



CELEBRATION OF NATIONAL SCIENCE DAY

February 27-28, 2026

Souvenir



Organized by

Bejoy Narayan Mahavidyalaya
Itachuna, Hooghly 712147, West Bengal

In Collaboration with

The Zoological Association of Burdwan
Saratpally, Purba Bardhaman 713104, West Bengal



National Science Day 2026 Theme 'Women in Science: Catalysing Viksit Bharat'

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West Bengal, India



BEJOY NARAYAN MAHAVIDYALAYA

(GOVT. SPONSORED)

NAAC Accredited (3rd Cycle)

Itachuna, Hooghly-712 147, West Bengal, India

Phone: +91-3213-272275, Fax: +91-3213-272237, E-mail: bnmv2012@yahoo.in

www.bnmv.ac.in

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Date: 20-02-2026

MESSAGE

It gives me immense pleasure to learn that a Souvenir is being published on the occasion of the Celebration of National Science Day, February 27-28, 2026, organized by our college in collaboration with The Zoological Association of Burdwan. This observance, commemorating the discovery of the Raman Effect by Sir C. V. Raman, reminds us of the transformative power of scientific inquiry in shaping a progressive and humane society.

I am confident that this Souvenir will serve as a valuable record of the academic activities, intellectual exchanges, and collaborative spirit that define this celebration. I congratulate the Organizing Committee, faculty members, collaborators, and students for their sincere efforts in making this event meaningful and successful.

I extend my best wishes for the grand success of the programme and for the continued advancement of scientific awareness for the welfare of humanity.

Principal

Bejoy Narayan Mahavidyalaya

Principal

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Itachuna, Hooghly-712 147



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Message

I am delighted to note that Bejoy Narayan Mahavidyalaya is celebrating National Science Day 2026 with great enthusiasm and is bringing out a Souvenir to mark this significant academic occasion.

The participation of eminent scholars and that of The Zoological Association of Burdwan as a collaborating institute will certainly attach a special dimension to this programme.

I sincerely appreciate the dedicated efforts of the Principal, faculty members, organizers, and students in arranging this two-day celebration. The publication of this Souvenir will undoubtedly stand as a lasting testimony to the institution's commitment to excellence in education and scientific advancement.

I convey my heartfelt congratulations to all associated with this initiative and wish the event every success.


President, Governing Body
Bejoy Narayan Mahavidyalaya
President Governing Body
Bejoy Narayan Mahavidyalaya
Itachuna, Hooghly.



THE ZOOLOGICAL ASSOCIATION OF BURDWAN

(Registration No. S/65988 of 1990–1991)

Saratpally (Near Golapbag)

Purba Bardhaman-713 104

West Bengal, INDIA

E-mail: zoological.association.burdwan@gmail.com

<https://sites.google.com/view/thezab/home>

Ref. No.: ZAB/05/2026

Date: 19-02-2026

MESSAGE

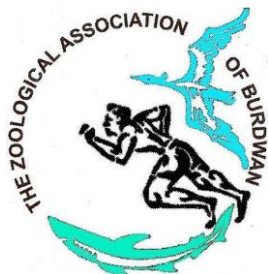
The Zoological Association of Burdwan, a scientific and academic organisation is expected to observe the National Science Day, 2026 in a befitting manner. This day is being observed throughout India to commemorate the pioneering discovery of the great scientist Sir C.V. Raman. The discussion and deliberation in this programme are believed to highlight the role of science in human welfare with special reference to involvement and contribution of women to develop an Advanced India.

Wish this programme a grand success.

Prof. Subrata Roy

Hon'ble President

The Zoological Association of Burdwan



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<https://sites.google.com/view/thezab/home>

Ref. No.: ZAB/04/2026

Date: 19-02-2026

MESSAGE

I am happy to know that a souvenir will be published on the occasion of the celebration of National Science Day on and from 27th to 28th of February, 2026 as a collaborative event of Bejoy Narayan Mahavidyalaya and The Zoological Association of Burdwan. National Science Day is celebrated to honour the discovery of the Raman Effect in 1928 which won the Nobel Prize in the year 1930.

Celebration of National Science Day is also an occasion in an institution for fostering curiosity, logical thinking and rational decision making among students. For all who are observing this celebration, it will be a moment to rededicate them with a great determination to build a better, sustainable future through scientific thinking.

I wish the publication of the souvenir will be a grand success.

Dr. Subrata Mandal

Hony. General Secretary

The Zoological Association of Burdwan

General Secretary
The Zoological Association of Burdwan
Saratpally, P.O.-Rajbati
Burdwan - 713104

Prof. Abhijit Mazumdar
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To
The Principal
B N Mahavidyalaya
Itachuna, Hooghly.

23/02/2026

Message on National Science Day 2026

Sir,

It is heartening to know that B N Mahavidyalaya will be celebrating the National Science Day in collaboration with the Zoological Association of Burdwan on February 28, 2026 to commemorate the discovery of the Raman Effect by Sir C V Raman in 1928. On this occasion eminent and distinguished speakers will address the students and nurture curiosity in young minds. Hope it promotes scientific temper and technological advancements for a sustainable future.

Wishing you a day filled with curiosity and discovery.

Happy National Science Day

With best wishes

Prof Abhijit Mazumdar



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Ref. No.:

Date: February 27, 2026

Message

National Science Day, 28th February is the day of pride and glory for the Indians to remember one of the greatest discoveries in the field of light scattering, known as Raman scattering or Raman effect by Sir C. V. Raman in 1928. The discovery guided Sir C. V. Raman to win a Nobel Prize in Physics in 1930 and he became the first Asian to receive the Nobel Prize in any category of Science. This is the story of how a simple curiosity of C. V. Raman, "Why sea water is blue whereas a glass of water looks transparent" transformed into a revolution.

