

PRAJYA

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Ayodhya Deepotsav



WORLD POLIO DAY

—OCTOBER 24—

**Polio has
no cure, but
it can be
prevented with
vaccination.!**





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FROM THE **EDITOR'S DESK**

Recognition should be a logical consequence of excellence and competence.

Competing against 100+ teams including special forces and esteemed regiments from across the globe, the **Indian Army** represented by **3/5 Gorkha Rifles** aced the most challenging military exercises in the world to win the gold medal in the Cambrian Patrol Competition.

Two Indian American scientists, **Ashok Gadgil** (a "humanitarian inventor") and **Subra Suresh**, were awarded the National Medal, the highest honour for scientific and technological achievement in the US. This is an acknowledgement of their exceptional contributions.

Being recognised as the **most punctual airport** consecutively is a badge of honour well deserved by **Kempegowda International Airport**.

Finding inclusion in the list of the **Best Tourism Villages (2023)** is an achievement of **Dhordo** in Gujarat while promoting sustainable tourism development.

Being chosen the best in his category from among 50,000 participants is **Vihaan Talya Vikas'** accomplishment. Blessed with prodigious talent, he started applying his abilities and passion in the field of photography at the tender age of seven. This culminated in his winning the **Wildlife Photographer of the Year Award**.

Nandini Das demonstrated that high-quality research can be presented in an engaging manner to the readers. This made her the **British Academy Book Prize** winner for **2023**.

Endorsement of **Sheetal Devi's** excellence in archery came in the form of gold and silver medals. She was the first Indian woman to secure two gold medals in a single edition of the **Asian Para Games**.

Each of these proved :

"We are what we repeatedly do. Excellence then, is not an act, but a habit."

-Aristotle

Read, reflect and revert with your thoughts and feelings.

We look forward to your support and suggestions.


- Editorial Team

.....
Dear Readers,

There have been requests from quite a few readers for hard copies of Prajya. We understand that quite a high percentage of our young readers keep revisiting some articles, and a handy print version within reach induces one to read more often, highlight things and make notes. This also partly contributes to students spending less screen time. The Prajya team is happy to bring to you the issue in print.

However, there are few things that we want to be careful about:

A. We don't want to print more than what is required and

B. Keep the cost of the print version (plus postage) within reasonable limits.

Please note that the access to free online e-version will continue.

So, it will greatly help us if you could fill in the details in the link provided.

<http://bit.ly/Prajya>

Happy Reading !

Watch out for the Monthly Prajya Quiz online

Visit <https://davchennai.org/publications/prajya-news-magazine/>

Content



International Current Affairs

- 6 Sri Lanka's roadmap for economic transformation
- 7 Indian Army wins gold medal In UK
- 8 Japan launches electromagnetic railgun
- 9 Sri Lanka and Thailand offer free visas for Indians
- 10 Indian-American scientists win National Medal
- 12 Climate change: Is white Hydrogen the new saviour?
- 13 Oldest black hole discovered
- 15 India offers seven helicopters to Philippines
- 16 Samsung Gauss - The newest AI on the block

National Current Affairs

- 18 Kempegowda International Airport wins top global ranking
- 19 AI-powered elephant protection system
- 20 FIDE Grand Swiss Tournament
- 21 DigiKavach to fight online financial frauds
- 22 Gaganyaan TV-D1 Mission takes a historic leap
- 23 Dhordo among UNWTO's best tourism villages
- 25 Asian Para Games
- 27 India's relentless fight against TB
- 28 India's first reference fuel
- 29 10-year-old wins wildlife photographer award



- 30 Nandini Das wins British Academy Book Prize
- 31 Mera Yuva Bharat launched
- 32 IIT-M's first international campus in Tanzania
- 33 The giant leap of Indian universities
- 35 Smart ring for contactless payments
- 37 National Games 2023
- 39 Ayodhya's Deepotsav
- 41 World Food India 2023
- 42 Dr Meenesh Shah on board International Dairy Federation
- 43 New Governors appointed

Defence Updates

- 44 First Vertical Wind Tunnel at Army Training School
- 45 Indian Navy successfully test fires BrahMos supersonic missile

- 46 BSF installs beehives on India-Bangladesh fence

General Knowledge

- 48 Financial literacy - Online investment in gold
- 51 Law in focus - Refresher Quiz -2
- 53 Women scientists - Sujatha Ramadorai
- 56 Living Naturally - Integrating naturopathy and allopathy medicines
- 58 Curiosity Corner - Lesser-known facts about Chennai
- 59 Param Veer Vandana - Maj Somnath Sharma
- 60 Padma Awardee - Ramesh Parmar & Shanti Parmar
- 61 Flora of India - Jamun
- 63 Architectural Wonder - Siddhanath Temple
- 64 Spotlight of the month - Sheetal Devi
- 65 Unsung Heroes | Bhai Mani Singh



Sri Lanka's roadmap for economic transformation

Sri Lanka is on a path of economic transformation and slowly coming out from the terrible days of heart wrenching scenes of people queuing up for every basic requirement.

