊ प्रथाएं अनिवार्य हैं। खोए हुए पारिस्थितिक तंत्र को बहाल करने के लिए वनीकरण और पुनर्वितरण के प्रयासों को तेज किया जाना चाहिए। नवीकरणीय ऊर्जा स्रोतों में संक्रमण कार्बन उत्सर्जन को कम कर सकता है और जलवायु परिवर्तन को कम कर सकता है। इसके अलावा, जागरूकता बढ़ाने और प्रकृति के साथ गहरे संबंध को बढ़ावा देने से जिम्मेदारी की भावना पैदा हो सकती है और सकारात्मक कार्रवाई को प्रेरित किया जा सकता है।

अंत में, प्रकृति केवल मानव शोषण के लिए एक संसाधन नहीं है; यह एक जटिल और परस्पर जुड़ी प्रणाली है जो जीवन को उसके सभी रूपों में बनाए रखती है। हमें पर्यावरण के संरक्षक के रूप में अपनी भूमिका को पहचानना चाहिए और इसकी रक्षा और संरक्षण के लिए परिश्रम के साथ कार्य करना चाहिए। स्थायी प्रथाओं को अपनाने और प्रकृति के लिए गहरा सम्मान को बढ़ावा देने से, हम एक ऐसे भविष्य को सुरक्षित कर सकते हैं जहां दुनिया के प्राकृतिक चमत्कार फलते-फूलते रहें।

Riya R Dave, 2I

भारत मे औध्यौगिक का प्रभाव

हम जो कुछ भी करते हैं, हर सांस, हर कदम, जो कुछ भी हम करते हैं, किसी भी वस्तु के साथ, हर बातचीत और यहां तक कि हमारे पास जो विचार हैं, जो सपने हम देखते हैं, सभी में विज्ञान शामिल है। इसी तरह, जैसे-जैसे दुनिया आगे बढ़ रही है, तकनीक हमारे जीवन के बुनियादी पहलुओं के साथ भी जुड़ रही है। चाहे वह शिक्षा, खेल, मनोरंजन, हमारे प्रियजनों से बात करना आदि हो।आजकल सब कुछ प्रौद्योगिकी को शामिल करता है। यह कहना सुरक्षित है कि विज्ञान और प्रौद्योगिकी साथ-साथ चलते हैं। वे एक दूसरे के परस्पर समावेशी हैं। यद्यपि व्यापक दृष्टिकोण से, प्रौद्योगिकी विज्ञान की एक शाखा है, लेकिन फिर भी इनमें से प्रत्येक क्षेत्र को दूसरे के बिना बनाए नहीं रखा जा सकता है।अगर हम विज्ञान और प्रौद्योगिकी के फायदों का नाम दें, तो हमारे पास शब्द कम पड़ जाएंगे क्योंकि वे असंख्य हैं। ये बहुत छोटी चीजों से लेकर बहुत बड़ी चीजों तक हैं।

विज्ञान और प्रौद्योगिकी ऐसे क्षेत्र हैं जिन्होंने मनुष्य को हमारे अपने ग्रह से परे देखने में सक्षम बनाया है और इसलिए, नए ग्रहों की खोज और बहुत कुछ किया है। भारत के प्रोजेक्ट की सबसे नवीनतम, चंद्रयान -३ की चंद्रमा के दक्षिणी ध्रुव पर सफल लैंडिंग साबित करती है कि, विज्ञान और प्रौद्योगिकी की क्षमता को किसी भी माध्यम से नहीं मापा जा सकता है। इसमें जो क्षमता और अनिल है।

हम विश्वास के साथ कह सकते हैं कि विज्ञान और प्रौद्योगिकी ने हमें एक अद्भुत जीवन प्राप्त करने के लिए प्रेरित किया है। हालांकि, विवेकपूर्ण तरीके से इसका उपयोग करना बेहद महत्वपूर्ण है ताकि इसकी निरंतरता सुनिश्चित हो सके। यद्यपि विज्ञान और प्रौद्योगिकी के क्षेत्र ने दुनिया को असंख्य प्रगति और लाभ प्रदान किए हैं जो दुनिया को आगे बढ़ा रहे हैं, लेकिन इसके कई पहलू हैं जिनका नकारात्मक प्रभाव भी पड़ता है। इनका नकारात्मक प्रभाव मुख्य रूप से प्रकृति और वन्यजीवों पर है और इसलिए, अप्रत्यक्ष और प्रत्यक्ष रूप से मनुष्यों पर भी।

विनिर्माण या अन्य विकास प्रक्रियाओं से जुड़े बड़े कारखाने बड़ी मात्रा में अपशिष्ट छोड़ते हैं जो प्रकृति में विषाक्त हो सकते हैं या नहीं भी हो सकते हैं। यह कचरा प्रकृति और जल निकायों में जमा हो जाता है और प्रदूषण का कारण बनता है। अपने संबंधित पारिस्थितिक तंत्र में रहने वाले समुद्री या स्थानीय जानवर प्लास्टिक या अन्य जहरीले कचरे को भी निगल सकते हैं और इससे उनकी मृत्यु हो जाती है। उसी के कई अन्य नकारात्मक पहलू हैं।

इसलिए, यह हमारी जिम्मेदारी बन जाती है कि हम विज्ञान और प्रौद्योगिकी का विवेकपूर्ण उपयोग करें और प्रकृति और वन्यजीवों के मृत्यु को रोकें ताकि हमारे ग्रह को अपने सभी पारिस्थितिक तंत्रों के साथ बनाए रखा जा सके, जो अंतत: स्वस्थ और लंबे जीवन के लिए एक स्वस्थ पारिस्थितिकी तंत्र में हमारे अस्तित्व को सुनिश्चित करेगा।

Riya R Dave, 2I

दोस्ती

दोस्त है तो
आंसुओं की भी शान होती है
दोस्त ना हो तो
महफिल भी शमशान होती है
सारा खेल तो दोस्ती का ही है
वरना जनाज़ा और बारात
एक समान होती है।

Riya R Dave, 2I

दिल से आपके

बिकता अगर प्यार तो
कौन नहीं खरीदता ?
बिकती अगर खुशियां
तो कौन उसे बेचता ?
दर्द अगर बिकता तो
हम आपसे खरीद लेते
और आपकी खुशियों के
लिए हम खुद को बेच देते।

Riya R Dave, 2I

।।डा.ए पि जे अब्दुल कलाम् महोदयः।।

(भारतस्य एकादशतम जनाधिपतिः विज्ञानिश्च)

अवुल फकिर् जैनुलाअबदीन् अब्दुल कलाम् महोदयः अस्य जन्म क्रि.श १९३१ अक्टोबर् मासस्य १५तमे दिने रामेश्वरम् इति मण्डलस्य धनुष्कोटि इति स्थाने अभवत्। अस्य जन्म मध्यमवर्गस्य मुस्लिम् कुटुम्बे अभवत्। अस्य पिता जैनुलाब्दीन् तु न धनवान् नापि विद्यावान्। सः शुद्धहस्तः नाविकः आसीत्। अविभक्ते कुटुम्बे कलाम् महोदयः पालितः। अस्य पञ्चसहोदराः पञ्चसहोदर्यश्च आसन्। कलाम् महोदयस्य जीवने पितुः प्रभावः अधिकः अस्ति।

विद्यार्थि जीवनम –

प्रारम्भिकशिक्षां प्राप्तुम् अवश्यभूतं धनं प्रातः प्रतिगृहं वृत्तपत्रिकानां वितरणद्वारा सम्पादनं करोति स्म। क्रि.श १९५८ तमे वर्षे कलाम् महोदयः कग्ग्ल लृल्ळत्ळ्व्ळ्ज ब्ङ फज्च्णब्न्ब्ङ्ह इति महाविद्यालयतः अन्तरिक्षविज्ञाने स्नातकपदवीं प्राप्तवान्। क्रि.श १९६२ तमवर्षतः तस्यामेव संस्थायां उपग्रहक्षेपणस्य विविधासु परियोजनासु स्वभूमिकां समर्थरूपेण निरूढवान्।

वृत्तिजीवनम ?

क्रि.श १९६२ तमे वर्षे भारतीयान्तरिक्षानुसन्धानसङ्घटने सेवायां नियुक्तः। डा.कलाम् महोदयः द.एळ३ क्षिपणिनिर्माणस्य श्रेयः प्राप्तवान्। क्रि.१९८० तमे वर्षे जुलैमासे रोहिणी इति उपग्रहं पृथिव्याः कक्षस्य निकटे एव स्थापितवान्। डा.कलाम् महोदयः डिसेम्बर् १९९९ पर्यन्तं सर्वश्रेष्ठभारतस्य रक्षणामन्त्रिणः विज्ञानमार्गदर्शकः सुरक्षाविकासविभागस्य सचिवः अभवत्।

राजनीतिजीवनम ?

डा.कलाम् महोदयः भारतस्य एकादशः राष्ट्रपतिरभवत्। अयं न केवलं विज्ञानिः परं राष्ट्रपतिः भूत्वा भरतस्य अभिवृद्धिनीतिं संस्थाप्य राजनीतिज्ञोऽपीति समर्थितवान्। लृत्न २०२० इति स्वीये पुस्तके अयं भारतस्य अभिवृद्धिविषये स्वदृष्टिपथं स्पष्टतया निरूपितवान्।

प्रशस्तिपुरस्काराः ?

भारतसर्वकारेण क्रि.श १९८२ तमेवर्षे प्रशासकीयसेवाक्षेत्रस्य पद्मभूषणप्रशस्तिः प्रदत्ता।अपि च डा.कलाम् महोदयः भारतसर्वकारस्य सर्वोच्चेन नागरीकसम्मानेन भारतरत्नप्रशस्त्या अपि समलङ्कृतः।

कृतयः ?

- INDIA MY DREAM.
- SCIENTIST TO PRESIDENT
- IGNITED MINDS etc..

परलोकयात्रा ?

२०१५ तमे वर्षे जुलै मासे २७ दिनाङ्के कलाम् महोदयः हृदयाघातेन दिवंगतः।

Mandara Gururaja Gowda, 2E

।।कविकुलगुरुः कालिदासः।।

कविकुलगुरुः इति प्रसिद्धः कालिदासः संस्कृतकाव्यपरम्परायां महाकविः वर्तते। सः न केवलं भारतस्य प्रत्युत विश्वस्य श्रेष्ठः कवि अस्ति। कवेः जीवनवृत्तिविषये अनेकलोकविश्रुतयः अनेके वादाश्च सन्ति। गुप्तानां शासनकाले आश्रयं प्राप्तवानिति केचन अभिप्रयन्ति। केचित् विक्रमादित्यस्य सभायां कविः आसीत् इति मन्यन्ते। नवरसानां पक्वतां प्राप्तस्य अस्य कवीश्वरस्य महिमा तदीयकाव्यैः एव ज्ञायते। तस्य काव्यस्य परिशीलनेन वेदशास्त्रपुराणेशु अगाधं पाण्डित्यम् आसीत् इति ज्ञायते। अस्य महाकवेः कृतयः मालविकाग्निमित्रं, विक्रमोर्वशीयं, अभिज्ञानशाकुन्तलमिति त्रीणि नाटकानि। ऋतुसंहारः मेघदूतः इति खण्डकाव्ये द्वे। रघुवंशं कुमारसम्भवमिति महाकव्ये द्वे च प्रसिद्धे। कालिदासस्य सर्वासु कृतिषु असाधारणकल्पनप्रतिभया विजृम्भते सरस-सरल-सुन्दरमनोहराणि वाक्यानि सरसपदावलीयुताः सुन्दरश्लोकाः। अस्य वैदर्भीकाव्यशैली असामान्या। तत्र माधुर्यादिगुणाः अयत्नसिद्धाः विराजन्ते। अयं कविः संस्कृतसाहित्ये अद्वितीयं स्थानं धारयति। ?उपमा कालिदासस्य? इति उक्तिः तस्य विषये सुप्रसिद्धा अस्ति। संस्कृतसाहित्ये लोकोत्तरः कविरयं इति न कोऽपि सन्देहलेशोऽपि।

Dhruti Shrinivas Kulkarni , 2D

शास्त्रीयनृत्यम्

भारतीयशास्त्रीयनृत्यकलायां सप्त मुख्यभेदा: भवन्ति? कथक, मणिपूरी, ओडिस्सि, कुचुपुडी, भरतनाट्यम्, कथकली, मोहिनी आट्टम च।