Nature around us is always beautiful and it would be even more beautiful if we sense it. Understanding the laws of nature always guides us to a respectful destination that not only explores our indigenous knowledge but also leads to the peaceful internal development of our mind.

Bejoy Narayan Mahavidyalaya is going through a two-day celebration of the National Science Day 2026 in collaboration with the Zoological Association of Burdwan through various scientific activities like Popular Lectures, Scientific Exhibitions, Poster Presentation, Demonstration of Laboratory Experiments. The programme is organized to grow awareness, to nurture and popularize the science that motivates the young minds from different schools and colleges towards the development of science and civilization.

It is a great privilege for me to be part of the organizing committee as the joint Convener and hoping the programme will meet a grand success.

I express my sincere gratitude and thanks to all who are associated with this noble cause.

Joint Convener
Organizing Committee



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Date:

From the Convener's Desk

It is a great honour and privilege to welcome you to the celebration of **National Science Day** on 27th and 28th February, commemorating the remarkable discovery of the Raman Effect by Sir C. V. Raman

Science is not only a subject of study, but also a way of thinking. It nurtures curiosity, rationality, and innovation, qualities essential for the progress of our nation. This year's theme- **“Women in Science: Catalysing Viksit Bharat”** celebrates the vital contribution of women in science, technology, engineering, and mathematics and highlights the power of diversity and inclusion in driving innovation and national development.

The vision of **Viksit Bharat 2047**, to transform the nation into a fully developed, self-reliant, and prosperous country by 2047, marking 100 years of independence. It focuses on economic growth, sustainable development, high-quality education, modern healthcare, and infrastructure, aiming for zero poverty and improved quality of life for all citizens. Achieving this goal requires the active and meaningful participation of women in the field of science and research.

I hope that this celebration will ignite curiosity, foster creativity, and strengthen the spirit of scientific inquiry among all. I sincerely thank all the resource persons, faculty members, students, and organizers for their wholehearted support.

Dr. Semanti Basu

Joint Convener



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From the desk of the Organizing Secretary

It is a great pleasure for me to welcome you all to the two day program as a mark of celebration of National Science Day on 27 and 28 February, 2026 to be organized by Bejoy Narayan Mahavidyalaya in collaboration with the Zoological Association of Burdwan. The uniqueness of this program is that it has been designed both for under-graduate and high-school students to promote scientific temper as well as to inspire young minds towards scientific research and innovation. In the technical sessions, renowned scientists are going to deliver popular-level scientific talks which will motivate the budding scientists from our college and neighboring schools. Exhibition of scientific models and poster presentations by undergraduate students is an integral part of this program and the overwhelming response from all the departments of the college regarding this segment is truly appreciable. Another aspect of this program is that the school students will have the opportunity to visit the well-equipped laboratories and the museum of our college which may prove to be highly beneficial for them. Science thrives on exchange of ideas and I hope that this event will open new avenues of inquiry.

I extend my heartfelt gratitude to the institutional supporters whose dedication and resources have made this event possible. I do express my thanks to the Heads of the Institution of the neighboring schools for allowing their students and faculty members to participate in this event. Special thanks to our invited speakers for kindly accepting our invitation, the Zoological Association of Burdwan for their support and to all the participants for their enthusiasm.

Brotati Chakraborty

Organizing Secretary

Organizing Committee

- Chief Patron:** **Mr. Sanjit Banerjee**
President of Governing Body
Bejoy Narayan Mahavidyalaya
- Patron:** **Dr. Goutam Bit**
Principal, Bejoy Narayan Mahavidyalaya
- Prof. Subrata Roy**
President, The Zoological Association of Burdwan
- President:** **Dr. Subrata Mandal**
General Secretary,
The Zoological Association of Burdwan
- Dr. Samik Dasgupta**
The Coordinator, IQAC
Bejoy Narayan Mahavidyalaya
- Joint Conveners:** **Dr. Semanti Basu**
Dept. of Chemistry, Bejoy Narayan Mahavidyalaya
- Dr. Shyamsundar Ghosh**
Dept. of Physics, Bejoy Narayan Mahavidyalaya
- Organizing Secretary:** **Dr. Brotati Chakraborty**
Dept. of Chemistry, Bejoy Narayan Mahavidyalaya
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Dr. Gaurab Bhattacharyya, Dept. of Statistics, BNM
Mr. Koushik Chatterjee, Dept. of History, BNM
Mr. Mukta Das, Office, BNM

Celebration of “National Science Day”

February 27-28, 2026

Organized by
Bejoy Narayan Mahavidyalaya, Itachuna, Hooghly-712 147, West Bengal
In collaboration with
The Zoological Association of Burdwan, Purba Bardhaman-713 104, West Bengal