The Government has announced its intention to renegotiate its free trade agreements (FTAs) with key bilateral partners namely India, China and Thailand. This move is part of a larger vision of Sri Lanka's strategy to boost its economic growth and reduce external debt by promoting market access, foreign direct investment and export-oriented initiatives.

A group of top government officials and senior economic consultants are working on developing the roadmap with

timelines to present the country's long term national economic policy. It is also likely to introduce a new social market economic system with a safety net for the poor, underprivileged and vulnerable groups while strengthening small and medium entrepreneurs.

One of the main aims of this policy is to create a surplus in the primary budget by the year 2025 and raise the economic growth rate to a stable stage.

Currently, public debt is 140 % of GDP and the government's plan is to bring it down to less than 100% by the year 2032.

It will be enhancing oversights



of State-Owned Enterprises (SOEs), reducing the anti-export bias of national tariff policy **eliminating barriers to foreign investment, making energy and transport sector less dependent on imported fuels and more climate-friendly, and strengthening social protection institutions and delivery systems.**

These are aimed at transforming economic governance, enhancing growth and ensuing competitiveness while protecting the poor and vulnerable.

Sri Lanka's ultimate goal in the renegotiation process is to become a member of the **Regional Comprehensive Economic Partnership (RCEP)**. This agreement involves 16 Asian countries and seeks to enhance trade and economic cooperation within the region.





Indian Army wins gold medal in the UK

DO YOU KNOW ?

Exercise Cambrian Patrol was first set up in August 1959 by Welshman Major General Lewis Pugh to feature long-distance marching over the Cambrian Mountains from Tonfanau on the west coast of Wales. Since then, the exercise has been rigorously updated to meet the challenges faced by modern soldiers.

Indian army's participation in one of the most challenging military exercises showcases its commitment to maintaining the highest standards of excellence. Our soldiers' performance and unwavering determination placed India at the forefront of the world's esteemed military exercise.

The Indian Army's 3/5 Gorkha Rifles (Frontier Force) has clinched a gold medal in the **Cambrian Patrol Competition**, also known as the 'Olympics of

Military Patrolling' held from 6th to 15th October 2023 in Wales, UK.

The event, organised by the UK army was an annual international military exercise in which 111 teams from across the globe participated and **had to cover a 60 km course in less than 48 hours executing tactical missions in rugged terrain and swamp lands of mid-Wales.**

It is noteworthy that in 2021, 4/5 Gorkha Rifles of the Indian Army secured a gold medal at the same event.





Japan launches Electromagnetic railgun

Japan has recently achieved a significant milestone in the realm of defence technology.

On 17th October 2023, the Japanese Maritime Self-defence Force (JMSDF) in collaboration with the Acquisition Technology & Logistics Agency (ATLA), a

division of the Japanese Ministry of Defence, successfully test-fired a **medium-calibre maritime electromagnetic railgun from an offshore platform.**

What is an electromagnetic railgun ?

been predicted and stated by some of Japan's officials that the country wants to combine its railgun system with long-range missiles to increase its capacity to intercept aerial targets.

This remarkable feat marks the **first time any nation has managed to launch a railgun from an offshore platform.** Typically, railguns are mounted on ships, but Japan aspires to employ this technology **both on land and at sea**, making this test an unprecedented advancement in the field.

Japan's railgun history

A rudimentary, smaller 16 mm railgun project was started by the agency's **Ground Systems Research Centre (GSRC)** in 1990. In 2016, the agency attempted to create a prototype with anti-air and anti-missile capabilities. The concept has since gone through a significant evolution over the years.

The primary goal is to integrate this technology with long-range missiles, augmenting its capacity to intercept aerial targets effectively.

A railgun (also spelled rail gun) is a linear motor device, typically designed as a weapon, that uses electromagnetic force to launch high-velocity projectiles.

The projectile normally does not contain explosives, instead relies on the projectile's high kinetic energy to inflict damage.

It can shoot projectiles at about Mach 7, or seven times the speed of sound, on targets like ships, missiles and aircraft. It has long

'UNSTOPPABLE'
Japan is testing a new kind of weapon called a 'rail gun'

Japan's gun can fire 40mm steel projectiles weighing 320g

Fires rounds at 6.5 times the speed of sound

HOW IT WORKS

Flow of electrical current

Magnetic field

Positively charged rail (+)

Negatively charged rail (-)

Armature

Projectile





Sri Lanka and Thailand offer free visas for Indians



**DO YOU
KNOW** 

5 travel destinations with visa-on-arrival facilities

- ◆ Seychelles
- ◆ Maldives
- ◆ Indonesia
- ◆ Samoa
- ◆ Tanzania



With the beginning of the tourist season, Thailand has temporarily removed visa requirements for travellers from India. Indian citizens can visit the island nation for up to 30 days without a visa. This visa-free access is available from 10th November 2023 to 10th May 2024. The country has now waived visa requirement for citizens of India and Taiwan in a bid to get more tourists from here. This September it had done so for Chinese nationals.