कथकनृत्यम

कथक शब्द: कथाकार इति पदात् ग्रहीतोलस्ति। कथाकार? अस्य पदस्य अर्थं कथां य: श्रावयति स:। कथकस्य अनेका: शाखा: सन्ति। ता: शाखा: स्वनगरस्य नाम्ना सह ?घराना? इति कथ्यन्ते। ता: लखनौ–जैपुर–बनारस–रायघर घराना: च सन्ति। प्रार्थना, नाट्यं, भावाभिनयं च कथकस्य प्रमुखा: त्रय: भागा: वर्तन्ते।

ओडिस्सि

भारतस्य ओडिस्साराज्यात् एतत् नृत्यम् उभ्दूतम्। पुरीजगन्नाथस्य भक्ता: देवदासा: देवदास्या: च देवालायेषु ओडिस्सिनृत्यम् ईशसेवारूपेण प्रदर्शयन्ति स्म। एतस्यां कलायामपि नृत्त–नृत्य–नाट्यानां भेदा: सन्ति।

कथकली

कथकली केरलराज्यस्य प्रसिद्धं नृत्यमस्ति। 'कथकली' इत्युक्ते कथाया: प्रदर्शनम्। ?कथा? अर्थ: 'ल्ळब्ह्' च 'कलि' अर्थ: 'भ्न्ह्' अस्ति। अधिकश: पुरुषा: एव एतत् नाट्यं प्रदर्शयन्ति। कथकल्यां भ्रू: नेत्रयो: च उपयोगं श्रेष्ठं रमणीयं च विद्यते।

अस्मिन् शास्त्रीयनृत्ये नर्तक: कलरी साधकम्, काल साधकम्, मुद्रा साधकम्, अभिनय साधकम्, नवरसाभिनय,... इत्यादि कठिनं शिक्षां प्राप्नोति। कथकली नृत्ये रामायण–महाभारात–पुराणेभ्य: कथा: भवन्ति। अस्मिन् त्रय: पात्रा: सन्ति? १.सात्विक पात्रम्, २.राजसिक पात्रम, ३.तामसिक पात्रम्।

मोहिनी आट्टम्

एषा पारम्परिककला केरलराज्यत: आगता। 'मोहिनी' शब्दस्य अर्थ:–स्त्री रम्यता सौन्दर्यम। अत: मोहिनी आट्टम नाट्यस्य अर्थ: – मनोहरनार्या: नृत्यं इति।

कुचुपुडी:

एतत् नृत्यं आन्ध्रप्रदेशराज्ये कुचुपुडी नाम्नी ग्रामे केचन ब्राह्मणबालै: आरब्धम्। भामाकलापं प्रह्लादचरितं च अस्य प्रसिद्धौ प्रकारौ स्त:।

मणिपुरी

एतत् मणिपुरराज्यत: उत्पन्नं वर्तते। एषा कला समूहनृत्यरूपेण प्रदर्श्यते। एषा कला कालेन यावत् 'रास नृत्यं' इति कथ्यते। रास: चत्वार: प्रकारा: सन्ति १.नित्य रास: २.वसन्त रास: ३.कुञ्ज रास: ४.महा रास:। श्री रबिन्द्रनाथ टगोर महोदय: अस्मिन् नृत्यक्षेत्रे परिश्रमं कृत्वा जनप्रियं कृतवान्।

रतनाट्यं

भरतनाट्यं भारतदेशस्य प्राचीन नटनकला अस्ति। अस्य प्राचीनता २५०० वर्षाणि स्यात् इति मन्यते। इन्द्रेण प्रेरित: भरतमुनि: एतत् नाट्यं रचितवान्। अस्मिन् चतस्र: वृत्तय: चतुर्वेदेभ्य: स्वीकृता:। बलयुक्ता आर्भटी अथर्ववेदात् रसभावयुक्ता सात्त्वती यजुर्वेदात् गानयुक्ता कैशिकी सामादेवात् शब्दयुक्ता भारती ऋग्वेदात् च।

५ शतके नन्दिकेश्वर: तस्य प्रसिद्ध ग्रन्थे अभिनयदर्पणे नाट्यविषये नर्तकस्य योग्यताविषये विस्तारेण कानिचन तत्त्वानि नियमानि च प्रस्तुतं कृतवान्। स: भद्रपुरुष: एतत् सभालक्षणं दत्त्ववान्।

सभा कल्पतरुर्भाति वेदशाखोपशोभित:।
शास्त्रपुष्पसमाकीर्णो विद्वत्भ्रमरसंयुत:।।

नन्दिकेश्वर: वदति– नाट्योत्सव स्थाने सभा कल्पवृक्षमिव भवेत् तस्य शाखा: चत्वार: वेदा: स्यु:। ६४ शास्त्राणि तस्य वृक्षस्योपरि स्थितानि पुष्पाणि भवेयु:। विद्वांस: भ्रमरा: इव स्यु: इति।

किङ्किण्य: कांस्यरचिता: ताम्रेण रजतेन वा।
सुस्वराश्च सुरूपाश्च सूक्षमा नक्षत्रदेवता:।।

एतस्मिन् श्लोके स: किङ्किण्य: कीदृशा: भवेयु: इति लक्षणं वदति। किङ्किण्य: कांस्यताम्ररजतै: वा रचितव्या:। तासां स्वरं मधुरं, तासां आकारं च नक्षत्राण्यिव सुन्दरं भवेत् इति।

भरतनाट्यस्य विभिन्नानि नामानि सन्ति यथा–सादिर आट्टम्, संदुकुट्टु ,चिन्न मेल्लम्, दासीआट्टम् च। लास्यताण्डवौ अस्या: कालाया: प्रमुखाङ्गौ। भरतनाट्यस्य त्रय: भागा:–नृत्त:, नृत्यम ,नाट्यम् च। नृत्तं भावयुक्तं शरीराङ्गै: प्रदर्शितं भवति। नृत्ये भावतालौ भवत:। नर्तका: गानस्य अर्थम् अभिनयेन देहागत्या प्रदर्शयन्ति। नाट्यं रसाभिनयं भवति।

S.S. Thanishashree, 2F

My Day

It begins at 8am with a rush and pace.
I grab my bag but forget something in its place.

Head towards college and the target is to reach early.
But I feel left behind because of traffic in every gully.

I check the clock, anxious about being late.
But, I still hope to make the most of my day's state.

Bustling crowd, cool breeze, hot coffee and a lot of knowledge sharing.
Always look forward for the new learning.

Students' engagement at class.
Ensuring their results not to go on toss.

Bell rings to say it's time to pack-up.
But the question remains.....was it really my day to end-up.

I juggle work and life, trying to find a balance true.
Hope my efforts see me through.

So, let's make each day count and take control of our fate.
And, turn everyday into a day that's truly great.

No more waiting for tomorrow, or next day, or next year.
Let's make today our day, and banish all fear.

Thejesh S
The Principal

ಕ್ಯಾನ್ಸರ್

ದೇಹದಲ್ಲಿ ಏರುಪೇರು
ಕಡಿವಾಣ ಕಳೆದುಕೊಂಡ
ಜೀವಕೋಶ!
ಒಂದೊಂದಾಗಿ ಬೇರ್ಪಟ್ಟು
ರಕ್ತದ ಕಾಲುವೆಯಲ್ಲಿ
ಹರಿದಾಡಿ
ಎಲ್ಲೆಂದರಲ್ಲಿ ನೆಲೆಸಿ,
ಎಲ್ಲವನ್ನು ತನ್ನದಾಗಿಸಿಕೊಂಡು,
ಉಸಿರು ಹಿಂಡಿ,
ಜೀವ ತೆಗೆಯುವ
ಸಾವಿಲ್ಲದ ಸರದಾರ.

Suresh O,
Department of Biology

Reflections of the Soul: The Magic Within Mirrors and Life's Purpose by

"Mirror Mirror on the wall

Who's the fairest of them all?"

A spell in Snow white - a tale of magic, beauty and evil; Ah! Did anyone even know that the magic of reflection has so much meaning and relevance in our real lives too? Mirror shows us who we are outside in and at times, to live in the moment. When we stare into our deep eyes to get our answers, there's a rendezvous of mind and soul. The magic tales talk volumes about foreseeing life in the tomorrow. The wizards and witches have impacted timelines depicting the future.

We are engrossed in the hustle of life, in a race to live well, establishing a position for ourselves in the society. At times we feel knocked, we want a pause, a silence, a break from everything, a serene peace. We seek the company of loved ones, meet old friends, we burn out in the serendipity of nature, trying to validate our feelings, we inhale from the outside. One needs to look inside, read the energy, set the aura right and cleanse ourselves from the staggered thoughts.

When in doubt, when fear, torment and frustration annoys, it is time to reflect. The pause and restart is the best medicine. Let the going get tough and the mirror-talk make one, tough and get going. A little girl who stood in a room full of mirrors realised that it was the society that surrounded her, she laughs and the mirrors reciprocate; she cries and the mirrors reciprocate that too, so she chooses the former. Shattering the mirror that has no spirit, vanquishing the inner demon, making a comeback is a story indeed.

Reflections and introspection happens with self talk and the mirror can help one do it without inhibitions. Mirror shows us our expression of every facet and the people around us. A death like silence surrounds us when the thoughts are chaotic. Mirror does the talking when every other therapy fails. Who we are, where we need to reach and what our purpose is all this decides so many things that a complex life cannot untangle.

A life without purpose is like a lake that is dry, a tree without leaves and a sky without stars. Understanding oneself is primarily the most amazing part of living a good and meaningful life. Success is just a step away when the journey is smooth.

Yet life is neither a magic spell nor an undesirable hell, it is but an effort to make meaning out of life.

Hema N,
Department of English

समय है बलवान

समय के साथ चल हे इंसान
समय के साथ चल
समय है बड़ा बलवान
समय के साथ चल हे इंसान ।१।

उसे तू सम्मान देगा तो,
बना देगा तुझे महान
उसे तू धिक्कारेगा तो,
बना देगा तुझे अपवान
समय है बड़ा बलवान
समय के साथ चल हे इंसान ।२।

जो समय के साथ चला,
वह कभी नहीं हुआ जीवन में असफल
जिसने समय को छोड़ा,
उसको कभी न निराश छोड़ा
समय है बड़ा बलवान
समय के साथ चल हे इंसान। ।३।

जो समय के आगे चला,
वह बना ज्ञानी विज्ञानी
जो समय के पीछे चला,
वह बना आलसी अज्ञानी
समय है बड़ा बलवान
समय के साथ चल है इंसान ।४।

जो शिष्य समय को ना महत्व दे सका,
वह पारस मणी पाकर भी लोहे को सोना ना बना सका
जो शिष्य समय के साथ चला,
वह गुरु ना होते हुए भी धनुर्विद्या सीख सका
समय है बड़ा बलवान
समय के साथ चल हे इंसान ।५।

समय है ना किसी के बस में
इसलिए डरते हैं सारे वीर ज्ञानी इससे
समय ने साथ दिया तो बना वह लोहा सोना
समय जो रूठ गया तो राजा बने रंक
समय है बड़ा बलवान
समय के साथ चल है इंसान हैं ।६।

समय ने ना पांडवों को छोड़ा ना कौरवों को,
ना विक्रमादित्य को ना नल महाराज को
बुरे समय में जो धैर्य रखेगा,
जिसे शक्ति देने का कार्य समय करेगा
समय है बड़ा बलवान
समय के साथ चल हे इंसान ।७।

Saroja Sawant Sanapuji
Department of Hindi

Mount Kailash - The Abode of Shiva

Mount Kailash is a sacred spiritual mountain located in Tibet. Mount Kailash is 22,000 ft from the Tibetan Plateau, which is primarily considered to be inaccessible. It is the most intriguing mountain range in the whole Himalayas. I thought of divulging some things that you might not know about it.

It's truly an area where gods manifest and I don't think the current level of human science understanding can decipher some of the phenomenon one sees there.

Facts about one of the world's most sacred and mysterious mountain peaks—Mount Kailash.