Programme Schedule

February 27, 2026 (Friday)		
11:00-11:30 AM	Inaugural Session: New Auditorium (1st Floor of Darwin Bhaban)	
11:00 AM	Lighting of Lamp	By Dignitaries
11:02 AM	Welcome address	Dr. Brotati Chakraborty , Organizing Secretary
11:04 AM	Inaugural address	Dr. Goutam Bit , Principal, B.N. Mahavidyalaya
11:09 AM	About National Science Day	Dr. Shyamsundar Ghosh , Joint Convener
11:12 AM	Address by the Chief Guest	Mr. Sanjit Banerjee , President of Governing Body
11:20 AM	Address by	Dr. Asok Dasmahapatra , Executive Committee Member, ZAB; Adjunct Associate Professor, Department of BioMolecular Sciences, University of Mississippi, Oxford, USA
11:24 AM	Address by	Dr. Samik Dasgupta , IQAC-Coordinator, B.N. Mahavidyalaya
11:30 AM	Invited Lecture-I	Honourable Speaker: Prof. Syamal Chakrabarti , Department of Chemistry, University of Calcutta Topic: “Women and Science: Indian and International Perspectives”
12:30-12:40 PM	Tea Break	
12:40 PM	Invited Lecture-II	Honourable Speaker: Dr. Amitava Choudhuri , Assistant Professor, Department of Physics, The University of Burdwan Topic: “Our Universe”
1:30-2:00 PM	Lunch Break	
2:00-4:00 PM	(1st floor of Darwin Bhaban)	
	Exhibition of Scientific models/Poster presentations	Students: Departments of Botany, Chemistry, Mathematics, Nutrition, Physics, Statistics and Zoology
February 28, 2026 (Saturday)		
11:00 AM	Invited Lecture-III New Auditorium (1st Floor of Darwin Bhaban)	Honourable Speaker: Prof. Santanu Ray , Distinguished Visiting Professor, Kerala University of Digital Sciences & Former Professor, Department of Zoology Visva-Bharati Topic: “Research on Climate Change and My Experience at North Pole”
12:00-12:10 PM	Tea Break	
12:10-2:00 PM	Parallel Sessions	
	Departmental activities	Visits to Laboratory (Botany, Chemistry, Mathematics, Nutrition, Physics and Zoology) Visits to Herbal medicinal garden Visits to Museum (Botany, History and Zoology)
2:00-2:30 PM	Valedictory session: New Auditorium (1st Floor of Darwin Bhaban)	
2:00 PM	Valedictory address by	Dr. Goutam Bit , Principal, B.N. Mahavidyalaya
2:10 PM	Address by	Mr. Soumen Chakrabarty , Executive Committee Member, ZAB
2:15 PM	Award distributions	to students
2:20 PM	Remarks	by participants
2:25 PM	Vote of thanks	Dr. Semanti Basu , Joint Convener

Inspiring Indian Women in Science



Nandini Harinath

A Scientist at ISRO's Satellite Centre who has served as the deputy operations director on the Mars Orbiter Mission, Mangalyaan.



Asima Chatterjee
(1917-2006)

An Organic Chemist noted for her work in the fields of organic chemistry and phytomedicine.



Tessy Thomas
(1963-)

An Aerospace Engineer who worked on India's missile programs.



Bibha Chowdhuri
(1913-1991)

A Particle Physicist known for her investigations into cosmic rays.



Kiran Mazumdar-Shaw
(1953-)

A prominent figure in the Biotechnology Industry.



Kamala Sohonie
(1911-1996)

A pioneering Biochemist who was the first Indian woman to receive a Ph.D. in the field of science.



Dr. Indira Hinduja
(1946-)

A Gynaecologist, Obstetrician and Infertility Specialist who has delivered India's first test tube baby.



E K Janaki Ammal
(1897-1984)

A renowned Botanist and Plant Cytologist.



Darshan Ranganathan
(1941-2001)

The most prolific Organic Chemist.



Mary Poonen Lukose
(1886-1976)

A Gynecologist, Obstetrician and the first female Surgeon General in India.



Rajeshwari Chatterjee
(1922-2010)

The first woman Engineer from Karnataka.



Dr. Kadambini Ganguly
(1861-1923)

India's first practicing lady doctor in Modern Medicine.

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জাতীয় বিজ্ঞান দিবস ও বিজ্ঞানে মেয়েরা

শ্যামল চক্রবর্তী

প্রফেসর

রসায়ন বিভাগ, কলকাতা বিশ্ববিদ্যালয়

Email: scchem1957@gmail.com

আমাদের সমাজে নিজেকে গড়ে তুলতে চাইলে ছেলেদের চেয়ে মেয়েদের যে বেশি বাধার মুখোমুখি হতে হয় একথা কেউ অমান্য করবেন বলে মনে হয় না। এমন ইতিহাস বহুকালের। এই বাংলার বুকই একসময় এমন ঘটনা ঘটেছে। পৃথিবীতে প্রথম দুটি নোবেল পুরস্কার পেয়েছেন মাদাম কুরি। তাঁকেও পুরুষতন্ত্রের ঔদ্ধত্যের শিকার হতে হয়েছিল। আজ খুব ধীর লয়ে ছবিটার হয়তো বদল ঘটছে। পুরো বদল যে হয়নি সেকথা নিশ্চিন্তে বলা যায়। পৃথিবীর বিখ্যাত বিশ্ববিদ্যালয় ও বিজ্ঞানীদের একাডেমির দিকে তাকালেও একইরকমের উত্তর মেলে। এবারের বিজ্ঞান দিবসের মূলবার্তায় 'উন্নত ভারত গড়তে বিজ্ঞানে মেয়েরা' আলোচনার বিষয় হিসাবে ঠিক হয়েছে। সেই বিষয়ে আলোচনা করবো আমরা। শুরুতে জাতীয় বিজ্ঞান দিবসের প্রেক্ষাপট ও বিজ্ঞানী রামনের জীবনের দু-এক কথা আমরা তুলে ধরবো। তারপর মূলবার্তাকে ঘিরে কিছু কথা বলব।

‘Climate change research’ and my experience in Arctic

Santanu Ray

Adjunct Professor

Kerala University of Digital Sciences, Innovation and Technology, Thiruvananthapuram
Former Professor, Systems Ecology and Ecological Modelling Laboratory, Visva Bharati University,
Santiniketan

Email: profsantanu.ray@gmail.com

Abstract

‘Climate change research’ is mainly conducted in pristine areas where human interference is nil or very less. Arctic is the preferred area for this research, because this area is easily accessible than Antarctic. I participated in ‘climate change research’ in 2009 along with different researchers from throughout the globe and visited Arctic in this year.