- Mount Kailash is believed to be the Axis Mundi aka the cosmic axis, world axis, world pillar, centre of the world.
- True to its nature, the water of the holy Lake Mansarovar stays placid whether it is windy or not. Also, its next-door neighbour, Rakshas Tal stays more or less turbulent. . Another interesting factor is that Manasarovar is a freshwater lake and Rakshas Tal is a saltwater one.
- The mountain is composed of rock that is over 50 million years old, dating back to the Tertiary period when the Indian subcontinent collided with the Eurasian landmass, forming the Himalayas.
- It is said that those who climb Mount Kailash age quickly. The time that humans take to age two weeks only takes 12 hours in this mountain. Numerous Hikers have detailed that they feel like their nails and hairs are developing rapidly within 12 hours.
- The reason people can't reach the top of the mountain is that the mountain keeps on changing position. Despite the fact that numerous individuals attempted to climb on Kailash Parvat however every one of the treks to the summits has been fruitless till date
- According to Tibetan lore, a monk named Milarepa is the only person who has ever climbed Mount Kailash. After that, till this date, no one has ever reached the peak of Mount Kailash.
- Meanwhile, the secrets behind why is Mount Kailash unclimbable remains a mystery.

The answer to that is in a statement by Herbert Titchy, an Australian climber who once said,

"Only a man entirely free of sin is able to climb Kailash. And he wouldn't have to actually scale the sheer walls of ice to do it – instead, he would just turn himself into a bird and fly to the summit."

This might mean, people with clear hearts , without sin, whom we call, Yogi, might be enlightened enough to see this meaning and travel to the next dimension or next world and might necessarily not mean to ascend physically.

Shwetha R
Department of Computer Science

Emerging Trends

Introduction

The world is constantly changing and evolving, and with it comes new trends and developments that shape our society. These emerging trends have the potential to greatly impact our lives and shape the future. In this report, we will explore some of the most significant emerging trends that are currently gaining traction and could potentially have a major impact in the near future.

Benchmarks

1. Artificial Intelligence (AI)
2. Machine Learning (ML)
3. Natural Language Processing (NLP)
4. Virtual Reality (VR)
5. Augmented Reality (AR)
6. Robotics
7. Big data

Artificial Intelligence (AI)

Artificial intelligence simulates the natural intelligence of human beings into machines. The AI makes the machines work intelligently to imitate some of the functions of humans: problem solving and decision making. The AI systems make new decisions based on past experiences.

Examples: Siri, Google Now, Cortona, Alexa

Machine Learning (ML)

Machine Learning enables computers to learn from past statistical techniques without explicit programming. It has a set of algorithms called models, that learn on their own from past data. The performances of the models are measured using trained data and tested data. Data used to train the machine learning models is termed trained data. Data to evaluate the performance of the models are termed tested data.

Examples: Google Maps, Speech & Image recognition, Chatbot

Natural Language Processing (NLP)

NLP is a search engine predictive feature, able to suggest next words in sentences while typing the text. It allows interaction with the system using human spoken languages. It allows performing text-to-speech, speech-to-text conversions.

Examples: Google Translation

Virtual Reality (VR)

VR is a simulated 3D generated situation. It promotes sensory information such as sound, smell and temperature. It is used in engineering, psychology and science fields. VR headsets allow interaction with virtual objects.

Examples: Driving Simulator

Augmented Reality(AR)

AR generates information about the existing physical surroundings. It allows it to access real time information about the surrounding objects using a camera.

Examples: Google Lens

Robotics

A robot is a programmed machine capable of performing one or more tasks automatically. The robots resembling humans are called humanoids. They are used in military, research, medical and science fields. There are many types namely

1. Wheeled Robots
2. Legged Robots
3. Manipulators
4. Humanoid

Aerial photography, healthcare, agriculture, wildlife monitoring and patrolling are the applications of robotics.

Examples: MER, Sophia, Drone, Vyommitra

Big data

Around the sphere, enormous data is being generated due to billions of internet users. Every 60 seconds, 2.5 quintillion bytes are generated. Latest 402.74 million terabytes are being generated and around 12 zettabytes per month, 2.8 zettabytes per week, or 0.4 zettabytes every day expected. The large and complex data that cannot be processed by traditional databases are termed as big data.

It not only represents enormous data, but also specifies challenges involved in storing, processing, transferring and searching data.

The big data has five characteristics:

1. Volume
2. Velocity
3. Variety
4. Veracity
5. Value

The big data can be handled with a specialized library named python pandas or an application named python numbars.

Conclusion

These are just some of the emerging trends that have the potential to greatly impact our society and shape the future. As technology continues to advance and evolve, we can expect to see even more emerging trends such as:

1. Big data
2. Cloud Computing
3. Block chain
4. Internet of Things (IOT)
5. Smart cities
6. Grid Computing
7. Crypto Jacky
8. Supply chain attack
9. Denial of service (DOS)
10. Cyber warfare and collateral damage
11. Quantum Computing

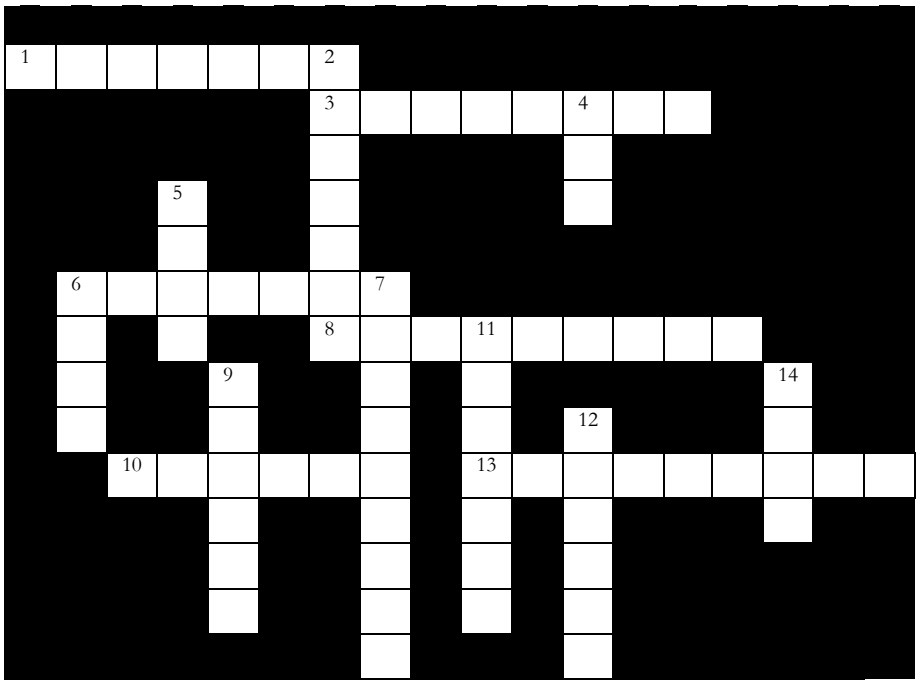
These emerging trends are the way we live, work and interact with the world around us. It is important for individuals and businesses to stay informed and adapt to these changes to stay ahead in this ever-changing world..

Links:

1. https://science.nasa.gov/mission/chandrayaan-3/
2. https://en.wikipedia.org/wiki/Vyommitra#/media/File:Vyommitra_(Space_friend),_ISRO.jpg

Karthick TS,
Department of Computer Science

PERIODIC TABLE CROSSWORD PUZZ



ACROSS

1) Name of the metal that is liquid at room temperature. (7)
3) Name of the element used to make filaments in light bulbs. (8)
6) Element with symbol Nb. (7)
8) Element with atomic number 25. (9)
10) The most electropositive & least reactive halogen, our body needs this to make thyroid hormones. (6)
13) Most reactive rare earth metal with atomic number 57. (9)

DOWN

2) Element with atomic number 39. (7)
4) Its alloy with other metal used as protective coating to prevent corrosion. (3)
5) It is present in hemoglobin of RBC & it is the second most abundant metal on earth. (4)
6) Inert gas which is colorless & odorless used in electric signs & fluorescent lamps. (4)
7) It is the central core of the chlorophyll molecule in plant tissue. (9)
9) Soft and highly reactive metal which is stored in oil or kerosine. (6)
11) Element with atomic number 31. (7)
12) Element with atomic mass 114.818 u. (6)
14) It's a vital mineral, our body needs it for skin health & immune function. (4)

Ganga G Hegde
Department of Chemistry

Being lost? Or Losing it?

"Excuse me, is this 2nd cross or 3rd cross of HMT layout?" Sowbhagya asked the passerby with trembling lips and fear writ large on her face. Lately, it was a struggle to remember cross roads and main roads. Pat came the nonchalant reply of the young man, " This is 5th cross, aunty. Go back the way you came and turn right at the crossing." A little perplexed with beads of sweat breaking out on her forehead she turned back and started walking in the direction that she had come. "Didn't I go past these same stores like 5 minutes ago?" she muttered to herself as she saw the familiar sign boards of Sree Banashankari Rice traders, Akshay Bhandar supermarket, Sri Ram Medicals on either side of the road. "Then how did I miss out on the 3rd cross?" she quizzed herself.

A dilemma ensued in her mind as she began to wonder if these were the names of stores in her neighborhood or of those closer to her daughter's house. Feeling disoriented she abruptly stopped in her tracks and took a good look around. A smirk appeared on her face as she realized that she had absent mindedly walked toward her friend Narmada's house. Force of habit! Narmada was her neighbor turned friend and her companion on their daily morning walks.

Heaving a sigh of relief she quickened her pace as she walked to the intersection taking a right turn there and oh yes, there it was!! The familiar sight of the Hanuman temple. Spontaneously she started softly humming the Hanuman chalisa. Again, that abrupt blankness....that sudden lapse in memory. "Oh no! How can I forget this sloka? I have been chanting it since I first learned to speak!!!" She got so engrossed trying fervently to remember the sloka that she was jolted out of her reverie at the loud screeching of a car's brakes just inches away from her. Angry expletives of the irate driver filled the air accompanied by exasperated protests and disdainful looks of passersby. Shivering with fright at what could have been, it dawned on her that she had reached the main bus stand adjacent to the crowded market area.

Fear started to grip her as she became aware of her folly of forgetting to bring her cell phone with her while stepping out of the house on her morning walk. "Or, did I lose it somewhere??? I faintly recollect having it in my hand when I set out. Gosh!!! Ashwath is going to take me to task if he comes to know I have lost this phone too. Oh no, oh no, oh no!!!! He needs to take his medicines at 8.30 and I have yet to reach home and make his breakfast for him."

Panic stricken, she asked a lady walking past if this was the 3rd cross road. As luck would have it, the lady couldn't understand the language and walked away shrugging her shoulders and shaking her head. Sowbhagya's eyes lit up as she suddenly spotted Sringar Bangle store right opposite her. Despite her exhaustion there was a spring in her step at seeing the familiar (and now endearing) bangle store of which she was a regular customer...or so she felt.

A few steps later, there it was again... That spell of yo-yoing between lucidity and ambiguity... "Is it me who lives on the 3rd cross or is it my daughter Sudha? Good Lord!!! Now how silly of me to forget that Sudha was going to drop her baby at our place today. Ashwath will be wondering where I could have possibly gone off. And, have I or have I not made his breakfast? Now wait, what is my house number??"

By now she was totally dejected and broken and holding the edge of her sari pallu to her mouth she started sobbing, not knowing where to go, how to find her house, whom to ask for help. As she stood there helplessly, sobbing her heart out, she felt a hand on her shoulder. Startled, she turned around in fright, shaking with terror and looked at the face of that hand on her shoulder. Fear gave way to relief, joy and surprise as she saw the loving and worried face of Ashwath in front of her.

All this while she had actually walked up and down, back and forth in front of her own house and had not been able to recognise it. Yes, Sowbhagya was lost! Entangled in a web of senile thoughts, lost in her own mind, lost in a labyrinth of confusion and delusion.