My study was on phytoplankton community. Generally Arctic Ocean was dominated by diatom community of phytoplankton and due to temperature rise there was paradigm shift in phytoplankton community, gradually the dominancy were shifted from diatom to dinoellid community. Senescence rate of diatom is much higher than dinoellid community, therefore in diatom dominance situation huge amount of carbon in the form of senescence was deposited in the deep sediment of Arctic Ocean. But in dinoellid shifted situation less carbon is deposited in the ocean floor and remaining carbon of senescence of diatoms are transformed into carbon dioxide or methane in air. These two gases are greenhouse gases. Through dynamic simulation modelling whole situation was quantified and future scenario was predicted.

During my field work with many others and living in Arctic I have encountered many situations and gathered wonderful experiences. In my deliberation and presentation I will share many still photographs (taken by me or collected from Arctic village archive) with descriptions. If time permits I will also share some videos collected from Arctic village archive.

Our Universe

Amitava Choudhuri

Assistant Professor

Department of Physics, The University of Burdwan

E mail: amitava_ch26@yahoo.com

Abstract

According to the Big Bang theory, the Universe was once in an extremely hot and dense state which expanded rapidly. This rapid expansion caused the Universe to cool and resulted in its present continuously expanding state. On the eve of Science day 2026, in this popular talk, we discuss about the Earth and its atmosphere and how the space looks like from the Earth. We briefly discuss about our solar system and shed light on the interstellar medium and nearby star. We also focus our attention on observation spectrum in astronomy. We also present a structural picture in detail about our galaxy - The Milky Way. The history of the early and late-time expansion is enlightened to understand various evolutionary phases of the universe, as well as the Hubble Law, Cosmic microwave background radiation, star formation, structure formation, dark matter and dark energy in the light of modern cosmology.

Plant Evolution

Farhina Khatun, Sana Mondal, Poulami Bhattacharya and Dipayan Nayek

Student

Department of Botany, Bejoy Narayan Mahavidyalaya

Abstract

Plant evolution began with aquatic green algae, with land plants originating roughly 480 million years ago, descending from Charophyceae. Key advancements include the move to land, vascular tissue, seeds, and flowers. Evolution transitioned from non-vascular bryophytes to spore-bearing vascular plants, then to gymnosperms and finally flowering angiosperms.

Key Stages in Plant Evolution

- Origin and Aquatic Phase (2500–1000 million years ago): Eukaryotes evolved from prokaryotes, and green algae developed photosynthetic organelles (chloroplasts) through endosymbiosis.
- Colonisation of Land (~480 million years ago): Ancestors of modern bryophytes (mosses, liverworts) moved to land, relying on moisture for reproduction.
- Vascular Systems and Lignin: Early vascular plants (lycopods, ferns) evolved, with lignin providing structural support for vertical growth.
- Seeds and Gymnosperms (Carboniferous-Permian): Seeds evolved to protect embryos, allowing plants to reproduce without water. Gymnosperms like conifers became dominant as climates changed.
- Angiosperms (Flowering Plants) (Mesozoic Era): Flowers and fruits appeared, facilitating rapid reproduction through pollination and seed dispersal.

Science Fiction: Where Imagination Meets Innovation

Md. Suhail, Shera Nandi

Student

Department of English, Bejoy Narayan Mahavidyalaya

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Abstract

Science fiction is not merely a genre of entertainment; it is a laboratory of ideas. Long before rockets launched into space, writers imagined journeys beyond Earth. Before robots entered factories and homes, fiction had already given them form and function. Science fiction dares to ask: What if?—and in doing so, it inspires scientists to ask: Why not? Many groundbreaking technologies were first envisioned in fiction. Jules Verne imagined submarines and lunar travel decades before they became reality. H. G. Wells conceptualized time travel and alien invasions, shaping modern scientific curiosity. Today, ideas from films and novels influence real research in artificial intelligence, space exploration, biotechnology, and renewable energy. Science fiction also serves as a mirror to society. It explores ethical questions about genetic engineering, climate change, and human enhancement. As we develop AI and consider missions to Mars, fiction helps us think about responsibility, consequences, and humanity's future. After Albert Einstein we can say that science begins with imagination. Every innovation—whether satellites, smart phones, or vaccines—once existed only as an idea. Science fiction expands the boundaries of possibility and challenges young minds to dream boldly and think critically. The future is not discovered; it is designed. And often, it is first written. Are we ready to turn today's fiction into tomorrow's science?

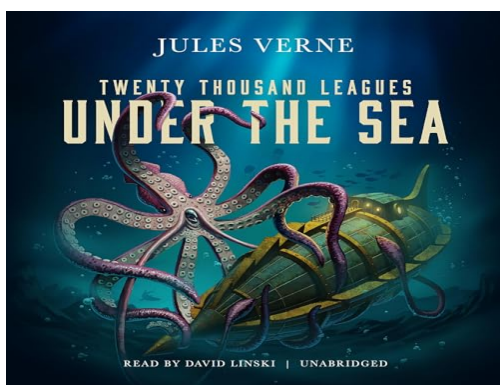


Fig. 1: *Twenty Thousand Leagues under the Sea* (1870)



Fig. 2: *First Practical Modern Submarine* (1897)

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- [2] Wells, H.G. *The Time Machine*. 1895. Penguin Classics, 2005.
- [3] Roy, Satyajit. *Professor Shonku*. Ananda Publishers, various years.