Asha Purushotham
Department of French

Sl. No.	Name of the Student	%
1	Fathima Imran	99.50
2	Abhijay M S	99.33
3	Prabhav P	99.33
4	G Sharada	99.17
5	S Reshu	99.17
6	Siddharth A	99.17
7	Anagha A Pai	99.00
8	Batchu Hari Nainika	99.00
9	Goutham Sankar	99.00
10	Inchara Hiremath	99.00
11	Rahini Mohan	99.00
12	Rahul P	99.00
13	Rohit Hariprasad Sirivaram	99.00
14	Srikanth Ramisetti	99.00
15	Vibha Jagadisha Shenoy	99.00
16	Bellamkonda Likhith Praveen	98.83
17	Lakshmi B C	98.83
18	Shreya Bharadwaj	98.83
19	Shriya S R	98.83
20	Apoorva Hemmige Arun	98.67
21	Arnav Samahith	98.67
22	Harsha A	98.67
23	Samarth S Maladkar	98.67
24	Sharanya R	98.67
25	Adhya Hebbar	98.50
26	Anagha Hegde	98.50
27	Ananya Lakshmi Narasimhan	98.50
28	Arya Shetty	98.50
29	Mantradi Shashwati Rao	98.50
30	Nehala Devaraj	98.50
31	Nirav Saale	98.50
32	P B Tejas	98.50
33	Prajvini A	98.50
34	Preethi S Reddy	98.50
35	Srihari S Rao	98.50
36	Sushruth Subramanya	98.50
37	Tejas Bharadwaj	98.50
38	Varshith M Gowda	98.50
39	Abhilasha Shrestha	98.33
40	Abhinav Mallela	98.33
41	Aditi P Rao	98.33

Sl. No.	Name of the Student	%
42	Amaey Advait	98.33
43	Binusha D Prakash	98.33
44	Harshitha P	98.33
45	Himani Vijay	98.33
46	Lakshmi G Ravishankar	98.33
47	M Divyani Goel	98.33
48	Nihar Vedavyasa Rao	98.33
49	Adithya G	98.17
50	Aditi Kamath A	98.17
51	Ahana Srinivas Sivaram	98.17
52	Chinmaya Hegde	98.17
53	Hemal M	98.17
54	Huda Fatimah	98.17
55	Likhit Datta Tammana	98.17
56	Neha Karthik	98.17
57	Ninaad Aniruddha Agashe	98.17
58	Pranjal Pradeep Bellave	98.17
59	S Abirami	98.17
60	Samarth P Rao	98.17
61	Sanjay C P	98.17
62	Shrikari Prasad Peddamatham	98.17
63	Ahana Hippli Sharan	98.00
64	Anish S Shastri	98.00
65	Harini Channe Gowda	98.00
66	Kshama Bhat	98.00
67	M Devashruth	98.00
68	Neetu Aekabote	98.00
69	Prachi L Narayana	98.00
70	Radhika Shroff	98.00
71	Rakshan U	98.00
72	Rakshitha B S M	98.00
73	Saara Bhagwat	98.00
74	Samarth H K	98.00
75	Samarth Somisetty	98.00
76	Vindaksh C M Reddy	98.00
77	Chiraanth S	97.83
78	Kirthini Jayasankar	97.83
79	M R Yashaswini	97.83
80	Methun A K	97.83
81	Naithik Jain	97.83
82	Navya Balaji	97.83

Sl. No.	Name of the Student	%
83	Pranav Shashikiran Atreya	97.83
84	Ritu Ravish	97.83
85	Sanjeev N	97.83
86	Sushanth S Rao	97.83
87	Tanay P Kanduri	97.83
88	Udbhav Naveen Kumar	97.83
89	Vekaasini Narayanan	97.83
90	Aishwarya Mangalore	97.67
91	Amulya Shetty	97.67
92	Anmol Vaibhavi A	97.67
93	Arjun Mallikarjun Banappanavar	97.67
94	Dayakara Sharvani	97.67
95	Keerthana M	97.67
96	Niranjan Gowrisankar	97.67
97	Pragun K Kirani	97.67
98	Preksha P V	97.67
99	Punith U	97.67
100	Shraddha Shankar Aangiras	97.67
101	Shripada A Dixit	97.67
102	Suhani Vetrivel	97.67
103	Sumanth Y M	97.67
104	Vishrutha B N	97.67
105	Abhinav A	97.50
106	Ankith Chowdhary	97.50
107	Dhruva Manoj Navada	97.50
108	Medha Balaji	97.50
109	Meghana Praveen Kashyap	97.50
110	Panchami P	97.50
111	Prarthana Upadhyaya	97.50
112	Rally Venkata Nava Khyathi Sree	97.50
113	S Sujith Bayari	97.50
114	Suravi Vijay Joshi	97.50
115	Utsav Raviprakash	97.50
116	Vibha N Shandilya	97.50
117	Yuktha J	97.50
118	Aathreya Nandana	97.33
119	Aditi D	97.33
120	Amritansh Saxena	97.33
121	Amulya P	97.33
122	Anarghya R Aithal	97.33
123	Arya J	97.33

Sl. No.	Name of the Student	%
124	Chinmaya Srivatsa K	97.33
125	G M Nishant Gadiya	97.33
126	Greeshma N	97.33
127	Hanuman Sarode	97.33
128	Sampada Ajay Desai	97.33
129	Sankalp Sharath	97.33
130	Sathvic Sharma	97.33
131	Sejal Siddapuram	97.33
132	Shravana R Holla	97.33
133	Shriya Arunkumar	97.33
134	Aadhya R	97.17
135	Ananthakrishna M A	97.17
136	Anirudh M Somayaji	97.17
137	Dhriti Rajesh	97.17
138	Gagan C Shetty	97.17
139	Ganavi Purushothama	97.17
140	Ianna Elizabeth Reni	97.17
141	Janavi M	97.17
142	Kaveri Magal	97.17
143	Madhava K S Puranik	97.17
144	Mugdha Shashidhara	97.17
145	Pranathi N A	97.17
146	Satvik K	97.17
147	Sunay Rajakumar Hegde	97.17
148	Supriya M	97.17
149	Vedang Raghavendra Chinhalli	97.17
150	Yashas C	97.17
151	Yashwanth S	97.17
152	Prachi Deepak Guddemane	97.00
153	Pranav S V	97.00
154	Priya D	97.00
155	Sai Roshan Naveen	97.00
156	Saketh Pradeep Bellave	97.00
157	Shwetha Srinivasan	97.00
158	Srivatsa Bharadwaj	97.00
159	Sruthi Rajagopalan	97.00
160	Tanisha Deepak Balani	97.00
161	Tazmeen Sultana C	97.00
162	Aditya Prasad	96.83
163	Ajay Subramanyam Javali	96.83
164	Belavadi Ramprasad Vasudeva	96.83

Sl. No.	Name of the Student	%
165	Omkar R	96.83
166	Pratyush L Daddi	96.83
167	Rohith Sakre	96.83
168	Shaan D	96.83
169	Siddharth Chandrashekar	96.83
170	Smiti Mohit Achliya	96.83
171	Adithya Ram Shaji	96.67
172	Ananya R Jahagirdar	96.67
173	Anavi B S	96.67
174	Chetan Jagannatha	96.67
175	Jayanth S	96.67
176	Maanya N Rao	96.67
177	Nithyashree S	96.67
178	Prithvi Aithal	96.67
179	Priyanka Ramkumar	96.67
180	Rishi Atreya	96.67
181	Sharvani G Bhaskar	96.67
182	Sudiksha Sudharshan	96.67
183	Sumukh Arun Shandilya	96.67
184	Aditya A	96.50
185	Aneesh Gururaj Kulkarni	96.50
186	Anjali Arun	96.50
187	Bhoomika Kshatriya	96.50
188	Gahana C	96.50
189	Manasvi B A	96.50
190	Mohammed Shafeeq	96.50
191	Pranav Prasanna Krishna	96.50
192	Pratiksha S Nayak	96.50
193	Ramith R	96.50
194	Spandhana Arun	96.50
195	Srimayee Ganesan	96.50
196	Vaibhava L	96.50
197	Vansh V	96.50
198	Varsha B	96.50
199	Aditi S B	96.33
200	Ambika A Patil	96.33
201	Amogh Mahishi Srikanth	96.33
202	Aryama Vinay Murthy	96.33
203	Krithika H V	96.33
204	Mahika Srikanth Shirodkar	96.33
205	Mohammed Owais	96.33

Sl. No.	Name of the Student	%
206	Samarth Kulkarni	96.33
207	Shashank Channamallikarjun A	96.33
208	Shriya K	96.33
209	Suhas Raghavendra	96.33
210	Vidith Venkatesha Murthy	96.33
211	Aaditya Srinath Rao	96.17
212	Abhinav Ganesh Vashishta	96.17
213	Amogh Kulkarni	96.17
214	Angad Gota B	96.17
215	Archana Bharadwaj J S	96.17
216	Chitritha Venkatesh	96.17
217	E S Sukruth	96.17
218	Hemanth Sagar S R	96.17
219	Minchu G	96.17
220	Nishitha	96.17
221	Parikshith Kattepura Vivek	96.17
222	Prajna R	96.17
223	Rayhan Feroz	96.17
224	Sindhu B S	96.17
225	Tarini P	96.17
226	Akshara Prasad Aggunda	96.00
227	Arya Kulkarni	96.00
228	Ashwin Acharya	96.00
229	Avyukth K V	96.00
230	Chaitanya Laxmi Kadengodlu	96.00
231	Dev Darshan Swaroop	96.00
232	Dhruv Ajay Hangal	96.00
233	Divya Srikanth Chakravarthy	96.00
234	Drashtara Dheemanth Hikkalappa	96.00
235	G Tanushree	96.00
236	Gandharv Prakash Aradhya	96.00
237	Gurukrishna Narayanan	96.00
238	Manasvi G V	96.00
239	Nidhi Nagabhushan	96.00
240	Rishikesh Basawaraj Mahagaonker	96.00
241	Samruddha S Shastry	96.00
242	Sanjana Srikanth	96.00
243	Vedh Nayak K	96.00
244	Vigneshwaran P	96.00
245	Akshara Sarma Chennubhatla	95.83
246	Ananth Krishna M R	95.83

Sl. No.	Name of the Student	%
247	Anarghyaa Kashyap	95.83
248	Eeshan R Kamat	95.83
249	Nain Jeetendra Nagpal	95.83
250	Niranjan B N M	95.83
251	Nishitha S	95.83
252	Shikshith V	95.83
253	Spoorthi Shyamaprasad	95.83
254	Sriviswaja Mudumba	95.83
255	Vihaan Yogish	95.83
256	Ananya Raghavendra	95.67
257	Darshan V	95.67
258	Jaladhi Madhusudhan	95.67
259	Pragati B Suresh	95.67
260	Prateek M Srivatsa	95.67
261	Ravitejas	95.67
262	Rishabh Umesh	95.67
263	Ruchhika M S	95.67
264	Shashwath S Srikanth	95.67
265	Shourya A	95.67
266	Shreesh Shashidhar Athreya	95.67
267	Sujan Anjankumar	95.67
268	Abhay M	95.50
269	Kallur Yathin	95.50
270	Khushi Raghavendra	95.50
271	Navya K Manjunath	95.50
272	S Yeshwanth	95.50
273	Shamant Nagaraj M	95.50
274	Shreya Chandramouli	95.50
275	Sneha B M	95.50
276	Sougandhika Prashanth	95.50

Sl. No.	Name of the Student	%
277	Suhas S Rao	95.50
278	Vaishnavi Nagesh	95.50
279	Amogh Prashant Patil	95.33
280	Himani Ransh	95.33
281	Jeevita V	95.33
282	M Abhinav	95.33
283	Prakruti Bhaskar	95.33
284	Pranav Ranjith	95.33
285	Pratham S	95.33
286	Rida Iyengar	95.33
287	Tanu Shree V	95.33
288	Abhivadan Mukouth Vallapil	95.17
289	Aditya T J	95.17
290	Bhuvan Hosahalli Shivakumar Gowda	95.17
291	Keerthana A	95.17
292	Sagar L	95.17
293	Sai Sreepad G	95.17
294	Sukruti V	95.17
295	Vrushank Subramanya	95.17
296	Yatish P	95.17
297	Gayatri Bhat	95.00
298	Hitesh P S	95.00
299	Kruthika B Reddy	95.00
300	Manyu Kangannar Muralidhar	95.00
301	Mohammed Umar	95.00
302	Mukund Hebbar	95.00
303	Sai Siri Venkatesh	95.00
304	Samhitha Kanth	95.00
305	Siddhanth K Jain	95.00

Sl. No.	Name of the Student	%
1	Prabhav P	6
2	Likhit Datta Tammana	17
3	Hemal M	21
4	Sudhanva N Rao	25
5	Nihar Vedavyasa Rao	28
6	Niranjan Gowrisankar	49
7	Ajay Subramanyam Javali	106
8	Vedang Raghavendra Chinhalli	108
9	Mukund Hebbar	109
10	Amaey Advait	110
11	Vindaksh C M Reddy	114
12	Pragun K Kirani	139
13	Pervaje Arjun Prasad Bhat	154
14	Mantradi Shashwati Rao	166
15	Aathreya Nandana	216
16	Ninaad Aniruddha Agashe	229
17	Hanuman Sarode	232
18	Naithik Jain	233
19	Navya Balaji	238
20	Tanay P Kanduri	244
21	Apoorva Hemmige Arun	253
22	Parikshith Kattepura Vivek	257
23	Shripada A Dixit	261
24	Sumanth Y M	277
25	Akshara Sarma Chennubhatla	278
26	Nithyashree S	280
27	Abhinav Ganesh Vashishta	283
28	Ashwin Acharya	293
29	Pratyush L Daddi	309
30	Sanjeev N	312
31	Aneesh Raghavendra Hunagund	324
32	Rohit Hariprasad Sirivaram	326
33	Fathima Imran	342
34	Aaron Chris D'Souza	344
35	Amogh Kulkarni	345
36	Adithya G	355
37	Angad Gota B	374
38	Bellamkonda Likhith Praveen	406
39	Prarthana Upadhyaya	422
40	Srikanth Ramisetti	464
41	Pradyun Diwakar	474

Sl. No.	Name of the Student	%
42	Punith U	480
43	Srivatsa Bharadwaj	491
44	Chinmaya Hegde	508
45	Sathvic Sharma	523
46	Prachi Deepak Guddemane	532
47	Arnav Samahith	539
48	V G Akhilesh	549
49	Manasvi B A	590
50	Suhas Raghavendra	604
51	Abhijay M S	607
52	Hitesh P S	613
53	Nirav Saale	620
54	Ajay Balaji Srinivas	644
55	Adhya Hebbar	655
56	Aditya Prasad	667
57	Rahul P	671
58	Varshith M Gowda	674
59	Anarghya R Aithal	679
60	G Sharada	680
61	Abhinav Mallela	695
62	Vrushank Subramanya	701
63	Siddharth Chandrashekar	711
64	Adithya Ram Shaji	712
65	Sharanya R	736
66	Jaladhi Madhusudhan	742
67	Smiti Mohit Achliya	748
68	Shraddha Shankar Aangiras	749
69	Udbhav Naveen Kumar	773
70	Rahini Mohan	781
71	Anish S Shastri	782
72	Samarth P Rao	790
73	Shreesh Shashidhar Athreya	799
74	Samarth Somisetty	863
75	Vivek G Nair	869
76	Nandan Datta	902
77	S Reshu	912
78	Dhruv Siddharth Raj	953
79	Suhani Vetrivel	975
80	Shripad Pujari	991
81	Methun A K	995
82	Sumukh Arun Shandilya	1007

Sl. No.	Name of the Student	%
83	Sankalp Sharath	1014
84	Vidith Venkatesha Murthy	1067
85	Aadhya R	1086
86	Amritansh Saxena	1133
87	Pranjal Pradeep Bellave	1174
88	Chiraanth S	1182
89	Arya Shetty	1191
90	Panchami P	1200
91	Vaibhava L	1206
92	Spandhana Arun	1247
93	Huda Fatimah	1301
94	Raghavendra H	1313
95	Samatma A Bharadwaj	1314
96	Duba Sai Mohit	1326
97	Vibha Jagadisha Shenoy	1338
98	Rishikesh Anand Katta	1353
99	Mohammed Shafeeq	1360
100	Spoorthi Shyamaprasad	1369
101	Revanth Vishnu Reddy C B	1421
102	Samarth Kulkarni	1425
103	Drashtara Dheemanth Hikkalappa	1462
104	Satvik K	1493
105	Darshan V	1517
106	Srihari S Rao	1519
107	Radhika Shroff	1525
108	Maanya N Rao	1567
109	Goutham Sankar	1573
110	Manu Kudukundi	1599
111	Rakshan U	1632
112	Dhriti Rajesh	1660
113	Yashwanth S	1724
114	Eeshan R Kamat	1751
115	Aditi Kamath A	1754
116	S Sujith Bayari	1790
117	Saara Bhagwat	1805
118	Chinmaya Srivatsa K	1809
119	Anmol Vaibhavi A	1811
120	Riddhimaan S Mahesh	1812
121	Shrivatsa Gururaj Kulkarni	1821
122	Neetu Aekabote	1882
123	Kirthini Jayasankar	1894

Sl. No.	Name of the Student	%
124	Sai Roshan Naveen	1896
125	Sanjay C P	1922
126	Anavi B S	1945
127	Vihaan Yogish	1966
128	Anagha A Pai	1989
129	Vikas M S	2062
130	Rally Venkata Nava Khyathi Sree	2073
131	Avyukth K V	2126
132	Pranav Hebbar K	2136
133	Manyu Kangannar Muralidhar	2137
134	Siddhanth K Jain	2139
135	Tejas Bharadwaj	2152
136	Arnav Nagesh	2188
137	Anjali Arun	2190
138	Aditi P Rao	2198
139	Harsha A	2236
140	Aaditya Srinath Rao	2240
141	Ambika A Patil	2353
142	Nishitha	2371
143	Ananya R Jahagirdar	2383
144	Sushruth Subramanya	2442
145	Praneeth N Naik	2505
146	Anirudh M Somayaji	2561
147	Aditya A	2573
148	Lakshmi G Ravishankar	2584
149	Arjun Mallikarjun Banappanavar	2586
150	Batchu Hari Nainika	2605
151	Bahujna Keerthi Anuva	2617
152	Ahana Hippli Sharan	2627
153	Inchara Hiremath	2652
154	Harini Channe Gowda	2659
155	Suravi Vijay Joshi	2668
156	Amulya P	2726
157	Saketh Pradeep Bellave	2727
158	Ankith Chowdhary	2733
159	Kshama Bhat	2752
160	Arjun Shrinivas Rugi	2812
161	Keerthana M	2855
162	Belavadi Ramprasad Vasudeva	2925
163	Krithika H V	2939
164	Neha Karthik	2945

Sl. No.	Name of the Student	%
165	Abhay M	3033
166	Tanisha Deepak Balani	3118
167	Sudiksha Sudharshan	3124
168	Harshitha P	3154
169	Sai Sreepad G	3179
170	Jayanth S	3206
171	Shourya A	3207
172	Shriya S R	3229
173	Prachi L Narayana	3259
174	Bhuvan Hosahalli Shivakumar Gowda	3261
175	Samarth H K	3263
176	Vishrutha B N	3278
177	Rayhan Feroz	3280
178	Omkar R	3345
179	Minchu G	3355
180	Ravitejas	3362
181	Preethi S Reddy	3381
182	Abhilasha Shrestha	3404
183	Rishi Atreya	3442
184	Janavi M	3546
185	Shwetha Srinivasan	3551
186	Vibha N Shandilya	3642
187	Prithvi Aithal	3664
188	Arya J	3688
189	Binusha D Prakash	3708
190	Aditya A Kirankumar	3719
191	Bhoomika Rohith	3751
192	Ritu Ravish	3754

Sl. No.	Name of the Student	%
193	Sneha B M	3796
194	Mugdha Shashidhara	3824
195	Meghana Grandhi	3831
196	Mukil Skanda A	3834
197	M R Yashaswini	3843
198	Shreesha C	3878
199	M Divyani Goel	3970
200	Rakshitha B S M	4027
201	Adithya Padvetnaya	4089
202	Siddharth A	4125
203	Rachana V S	4196
204	Utsav Raviprakash	4229
205	Chetan Jagannatha	4250
206	Mohammed Owais	4389
207	Rohith Sakre	4421
208	M Devashruth	4433
209	Shreya Bharadwaj	4506
210	Yuktha J	4531
211	Hemanth Sagar S R	4541
212	Chaitanya Laxmi Kadengodlu	4616
213	Aditi D	4634
214	Shrivatsa B S	4650
215	Sunay Rajakumar Hegde	4690
216	Anagha Hegde	4721
217	Aditya K	4765
218	Arjun Venkat	4808
219	Shriya K	4818
220	G Tanushree	4840
221	Shravana R Holla	4908

Sl. No.	Name of the Student	CRL
1	Nihar Vedavyasa Rao	710
2	Akshara Sarma Chennubhatla	778
3	Mukund Hebbar	944
4	Aryama Vinay Murthy	1205
5	Sudhanva N Rao	1589
6	Pervaje Arjun Prasad Bhat	1657
7	Niranjan Gowrisankar	1674
8	Likhit Datta Tammana	1910
9	Amaey Advait	1964
10	Aathreya Nandana	2195 CAT: 667
11	Vedang Raghavendra Chinhalli	2520
12	Parikshith Kattepura Vivek	3046
13	Pradyun Diwakar	3114
14	Prabhav P	3302
15	V G Akhilesh	3444
16	Hanuman Sarode	3877
17	Aneesh Raghavendra Hunagund	4326
18	Ninaad Aniruddha Agashe	4693
19	Hemal M	4878
20	Ajay Subramanyam Javali	5647
21	Vivek G Nair	5866
22	Amritansh Saxena	5939
23	Pragun K Kirani	6919
24	Srivatsa Bharadwaj	6991
25	Sumanth Y M	7002
26	Amogh Kulkarni	7884
27	Dhruv Siddharth Raj	7973
28	Ashwin Acharya	9131

Sl. No.	Name of the Student	CRL
29	Adithya G	9406
30	Rohit Hariprasad Sirivaram	9904
31	Chinmaya Srivatsa K	10297
32	Varshith M Gowda	10419
33	Navya Balaji	11904
34	Pratyush L Daddi	12162
35	Tanisha Deepak Balani	12234 CAT: 3759
36	Arnav Samahith	12556
37	Anish S Shastri	12787
38	Aditya Prasad	12856
39	Srikanth Ramisetti	13495
40	Shripada A Dixit	14226
41	Abhinav Ganesh Vashishta	14392
42	Arnav Nagesh	14870
43	Udbhav Naveen Kumar	15369
44	Dhriti Rajesh	15767
45	Apoorva Hemmige Arun	15775
46	Prachi Deepak Guddemane	16478
47	Naithik Jain	16487
48	S Reshu	16842
49	Shreesh Shashidhar Athreya	16896
50	Drashtara Dheemanth Hikkalappa	17386
51	Nirav Saale	17435
52	Chinmaya Hegde	19375
53	Suhani Vetrivel	19511
54	Tanay P Kanduri	19759
55	Preethi S Reddy	19846
56	Adithya Ram Shaji	19946

Sl. No.	Name of the Student	CRL
1	Nihar Vedavyasa Rao	182
2	Likhit Datta Tammana	759
3	Amaey Advait	1077
4	Hemal M	1340
5	Sudhanva N Rao	1595
6	Mukund Hebbar	1633
7	Niranjan Gowrisankar	1735
8	Akshara Sarma Chennubhatla	2080
9	Aathreya Nandana	2382
10	Pratyush L Daddi	2746
11	Aryama Vinay Murthy	3576
12	V G Akhilesh	3667 CAT: 669
13	Parikshith Kattepura Vivek	3724
14	Pervaje Arjun Prasad Bhat	3845
15	Abhinav Ganesh Vashishta	4585
16	Tanay P Kanduri	4946
17	Pragun K Kirani	5004
18	Srivatsa Bharadwaj	5364
19	Aneesh Raghavendra Hunagund	5436
20	Arnav Samahith	6023
21	Vedang Raghavendra Chinhalli	6262
22	Shripada A Dixit	6836
23	Varshith M Gowda	7133
24	Manu Kudukundi	7682
25	Amogh Kulkarni	7687
26	Hanuman Sarode	7707
27	Rishi Atreya	8294
28	Ashwin Acharya	8325
28	Manasvi B A	8491
29	Adithya G	8589
30	Suhas Raghavendra	8980
31	Dhruv Siddharth Raj	9832
32	Smiti Mohit Achliya	10083