Evolution of Present Numerals

Sk. Sariful Karim

Student

Department of Mathematics, Bejoy Narayan Mahavidyalaya

Email ID: sksarifool5832@gmail.com

Abstract

In this poster, it is described with the help of a chart how the modern Numeral system (known as Hindu-Arabic numerals) came into being. The evolution of the present-day numeral digits is traced with reference to Brahmi, Sanskrit, Shang and Arabic numerals.

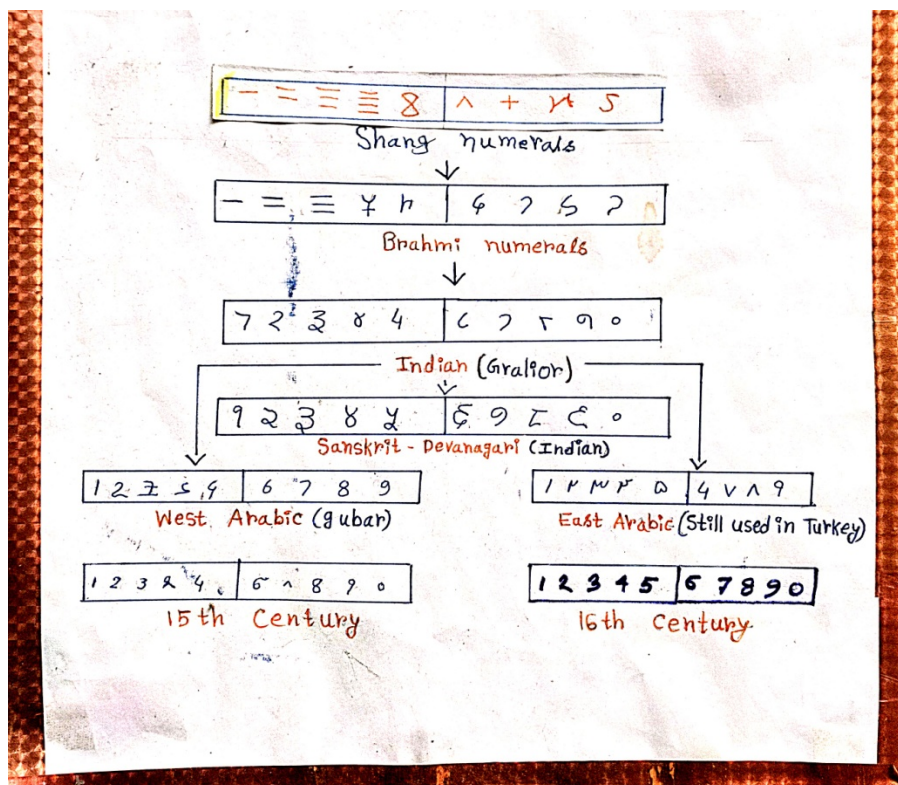


Fig. Evolution of present numerals

Production of Synbiotic Wood Apple Yogurt

Sampriti Ghosh, Smriti Banerjee

Student

Department of Nutrition, Bejoy Narayan Mahavidyalaya

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Abstract

Lactic acid bacteria (LAB) were incorporated in almond milk yogurt associated with wood apple mass to produce a novel synbiotic dairy product. The viability of LAB cells were assessed in the yogurts during storage at 4 °C for 60 days and the effect of the added enriched materials on physicochemical parameters, microbiological characteristics and sensory acceptance of yogurts were evaluated. The wood apples, and almond milk improved the viability of embedded LAB cells resulting at counts around 7 log cfu g⁻¹ of yogurt after 60 days of storage at 4 °C. The produced yogurt presented less syneresis due to water holding capacity of wood apple. The above results are encouraging for the production of novel yogurts with improved sensorial and nutritional characteristics in industrial and/or small industrial scale.

Key words: LAB, wood apple, yogurt, symbiotic.



Fig. 1: symbiotic yogurt from wood apple

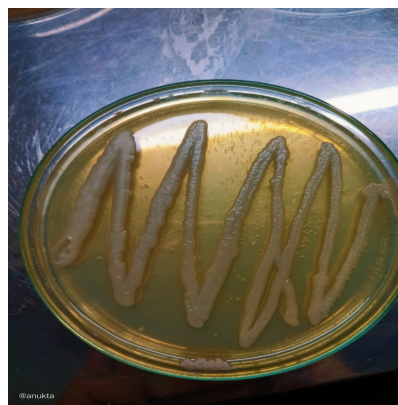


Fig. 2: LAB in MRS agar plate

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Types of Emotion

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Abstract

Psychology can be seen as a bridge between Philosophy and Physiology. Where Physiology describes and explains the physical make-up of the brain and nervous system, Psychology examines the mental processes that take place within them and how these are manifested in our thoughts, speech and behavior. And whereas Philosophy is concerned with thoughts and ideas, Psychology studies how we come to have them and what they tell us about the workings of our minds.

All the sciences evolved from Philosophy, by applying scientific methods to philosophical questions, but the intangible nature of subjects such as consciousness, perception, and memory meant that Psychology was slow in making the transition from philosophical speculation to scientific practice.

The word emotion comes from Latin meaning ‘to stir up’ or ‘to agitate’. This definition is mercifully simple; reaching a scientific definition has been more difficult. One study found at least 556 words and phrases relating to emotion, but from another point of view at least six ‘basic’ emotions: sadness, disgust, happiness or joy, surprise, fear and anger; other emotions are combinations of these. In so far as they can be operationally defined, emotions are brief changes in feelings that occur in response to events or people (or recollections of both) which have motivational significance: they are responses to things that have motivated us. They may be characterized by the activation of different neural and neurotransmitter pathways.