Sl. No.	Name of the Student	CRL
33	Maanya N Rao	10699
34	Drashtara Dheemanth Hikkalappa	11121
35	Sumanth Y M	11340
36	Srikanth Ramisetti	11412
37	Duba Sai Mohit	11432 CAT: 2593
38	Chinmaya Srivatsa K	11830
39	Riddhimaan S Mahesh	11890
40	Aditya Prasad	12058
41	Vindaksh C M Reddy	12251
42	Pradyun Diwakar	13263
43	Arjun Shrinivas Rugi	13938 CAT: 364
44	Navya Balaji	13993
45	Ninaad Aniruddha Agashe	15256
46	Rohit Hariprasad Sirivaram	18372
162	Vrushank Subramanya	18421
47	Shreesh Shashidhar Athreya	18786
48	Mohammed Shafeeq	19644 CAT: 4926
49	Hitesh P S	19823
50	Spandhana Arun	20242
51	Chinmaya Hegde	20347
52	Ajay Subramanyam Javali	21238
53	Samarth Somisetty	21850
54	Bahujna Keerthi Anuva	22523
55	Eeshan R Kamat	22529
56	Amritansh Saxena	24074
57	Nandan Datta	24961
192	Siddhanth K Jain	25874
58	Shaan D	CAT: 891
59	Darshan V	CAT: 1085
60	Pranav Swaroop S	CAT: 1173
61	Suhaas Raju Kiran	CAT: 5553
62	Methun A K	CAT: 7396

Sl. No.	Name of the Student	Marks
1	Vibha Jagadisha Shenoy	711
2	S Reshu	701
3	Anish S Shastri	700
4	Chaitanya Laxmi Kadengodlu	695
5	Mohammed Shafeeq	695
6	Naithik Jain	695
7	Anmol Vaibhavi A	690
8	Suhani Vetrivel	690
9	Rahini Mohan	685
10	Adithya Ram Shaji	685
11	Sankalp Sharath	685
12	G Sharada	685
13	Nirav Saale	680
14	Rally Venkata Nava Khyathi Sree	680
15	Shripada A Dixit	680
16	Punith U	675
17	Jaladhi Madhusudhan	675
18	Ananya R Jahagirdar	672
19	Anarghya R Aithal	670
20	Tazmeen Sultana C	665
21	Saketh Pradeep Bellave	665

Sl. No.	Name of the Student	Marks
22	Mugdha Shashidhara	662
23	Nehala Devaraj	662
24	Radhika Shroff	660
25	Vibha N Shandilya	658
26	Minchu G	658
27	Pranjal Pradeep Bellave	650
28	Saara Bhagwat	646
29	Prachi L Narayana	641
30	Anavi B S	634
31	Preethi S Reddy	633
32	Bindu R	630
33	Pranav Ranjith	630
34	Janavi M	627
35	Harini Channe Gowda	627
36	Rachana V S	622
37	Sai Roshan Naveen	622
38	Sudiksha Sudharshan	621
39	Bhuvan Hosahalli Shivakumar Gowda	620
40	Vishrutha B N	613
41	Sai Chinmay K S	611
42	Binusha D Prakash	606

Shravani A. Basapur

Shravani A. Basapur, 1F along with her research advisor Dr. Venkata Krishna Bayineni, have reached a significant academic milestone. Their collaborative research paper, titled "Harnessing Bacterial Consortia and Green-Synthesized Metal Oxide Nanoparticles for Photocatalytic Dye Degradation," has been published in the esteemed American Journal of Student Research (AJSR). This pioneering study delves into the innovative application of bacterial consortia and green-synthesized metal oxide nanoparticles for effective photocatalytic dye degradation, marking a notable contribution to environmental science and technology.

Research Article

American Journal of Student Research

Harnessing Bacterial Consortia and Green-Synthesized Metal Oxide Nanoparticles for Photocatalytic Dye Degradation

S. Pushpavathi[2], Sri Ranjani[3], Shravani A Basapur[4],
Aschelle Tricia Rodrigues[5], Venkata Krishna Bayineni[1]

[1]Department of Biology, Prayoga Institute of Education Research, Off Ravgodlu Post, Bengaluru, Karnataka, India; [2]Sai Krushna Vidya Mandir School, Hosadoddi Village, Bengaluru, Karnataka, India; [3]MES ACS PU College, Bengaluru, Karnataka, India; [4]Venkat International Public school, Bengaluru, Karnataka, India; [5]St Joseph's School, Bangalore, Karnataka, India

Nishanth S Gowda

Nishanth S Gowda, 1I, secured the winner's position at the CISCE National Under-17 category and bagged several top placements in state and inter-school tournaments. Notably, he played a tandem simul with the legendary Vishwanathan Anand and other grandmasters at the WACA International Chess Tournament. Nisanth's dedication and talent promise even greater achievements in the future. He has not only excelled in competitive chess but has also represented with pride in various inter-school tournaments.

Neha V Koorse

Neha V. Koorse, 1A Yogasana is her passion and classical dance, her devotion, learning them from her Guru Shri Parameshwar Sir and Guru Smt. Kousalya Nivas Madam, respectively.

While she has received appreciation certificate from Prime Minister Modi and Sahyadri Young Ecologist award as well as Jr Johnny Biosphere title from IISc for her Clean India and Environmental conservation activities across Bengaluru, Neha has won several State, National and international awards in Yogasana & Dance competitions all over India apart from securing Nritya Mayuri, Shree Maa Anandamayee Yogaratna, Yoga Sevarathna and Yoga Kishori, Namma Bengaluru Little Star - Miss Cutie title awards along the way.

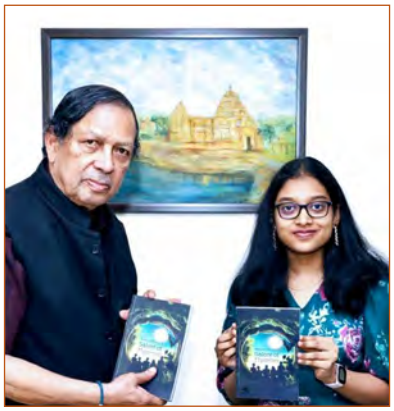
Recently, Neha was awarded Yoga Padma title internationally at Vietnam by Aviya Yoga Studio, she won bronze medal in the Khelo India Youth Games held in Haryana earlier, apart from bagging Champion of Champions awards in several state & national level competitions across India. Neha has given classical Bharatanatyam & artistic as well as traditional Yoga demo performances at various temple & public stages including coveted Khelo India closing ceremony at Kanteerava stadium, S_VYASA, Azadi ki Amrut Mahotsav cultural functions in front of various dignitaries like Shri Nagendra Guruji, State Chief Minister Shri Bommai, Central Home Minister Shri Amit Shah, Sports Minister Mr. Anurag Thakur,Yoga Federation of India opening/closing ceremonies among many others. Neha's yoga postures are published regularly in many English News Papers across Bengaluru, Chennai etc. Neha is a Rajya Puraskar awardee and likes to be prepared to serve and inspire the children, communities and neighbourhood that she is part of.

Vijay Surya

Vijay Surya, 1H, has achieved in Abacus and Water Polo. He has represented his state in various Abacus state and regional competitions, securing 3rd prize in the state. Additionally, he participated in the national SIP Abacus and Mental Arithmetic competition held in Hyderabad. Vijay has completed all levels of SIP Abacus and has successfully graduated.

In Water Polo, Vijay represented Karnataka in the state Water Polo Championship held at Basavanagudi Aquatic Center, where he secured 2nd prize.

Amana J Kumar



Amana J Kumar, a student of Class 1G, has made remarkable achievements in poetry at a young age. Titled 'India's Youngest Poetess' by the India Book of Records and a 'Grand Master' by the Asia Book of Records, she has also won the 'Kautilya Youngest Poetess of the Year Award' presented by the Governor of Goa. Additionally, she holds a Noble Book of World Records title for writing 337 poems in just over a year.

Amana has published four books, starting with "Echoes of Soulful Poems" in 2020, launched by Karnataka's Education Minister. Her second book, "World Amidst the Words," was released by the Governor of Karnataka in 2021, followed by her third, "Lafzon ki Mehphil," in Hindi in 2022. Her latest book, "Galore of Mysteries," was launched in 2023 by Hon'ble Rtd. Justice of the Supreme Court, Shri Santosh Hegde.

Avni Vishwas

Avni Vishwas, 1F has made remarkable strides in the world of competitive swimming, earning accolades at both the state and national levels. Her impressive list of achievements includes:

- **CBSE Zonal @ Davangere (2023):**
  - Gold in 200m Butterfly
  - Gold in 100m Butterfly
  - Silver in 100m Freestyle
  - Bronze in 50m Butterfly and 50m Freestyle
- **CBSE Nationals @ Haryana (2023):**
  - Gold in 100m Butterfly
  - Bronze in 100m Freestyle
  - Bronze in 200m Butterfly
- **School Games Federation of India @ Delhi (2023):**
  - Silver in 4x100m Medley Relay
- **Nationals @ Kerala (2023):**
  - Silver in 50m Butterfly
- **State Meet @ Mandya (2023):**
  - Silver in 50m Butterfly
  - Bronze in 50m Freestyle
  - Bronze in 100m Butterfly

Avni's journey in swimming began 12 years ago when she first dove into the pool, unaware of the challenges and triumphs that awaited her. Through dedication and perseverance, she has risen to the national level, embodying the spirit of persistence and passion for her sport.

Trijal S M

Trijal S.M. 1B, has consistently excelled in various fields, showcasing a diverse range of talents. In Abacus, he earned recognition at the national level, securing 3rd runner-up at the Delhi competition in 2015 and a Merit award in Ahmedabad in 2017. Trijal completed his Abacus Graduation in 2018 and went on to achieve Master Graduation in 2020.

In swimming, Trijal demonstrated his prowess in inter-school competitions, achieving 1st place in both the 50m and 25m freestyle events in 2020, and winning the 25m backstroke as well. He also placed 2nd in the 50m freestyle in 2018.

Adding to his list of accomplishments, Trijal attended a telescope-making workshop and took part in a creative competition, *Swakavana Rachane*, where he secured 2nd place in 2023.

Shriya Raghuraj Kundargi and Dr. H. T. Prakasha

Shriya Raghuraj Kundargi, 2F and Dr. H. T. Prakasha, a mathematics faculty member at RV PU College, have achieved yet another remarkable milestone in their academic journey. Their joint research paper, titled "Innovative Mathematical Insights through Artificial Intelligence (AI): Analyzing the Ramanujan Series and the Relationship between E and ∏/Pi," was recently published in the prestigious International Journal of Innovative Science and Research Technology (IJISRT). This groundbreaking work explores the use of AI to gain deeper insights into complex mathematical concepts and the Ramanujan series, which holds significant importance in advanced mathematics.

Shreya B

Shreya B, 1H, student has been excelling in gymnastics since the age of six. Over the years, she has represented Karnataka at the international, national and state levels, amassing numerous achievements.

In 2023, Shreya won a silver medal at the 17th Gymnastics National Championship in Bangalore and represented Karnataka in the National Games of India held in Goa. Earlier that year, she qualified for the finals at the 5th Khelo India Youth Games in Gwalior. She also claimed 4 golds and 2 silvers at the State Level Championship in October.

Among her earlier achievements, Shreya secured bronze at the 2019 Indian Rhythmic Gymnastics Cup, where she competed against international athletes. She also won six gold medals and a silver at the 2020 State Mini Olympics, earning recognition in The Times of India. In 2021, All India Radio featured an interview with Shreya after she became the state champion and qualified to represent Karnataka in the nationals.

Sharanya Ambarkar

Sharanya Ambarkar, 1I, has excelled in martial arts, proudly representing India in several prestigious competitions. Her achievements include medals from events like the "6th All India Mansuru Open Karate Championship 2023" and recognition in the India Book of World Records. Notably, she contributed to creating a group karate record in Taikyoku Shodan Taka, further showcasing her martial arts expertise.

One of her standout accomplishments is from the "Goa International Martial Arts Championship 2024," where she earned a "Certificate of Merit" for representing India. Organized by the Universal 369 Shotokan Karate Association of India (USKAI), the event took place on May 19th, 2024, at the Dr. Manohar Parrikar Indoor Stadium in Goa. Her dedication and skill earned her a notable placement in her category, reinforcing her reputation on both national and international platforms.

Niharika Ramesh

Niharika Ramesh, 1D, has developed Seva Sathi, a project selected and funded by the government for nationwide implementation. This app is designed to address the daily challenges faced by senior citizens by providing easy access to essential services.

With Seva Sathi, seniors can connect with nearby medical shops, arrange food deliveries, and contact doctors or physiotherapists with just a click. The app also includes an emergency button for quick assistance and features voice commands for ease of use.

Niharika created Seva Sathi to ensure that elderly citizens can live independently and comfortably. The government's support will help bring her vision to life, benefiting seniors across India.

Annexure 12011/18/2023 INSPIRE (Karnataka)										Date : 25 Jan 2024
Government of India Ministry of Science & Technology, Department of Science & Technology										
List of Selected Students under the INSPIRE Award Scheme for the Year 2023-24										
Name of the State : Karnataka										
No. of Sanctioned : 7493										
Bangalore Urban	Bangalore South 3	Bangalore South	Baldwin Girls High School	Niharika	10	F	Gen	Ramesh		23KA4678 214

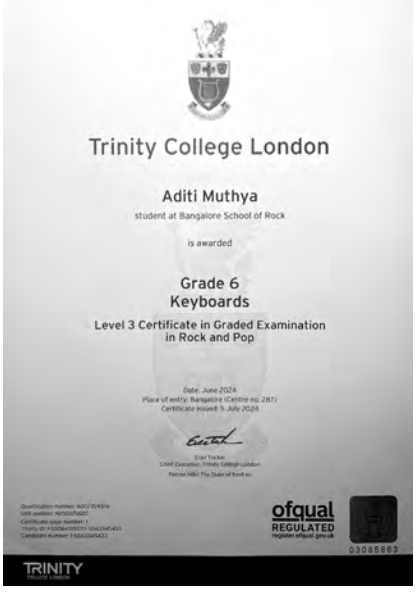
Akshay V

Akshay V, 1D a dedicated violinist used his passion for music to make a positive impact on society. Through his violin concerts, he successfully raised funds for an orphanage in Bangalore, overcoming challenges such as stage fright and scheduling conflicts. His initiative not only provided financial support to the orphanage but also inspired others to contribute to charitable causes. Beyond the financial aspect, Akshay's project served as a platform for other aspiring artists, providing them with opportunities to perform on stage and gain exposure. His dedication and commitment to social responsibility are commendable, demonstrating the power of using one's talents to make a difference in the world. Through this experience, Akshay gained valuable knowledge in planning, social responsibility, coordination, and the importance of community engagement.

Pramukh G

Pramukh G, 1I, achieved a remarkable feat by self-publishing his debut novel, The Three Excursionists: Mysteries of Marville Woods, at the young age of 13. The story centers around three siblings who find themselves in a dangerous situation during a school field trip, as their entire class mysteriously disappears. As they navigate the treacherous Marville Woods, they must solve the mystery, all while being pursued by a criminal mastermind.Pramukh spent 10 months working on the novel, overcoming hurdles like technical issues and self-doubt. His dedication and perseverance led to the successful completion of over 120 pages, showing that with passion and hard work, anything is possible.

Aditi Muthya


Trinity College London

Aditi Muthya

student at Bangalore School of Rock

is awarded

Grade 6
Keyboards

Level 3 Certificate in Graded Examination
in Rock and Pop

ofqual
REGULATED

TRINITY

Aditi Muthya, 2B is an accomplished keyboard player who recently achieved a significant milestone in her musical journey by earning the Grade 6 Keyboard certification from Trinity College London. This certification, awarded in June 2024, highlights his expertise in Rock and Pop, a genre requiring both technical proficiency and musical understanding.

Her achievement is particularly remarkable as it reflects over 10 years of dedication, culminating in a distinction on his first attempt with a commendable score of 89/100. This accomplishment represents the culmination of years of her hard work. She aims to further his musical growth by exploring diverse genres and instruments, continuing his commitment to mastering the art of music.

Anirudh Muthya

Anirudh Muthya, 2B, completed his Grade 6 piano exam from Trinity College of Music, London this year. It marked the culmination of his combined efforts over the past 10 years since he began playing the piano. He achieved a distinction on his first attempt at the exam, scoring 89/100. This accomplishment was a significant milestone for him, not only due to the extensive work he had put in but also because it is an achievement he can include in his college applications. He hopes to continue his music journey by exploring different genres and instruments.

Rahul Vellal

Rahul Vellal, 2G has performed concerts in 8 countries UAE, Singapore, Nigeria, Malaysia, Hong Kong, South Africa, United Kingdom & Australia. He has been honored with multiple prestigious awards in the year 2024. In July 2024, he was bestowed the title of 'Asthana Vidwan' by HH Sri Sri Sacchidananda Tirtha Mahaswami ji in Chennai, making him the youngest recipient of this honor from the ashram. His contributions to music were also recognized internationally. In March 2024, he received a "Letter of Appreciation" from Hon Russell Wortley MLC in Adelaide, Australia, for inspiring the International Indian diaspora. Earlier in the year, in January 2024, he was awarded the prestigious 'Yuva Kala Ratna' Award for Classical Music by the PSG Group in Coimbatore.

In 2023, Rahul received the esteemed 'Yuva Kala Bharathi' Award for Classical Music from Bharat Kalachar, Chennai, in December 2023. In August 2023, he was also honored with the prestigious "Shanmukha Sangeetha Shiromani" Award for Classical Music from Shanmukhananda Sabha Mumbai apart from many other awards received in previous years.

Sanjana A.J.

Sanjana A J, 1J secured All India Rank 5 with Merit Scholarship in All India General Knowledge Examination-2023 conducted by Centre for Human Resource Development. She was awarded Rs.1500 as All India Merit Scholarship

Kushadhi J Yadav, Anvitha SH and Vynavi Pavalur

The Bangalore Blaze Environment Day competition, held on June 29th, 2024, provided a platform for young minds to showcase their innovative solutions to environmental challenges. Among the participants were Kushadhi J Yadav 2F, Anvitha SH, 2H and Vynavi Pavalur 2I. Their project, the Liquid Tree, captured the attention of the judges and earned them a well-deserved second-place finish.

Ms. Shuchi L

Department of Chemistry

Ms. Shuchi L published a research paper titled "A Prompt Study on Recent Advances in the Development of Colorimetric and Fluorescent Chemosensors for Nanomolar Detection of Biologically Important Analytes" in the Journal of Fluorescence. Her study focuses on developing advanced chemosensors for detecting vital biological analytes at nanomolar levels, contributing to fields like biology and environmental science.

Journal of Fluorescence
https://doi.org/10.1007/s10895-023-03552-1

REVIEW

Check for updates

A Prompt Study on Recent Advances in the Development Of Colorimetric and Fluorescent Chemosensors for *"Nanomolar Detection"* of Biologically Important Analytes

Syeda Sogra[1] · V. Aishwarya[1] · P. S. Chaithra[1] · L. Suchi[1] · S. Abhishek[1] · S. Vishnu[1] · Avijit Kumar Das[1]

Received: 5 November 2023 / Accepted: 12 December 2023

Ms. Hema N

Department of English

With less than a vicennium's work experience, Hema N has been a part of Banking industry, Soft skill training, Fashion industry, Member of Scholars Institute, Karnataka Management Association and Global 100 women. A guest faculty and resource person at many esteemed institutions.

Fashion Code September 2024

Awards and Honors : Literary award, Eloquent writer award, Attainer's award and Author's award by DJ Publishing House featured in several websites. Geoffrey Chaucer award for contribution to Literature and Language featured in fifteen websites. "A Queue" honours Hema Namashivaya for being a part of TOP 16 BEST WRITERS OF 2024.

Publications : Published article on Reflection of Souls-'the magic within mirrors and life's purpose' that is available in several websites. Author, "Beyond Life" by JEC Publications. Co-author of World record Anthology "Beyond Words-A Reader's Delight" by Inkzoid Publication.

Certification : Soft skill Certification awarded by PROTOUCH under the programs. Certified Life coach, Train the trainer Certificate, CPD Certification, Executive coach.

Mrs Karnataka Runner up, Voguestar India at Rajasthan

Mr. Jayakumar N

Department of Kannada

Mr Jayakumar N has been honored 'Uttama Pareeksha Ayojaka Prashasti 2024-25' by Karunada Kannada Kala Siri Balaga organization.

Mrs. Vidya H N

Department of Kannada

Mrs. Vidya H N has been honored with the Best Kannada Achiever Teacher Award by the Karunada Kannada Kala Siri Balaga organization. The award recognizes her dedication to teaching the Kannada language and her remarkable achievement of guiding students to score 100% marks in the annual examination. In recognition of her service and excellence in teaching, she has received two Awards.

Reshmi T J

Department of Computer Science

Presented the paper titled Statistical Analysis of Student Data and Machine Learning Models for Performance Prediction at the IEEE International Conference on Data Engineering and Communication Systems (ICDECS), organized by RNS Institute of Technology, Bangalore.

The paper has now been published in IEEE Xplore, a prestigious digital library renowned for its high-quality research in electrical engineering & computer science.

Dr. H.T. Prakasha

Department of Mathematics

Dr. H.T. Prakasha, a distinguished mathematics faculty member at RV PU College, has significantly contributed to both teaching and research. His dedication to education is evident through his authorship of the Second PUC Mathematics Exam Book, a comprehensive guide designed to help students excel in their examinations. Additionally, Dr. Prakasha's expertise is recognized at the national level, having set papers for the National Testing Agency, New Delhi.


Sixth International Conference on
Advances in Electrical and Computer Technologies 2024 (ICAECT 2024)
26 - 27, September 2024 | Tiruchengode, India | www.icaect.co.in

CERTIFICATE

Publication Partner
CRC Press

SPCS 4043

This certificate is presented to

H.T.PRAKASHA
RV. PU College, Bangalore

for presenting the research paper entitled "Numerical Approach for Solving Boundary Value Problems Using Tree-based Hosoya Polynomial and Galerkin Weighted Residual Method" in the Sixth International Conference on Advances in Electrical and Computer Technologies 2024 (ICAECT 2024). ICAECT 2024 is jointly organized by the Senguntha Engineering College (Autonomous), Tiruchengode, TamilNadu, India and Diligentec Solutions, Coimbatore, Tamil Nadu, India during 26 – 27, September 2024. The Conference has been organized in ONLINE MODE.

Dr. Thangaprakash Sengodan
Conference Chair

Industry Partner
DILIGENTEC SOLUTIONS

Recently, he reached another academic milestone by presenting a research paper titled "Numerical Approach for Solving Boundary Value Problems Using Tree-based Hosoya Polynomial and Galerkin Weighted Residual Method" at the Sixth International Conference on Advances in Electrical and Computer Technologies 2024 (ICAECT 2024). The online conference acknowledged his valuable contribution to advancing mathematical research.

Dr. Prakasha's research pursuits extend further, as he co-authored an innovative paper entitled "Innovative Mathematical Insights through Artificial Intelligence (AI): Analyzing the Ramanujan Series and the Relationship between E and ∏/Pi." Published in the International Journal of Innovative Science and Research Technology (IJISRT), this work, co-authored with Shriya Raghuraj Kundargi of 2F, explores the application of AI in uncovering deeper insights into complex mathematical concepts, including the Ramanujan series, which plays a crucial role in advanced mathematics.

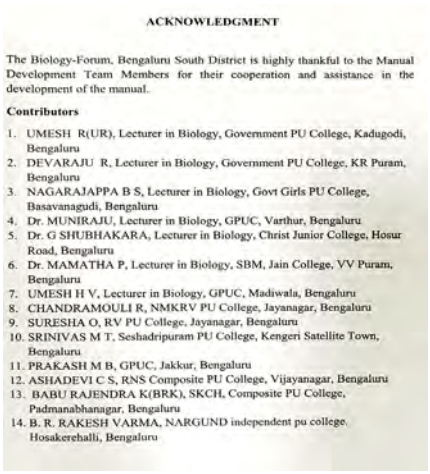
Mr. Pradeepa K C

Department of Sports

1. State Level Kho Kho Tournament (Winners)
   Date: 24th to 25th Feb 2024
   Organized by: Sir MV Sports Club, Bhadravathi
2. State Level Kho Kho Tournament (Winners)
   Date: 10th to 12th May 2024
   Organized by: Mahalingeshwara Sports Club, Naganur and Belagavi District Association
3. Bharath Award (National Award)
4. Karnataka Kreeda Ratna Award (State Award)
5. Abhimanyu Award (State Award)

Mr. Suresha O

Department of Biology



ACKNOWLEDGMENT

The Biology-Forum, Bengaluru South District is highly thankful to the Manual Development Team Members for their cooperation and assistance in the development of the manual.