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Is Time Travel Possible?

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Abstract

The concept of time travel lies at the intersection of physics, astronomy, and human imagination. Modern science, particularly the theory of relativity proposed by Albert Einstein, shows that time is not fixed but depends on motion and gravity. A key principle is that the speed of light is constant for all observers. Since speed equals distance divided by time, for light's speed to remain unchanged, time itself must stretch or compress relative to the observer—an effect known as time dilation. As an object approaches the speed of light, time for that object slows down compared to a stationary observer, and theoretically, at light speed, time would stop completely.

We observe these ideas in everyday astronomy. The light from the Sun takes about 8 – 9 minutes to reach Earth, meaning we always see it in the past. Extending this, if a distant planet has not yet received light from Earth's ancient past, an observer there could witness events like the Stone Age or even dinosaurs. If humans could travel faster than that light and arrive earlier, they might effectively “see” Earth's past.

Gravity also affects time. According to general relativity, strong gravitational fields bend light and slow time. Near a black hole, this effect becomes extreme—time appears to nearly stop at the event horizon for an outside observer.

In conclusion, while time travel remains theoretical, the behavior of light, motion, and gravity provides strong scientific foundations suggesting that time is flexible, not absolute. But time travel is only possible when we travel faster than the speed of light.

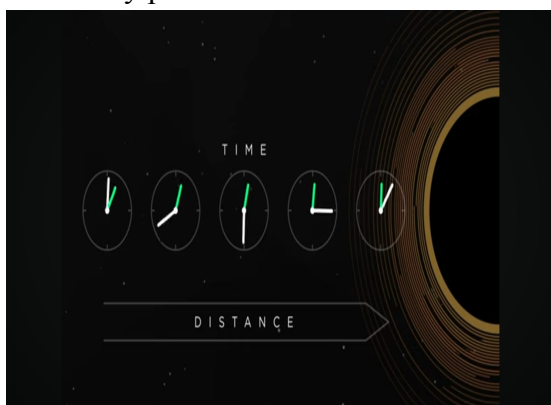


Fig.1: *The closer get to a black hole, the more time will slow down and eventually stop.*

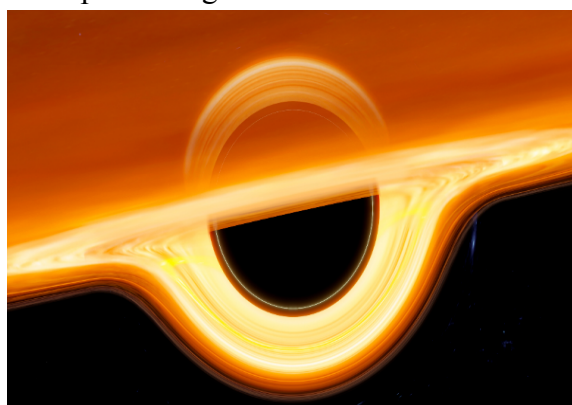


Fig.2: *BLACK HOLE*

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Some Aspects of Carbon Trading: Issues and Challenges with reference to India

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Abstract

Issues of global warming have been given a pertinent attention in the recent years and it has become exemplary to reduce the emission levels. The companies in the developed world are required to meet certain carbon emission target set by their respective government. If these companies are not able to meet their emission targets, they have an alternative of purchasing these carbon credits from the market i.e. from someone who is successful in meeting these targets and who has a surplus of these credits. In view of the above discussion, present exercise tries to evaluate pros and cons of the mechanism lying behind carbon trading as developed under the Kyoto Protocol, different aspects of carbon trading including legal, taxation and accounting etc with reference to India. Even though India is the largest beneficiary of carbon trading and carbon credits are traded on the MCX, it still does not have a proper policy for trading of carbons in the market. In order to unleash the true potential of carbon trading in India, it is important that a special statute be created for this purpose as the Indian Contracts Act is not enough to govern the contractual issues relating to carbon credits.

Keywords: Carbon Trading, Kyoto Protocol, Greenhouse Gas(GHG) emissions.

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Title- Ancient Wisdom and Modern Science: Medicinal Trees in Our College Campus through the Lens of Ayurveda

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Abstract

This presentation explores the continuity of ancient Sanskrit medical literature and its living relevance within the herbal landscape of our college campus. In classical texts such as the Atharva Veda, Charaka Saṃhitā, and Suśruta Saṃhitā, we encounter detailed descriptions of medicinal plants including Neem (*Azadirachta indica*), Tulsi (*Ocimum sanctum*), Bael (*Aegle marmelos*), Jamun (*Syzygium cumini*), Yajna Dumur (*Ficus racemosa*), Amla (*Phyllanthus emblica*), and Haritaki (*Terminalia chebula*). These texts not only highlight their therapeutic properties but also emphasize their preventive and holistic role in maintaining health.

Parallel to this textual knowledge, our familiarity with the herbal garden and other medicinal trees located within our college campus provides a practical dimension to this traditional wisdom. The presence of these plants in our immediate environment demonstrates that Ayurvedic knowledge is not merely historical but continues to hold practical applicability in contemporary life.

The central objective of this presentation is to establish a meaningful connection between scriptural knowledge and present-day ecological reality, thereby underscoring the enduring scientific and cultural relevance of Ayurveda in modern academic spaces.



Fig. 1: Medicinal Plants in Campus



Fig. 2: Preparation of Ayurvedic Medicine

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Relationship between Social Media Usage and Mental Health

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Abstract

Many people in today's world live with their smartphones as virtual companions . These devices use electronic social media networks that alert users to updates on friends , favorite celebrities, and global events. Social media has become firmly integrated into a lot of people's daily lives .

Social media significantly impacts mental health , offering benefits like social connection and support while also carrying risks of anxiety, depression, insomnia, and body image issues due to excessive use and social comparison.

Negative impacts are often linked to compulsive, late night scrolling and cyber bullying, particularly affecting adolescents.

Thus 'SOCIAL MEDIA' is ' Silent Killer ' of your MENTAL HEALTH.



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Types of Graphs

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Abstract

In today's world, data is everywhere, from online shopping trends to healthcare analytics and social media metrics. But raw numbers alone can be overwhelming and difficult to understand. That's where graphs come in; they transform complex data into clear visual stories, making patterns, comparisons, and trends immediately visible.

Some graphs are best for comparing categories, others are perfect for tracking trends over time, and some make it easy to see how data is distributed or how variables relate to each other.

Choosing the right type of graph is not just a matter of aesthetics; it determines how effectively our insights are communicated.

Here, we will go through the main classifications of graphs, their subtypes, and how to use them effectively

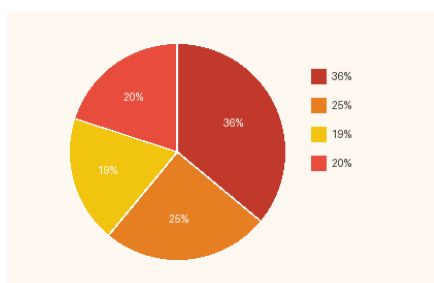


Fig. 1: *Pie Chart*

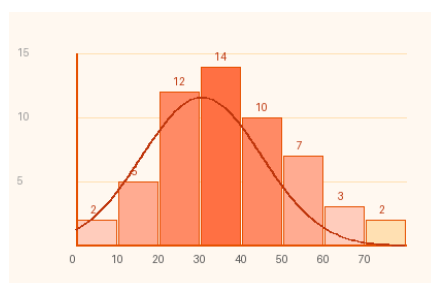


Fig. 2: *Histogram*

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Chemical Garden

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Abstract

The Chemical Garden Experiment demonstrates the formation of plant-like structures through chemical reactions. The main objective of this experiment is to observe how metal salts react with a silicate solution to produce colorful, tube-like formations that resemble a garden. When crystals of metal salts such as copper sulfate or iron chloride are placed in a sodium silicate solution, a chemical reaction occurs forming an insoluble metal silicate membrane around the crystal.

As water enters through this membrane by osmosis, pressure builds up inside until the membrane bursts, allowing the solution to escape and form upward-growing tubular structures. These structures continue to grow due to continuous precipitation reactions.

This experiment helps in understanding important scientific concepts such as osmosis, precipitation reactions, membrane formation, and crystal growth. It visually demonstrates how complex natural structures can form through simple chemical processes.

Carbon Purification Model

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Abstract

The Carbon Purification Model demonstrates how polluted air can be purified using activated carbon. The main objective of this project is to show how carbon helps in reducing air pollution by removing harmful gases, smoke, and bad odors. Activated carbon has a highly porous structure with a large surface area, which allows it to trap impurities through a process called adsorption.

In this model, polluted air is passed through a chamber containing activated charcoal. As the air moves through the carbon layer, harmful particles and toxic gases stick to the surface of the carbon. Cleaner air then exits from the other end of the chamber. A small fan may be used to circulate the air through the system.

This project helps to understand the basic principle used in air purifiers, gas masks, and industrial filtration systems. It highlights the importance of carbon filtration in controlling air pollution and protecting the environment.

Path of Quickest Descent

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Abstract

A mass falling from rest at a point of an upper level to a point at lower level (not underneath one another) under the gravity in the fastest time will move along straight path, which is generally a thought for common persons. But actually not that, the required path becomes curved which is a cycloid. This is famously known as Bernoulli's brachistochrone problem.

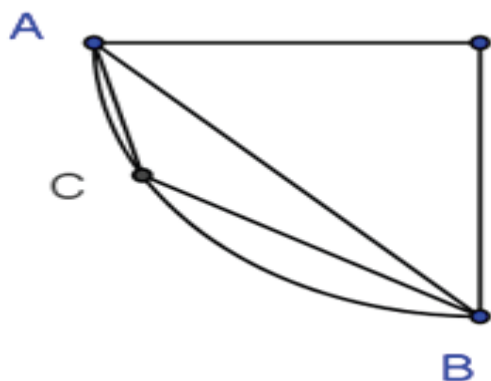


Fig. 1: *Path of Quickest Descent*



Fig. 2: *Cycloid*

Effects of ultra processed foods on metabolic health

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Abstract

The increasing global consumption of ultra-processed foods (UPFs) has emerged as a major public health concern. According to the NOVA food classification, UPFs are industrial formulations made primarily from refined substances, additives, and minimal whole foods. These products are typically energy-dense, high in added sugars, unhealthy fats, and sodium, while being low in dietary fiber and essential micronutrients. Growing epidemiological evidence suggests a strong association between high intake of UPFs and adverse metabolic outcomes, including obesity, insulin resistance; type 2 diabetes, hypertension, dyslipidemia, and metabolic syndrome. Proposed biological mechanisms include increased glycemic load, chronic low-grade inflammation, gut micro-biota alterations, and impaired lipid metabolism. Prospective cohort studies and meta-analyses consistently demonstrate a dose–response relationship between UPF consumption and increased risk of cardio-metabolic diseases and all-cause mortality. Although causality remains under investigation, current evidence highlights the need for dietary strategies emphasizing minimally processed foods. Public health interventions, food policy regulations, and consumer education are essential to reduce UPF consumption and mitigate the growing burden of metabolic disorders. Further long-term clinical and mechanistic studies are required to strengthen the evidence base and guide policy development.