Contributors

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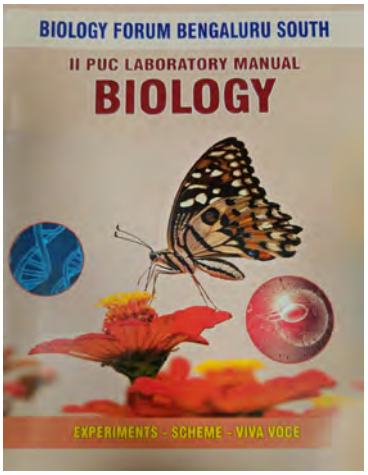
4. Dr. MUNIRAJU, Lecturer in Biology, GPUC, Varthur, Bengaluru
5. Dr. G SHUBHAKARA, Lecturer in Biology, Christ Junior College, Hosur Road, Bengaluru
6. Dr. MAMATHA P, Lecturer in Biology, SBM, Jain College, VV Puram, Bengaluru
7. UMESH H V, Lecturer in Biology, GPUC, Madiwala, Bengaluru
8. CHANDRAMOULI R, NMKRV PU College, Jayanagar, Bengaluru
9. SURESHA O, RV PU College, Jayanagar, Bengaluru
10. SRINIVAS M T, Seshadripuram PU College, Kengeri Satellite Town, Bengaluru
11. PRAKASH M B, GPUC, Jakkur, Bengaluru
12. ASHADEVI C S, RNS Composite PU College, Vijayanagar, Bengaluru
13. BABU RAJENDRA K(BRK), SKCH, Composite PU College, Padmanabhanagar, Bengaluru
14. B. R. RAKESH VARMA, NARGUND independent pu college, Hosakerehalli, Bengaluru



Contributed in preparing Biology II PU Lab Manual by the Pre-University Board, Bangalore South District.

Dr. Rajani S

Department of English

Smt. Rajani S was awarded PhD Degree for her thesis "Revisionist Writing as Interpretative Strategy: A Study of S. L. Bhyrappa's PARVA" from Jain University on 3rd August 2024.

STAFF PHOTOS – 2024

DEPARTMENT & FACULITIES

Prof. Thejesh S.
Principal

Ms. Pooja Naik
Vice Principal

Prof. R.P. Umashankar
Program Head

Dr.Babu T.P.
Program Head

Prof. Ashwani Kumar
Program Head

Department of Physics

Department of Chemistry

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Department of Mathematics

Department of Biology

Department of Electronics

STAFF PHOTOS - 2024

Department of Computer Science

Department of Languages

Department of English

STAFF PHOTOS – 2024

Department of Administration

Academic Mentors & PE Instructor

Support Staff

Housekeeping Staff

STUDENTS' GROUP PHOTOS

1A

1B

STUDENTS' GROUP PHOTOS

1C

1D

STUDENTS' GROUP PHOTOS

1E

1F

STUDENTS' GROUP PHOTOS

1G

1H

STUDENTS' GROUP PHOTOS

1I

1J

STUDENTS' GROUP PHOTOS

1K

1L

STUDENTS' GROUP PHOTOS

2A

2B

STUDENTS' GROUP PHOTOS

2C

2D

STUDENTS' GROUP PHOTOS

2E

2F

STUDENTS' GROUP PHOTOS

2G

2H

STUDENTS' GROUP PHOTOS

2I

2J

STUDENTS' GROUP PHOTOS

2K

2L

SCIVERSE 3.0


The prime factorisation approach


1. Creating Prototypes


RV PU COLLEGE

UNNATI – INUAGURAL FUNCTION

ABHINANDANE-FELICITATION

MOTIVATIONAL SESSION

MENSTRUAL HYGIENE

REPUBLIC DAY

FRENCH WORKSHOP

PYTHON WORKSHOP

TECH IMPACT

CYBER CRIME AWARENESS PROGRAMME

INDEPENDENCE DAY & CYCLOTHON


FRANCE
AUSTRALIA


01 09 2024 09:50

COOKING WITHOUT FIRE




LOREM IPSUM – QUIZ

RV GEEKS 2.0


BHARATHANATYAM

CARNATIC VOCAL, HINDUSTHANI

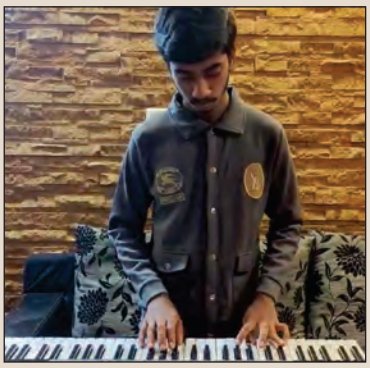
FILM SONGS

FREESTYLE DANCE

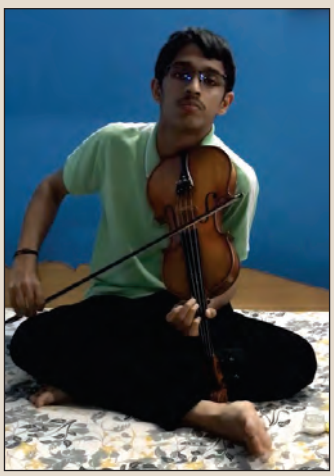
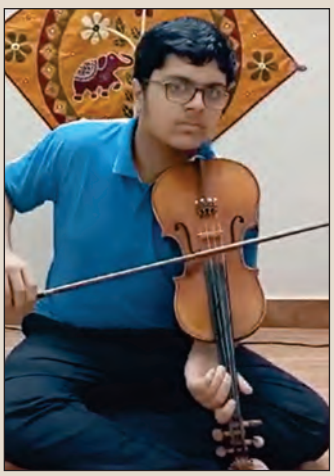
INSTRUMENTAL



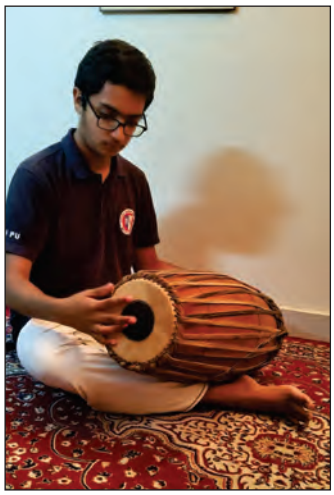







KATHAK DANCE




ಕನ್ನಡ ರಾಜ್ಯೋತ್ಸವ


KREEDOTSAVA

SARASWATHI POOJA & ETHNIC DAY






CHEMISTRY LAB OPENING


INTER COLLEGIATE COMPETITIONS

Conducted by Department of School Education (Pre-University)

Nishanth S Gowda, Third Place in Chess

Neha V. Koorse, First Place in Yoga

PAGE TO STAGE

TARU SAMSKRUTI at Jain College

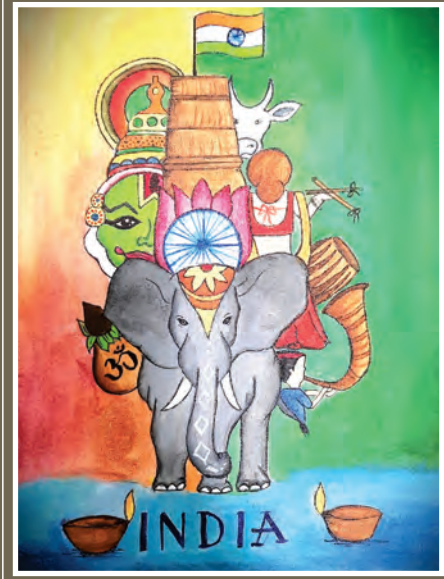
French Fest - Won Second Prize at ARTEMIS @ JNC

CANVAS 2024

ANIKETH 2C

SAANVI VASISTHA-2G

Sinchana-2I



SOWJANYA-2H

SAI DHRUVI-2F

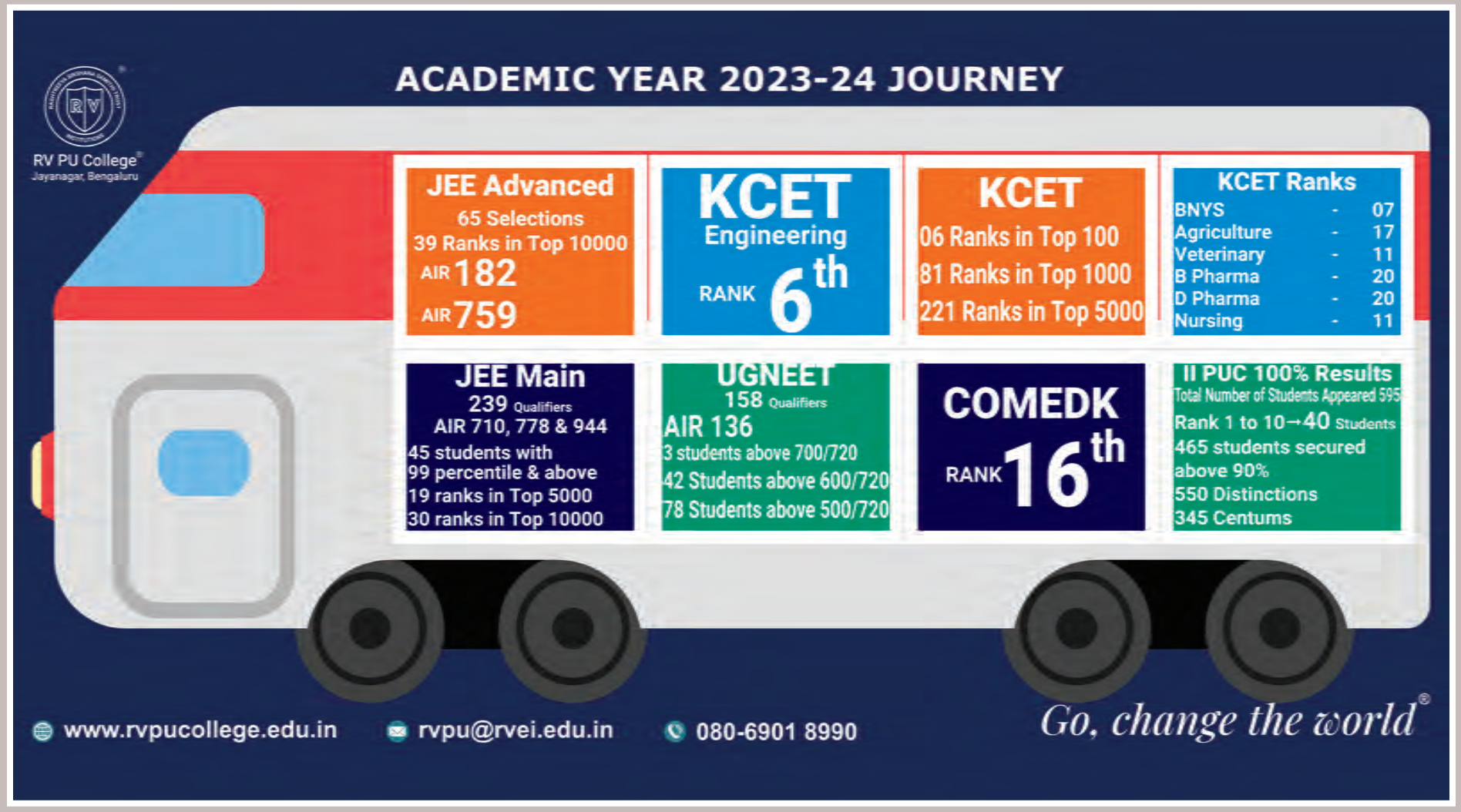
PORTRAIT 2024

1st Prize - Priya Angeri-1C-
Urbanization and Mental Health

2nd Prize - SANDHYA S-1A-
Money is not key to happiness

2nd Prize - ANIKET-2B
Cultural Heritage of India

3rd Prize -NISHANTH.D-2C-
Cultural Heritage of India


RV PU College
Jayanagar, Bengaluru
ACADEMIC YEAR 2023-24 JOURNEY
JEE Advanced
65 Selections
39 Ranks in Top 10000
AIR 182
AIR 759
KCET
Engineering
RANK 6th
KCET
06 Ranks in Top 100
81 Ranks in Top 1000
221 Ranks in Top 5000
KCET Ranks
BNYS - 07
Agriculture - 17
Veterinary - 11
B Pharma - 20
D Pharma - 20
Nursing - 11
JEE Main
239 Qualifiers
AIR 710, 778 & 944
45 students with
99 percentile & above
19 ranks in Top 5000
30 ranks in Top 10000
UGNEET
158 Qualifiers
AIR 136
3 students above 700/720
42 Students above 600/720
78 Students above 500/720
COMEDK
RANK 16th
II PUC 100% Results
Total Number of Students Appeared 595
Rank 1 to 10→40 Students
465 students secured
above 90%
550 Distinctions
345 Centums
www.rvpucollege.edu.in
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