Keywords: Ultra-processed foods (UPFs), NOVA food classification, metabolic diseases

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RADAR Automatic Missile Launching System

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Abstract

A radar system has a transmitter that emits radio waves known as radar signals in predetermined directions. When these signals contact an object they are usually reflected or scattered in many directions, although some of them will be absorbed and penetrate into the target. Radar signals are reflected especially well by materials of considerable electrical conductivity such as most metals, seawater, and wet ground. This makes the use of radar altimeters possible in certain cases. The radar signals that are reflected back towards the radar receiver are the desirable ones that make radar detection work. If the object is moving either toward or away from the transmitter, there will be a slight change in the frequency of the radio waves due to the Doppler effect.

Radar is used in many ways, but here we are using it for missile defense systems. It is used to guard the country's borders in war. With its help, enemy aircraft and drones coming from outside are detected by radar and destroyed with the help of automatic missiles. When an enemy object comes within the radar range, the radar immediately sends a signal to it and the missile is launched immediately and destroys the enemy object. In this way we can be protected from enemy attacks.

Radar automatic missile launching systems are very useful for guarding the country's borders in places where it is difficult for humans to fight.

A radar automatic missile launching system detects, tracks, and engages targets without human intervention, using radar signals to pinpoint objects within range and automatically triggering a launcher. These systems, common in air defense like the S-400, use microcontrollers to process data, motors to aim, and radar sensors to ensure real-time response against threats.

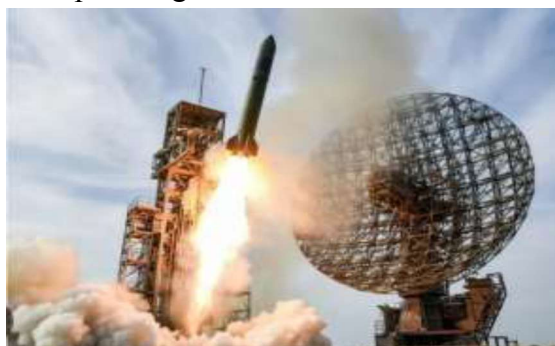


Fig. 1: Radar Missile System

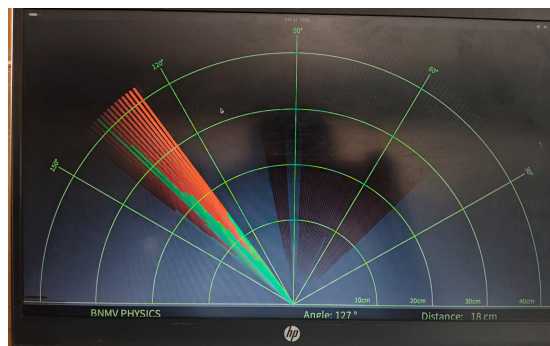


Fig. 2: Detection by the prepared model

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Instating the origin of life as a successive process instead of a bizarre

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Abstract

The origin and evolution of life on Earth is one of the most fascinating subjects in science. Scientists believe that Earth formed about 4.5 billion years ago. Initially the planet was extremely hot, with frequent volcanic eruptions and meteorite impacts. Over time, Earth cooled, allowing water vapor to condense and form oceans which became the cradle of life. Widely accepted explanation for the origin of life is the chemical evolution theory (Oparin–Haldane hypothesis) which suggests that simple organic molecules formed from inorganic substances in the early atmosphere, was rich in methane, ammonia, hydrogen, and water vapor. The first living organisms were simple, single-celled prokaryotes arose in ocean about 3.5 billion years ago and obtained energy from chemical reactions. Later, some achieved photosynthetic ability releasing oxygen to the atmosphere (Great Oxygenation Event) to change to emerge more complex life forms. Over millions of years, life became more diverse through the process of evolution by natural selection, a theory proposed by Charles emanating that organisms with favorable traits are more likely to survive and reproduce, passing those traits to future generations and thus evolved most complex forms like human. Scientists recognize five major mass extinctions in Earth's history (Big Five.). These events were caused by several global factors.

1. **Ordovician–Silurian Extinction (about 444 million years ago)**- Likely caused by glaciations and falling sea levels eliminating many marine species.
2. **Late Devonian Extinction (about 375–359 million years ago)**- affected marine life and is linked to environmental changes and reduced oxygen levels in oceans.
3. **Permian–Triassic Extinction/ “The Great Dying,” (about 252 million years ago)**- the most severe extinction event, wiping out about 90% of marine species.
4. **Triassic–Jurassic Extinction (about 201 million years ago)**- dinosaurians to dinosaurs started.
5. **Cretaceous–Paleogene Extinction (about 66 million years ago)**- caused by an asteroid impact and volcanic activity, leading to the disappearance of non-avian dinosaurs.

Mass extinction played a crucial role in evolution. By eliminating dominant species, they opened ecological niches for surviving organisms e.g. the extinction of dinosaurs, diverse mammals eventually gave rise to humans. Roving that evolution is influenced not only by gradual changes but also by sudden catastrophic events. Do we now experiencing the 6th Mass Extinction due to anthropogenic activities? Origin of life is not a discrete phenomenon but rather a complex process involving multiple stages such as the formation of simple organic molecules and emergence of self replicating systems through uncountable chemical reactions, which had happened for several billion years. The formation of modern lives from the simplest is not fully explained or understood due to unavailability of adequate proof in the form of evidence. Though there are many doubts in the mind of researchers about the reality, we tried to unfurl the truth that the “origin of life is not a bizarre phenomenon rather it is a continuous process” by our model, with the filling up some gaps with few modern findings.

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