Around 1.2 million Indians visited Thailand from January-September 2023, the fourth highest after Malaysia, China and South Korea, as per tourism ministry data.

This decision follows Sri Lanka's recent announcement of visa-free entry for visitors from India and six other countries, which includes China, Russia, Malaysia, Japan, Indonesia and Thailand till 31st March 2024.

Indian travellers are being

actively targeted by tourism boards of various countries post-Covid. India has been Thailand's fourth largest source market for tourism this year. As per Indian authorities, people travelling abroad from India have increased, with the top destinations being the UAE, Saudi Arabia, USA, Singapore, Thailand, UK, Qatar, Kuwait, Canada and Oman.

Their number constantly rose from 1.4 crore in 2011 to reach a peak of 2.7 crore in 2019. Then after two pandemic years of travel restrictions and closed orders, it again rebounded to 2.1 crore in 2022.

Some of the other countries that do not demand visas from Indians are Bhutan, Nepal, Mauritius, Kazakhstan, Qatar, Fiji, Oman, Barbados, Jamaica, Cook Islands, Micronesia, Niue, Vanuatu, British Virgin Islands, Dominica, Grenada, Haiti, Trinidad and Tobago, Macao, Senegal and Tunisia.





President Joe Biden with Ashok Gadgil

Indian-American scientists win **National Medals**

Gadgil's innovative and affordable technologies address crucial needs, from clean drinking water to fuel-efficient cookstoves, reflecting a belief in the dignity of all people and the power to solve significant challenges.

Recently, U.S. President Joe Biden bestowed the prestigious White House National Medals upon two Indian-American scientists Ashok Gadgil and Subra Suresh. The award recognizes those who have made lasting contributions to America's competitiveness and quality of life, playing a vital role in bolstering the nation's technological workforce.

Ashok Gadgil

A distinguished Professor Emeritus of Civil and Environmental Engineering at UC Berkeley, Gadgil was awarded the **National Medal of Technology and Innovation**.

Known for his commitment to widespread impact, Gadgil's

projects have positively influenced the lives of over 100 million people. His expertise extends to building energy efficiency and computational fluid dynamics of indoor air and pollutant flows.

The White House acknowledged Gadgil's exceptional contributions, stating that he received the medal "for providing life-sustaining resources to communities around the world." His innovative and affordable technologies address crucial needs, from clean drinking water to fuel-efficient cookstoves, reflecting a belief in the dignity of all people and the power to solve significant challenges.

Expressing his dedication, Gadgil shared, "The world is not a fair place. I try to bend my





President Joe Biden with Subra Suresh

The National Science and Technology Medals Foundation noted Suresh's commitment to research and collaboration across international borders demonstrating how science can forge understanding and cooperation among people and nations.

knowledge of science, engineering, and my creativity to make it a little less unfair for the people who are holding the short end of the stick.”

He highlighted **ongoing efforts to remove arsenic from groundwater efficiently and affordably. This initiative, which began in 2005, now operates two community-scale plants in India, providing safe drinking water to 5,000 people at just 1 cent per litre.**

Gadgil, who earned degrees from the University of Bombay, the Indian Institute of Technology Kanpur, and UC Berkeley, has been a vital figure at Lawrence Berkeley National Laboratory. Having retired as a faculty senior scientist, he remains an affiliate retiree of the Berkeley Lab.

Subra Suresh

He was decorated with the **National Medal of Science**. A professor at large at Brown University's School of Engineering

and former director of the National Science Foundation (NSF), **Subra Suresh was chosen for his pioneering research across engineering, physical sciences and life sciences.**

The National Science and Technology Medals Foundation noted Suresh's commitment to research and collaboration across international borders demonstrating how science can forge understanding and cooperation among people and nations.

Under his leadership, NSF established **Global Research Council**, a virtual organisation of heads of agencies which fund science and engineering projects in more than 50 countries to foster global collaboration and data sharing.

He was also involved in the Centre-Life Balance programme to **increase the number of doctoral-level women in the fields of science and engineering from 26% - 40% between 2011 and 2021.**



Climate change is white hydrogen the new saviour ?

Energy derived from a multitude of sources keeps the world economy moving. Today close to 80% of our energy is derived from burning fossil fuels that builds up atmospheric greenhouse gases resulting in global warming and climate change. Technological innovations ensure more efficient methods of energy production and its use. But the bitter truth is that we don't have much time before climate change unleashes disastrous extreme weather events in a scale not witnessed yet. Meanwhile hydrogen as an energy source especially as an alternate fuel in transportation, steel manufacturing and other industries

is getting great attention. That is quite understandable because hydrogen is one of the cleanest fuels with zero emissions of carbon. All that depends on how hydrogen is produced.

How hydrogen is produced

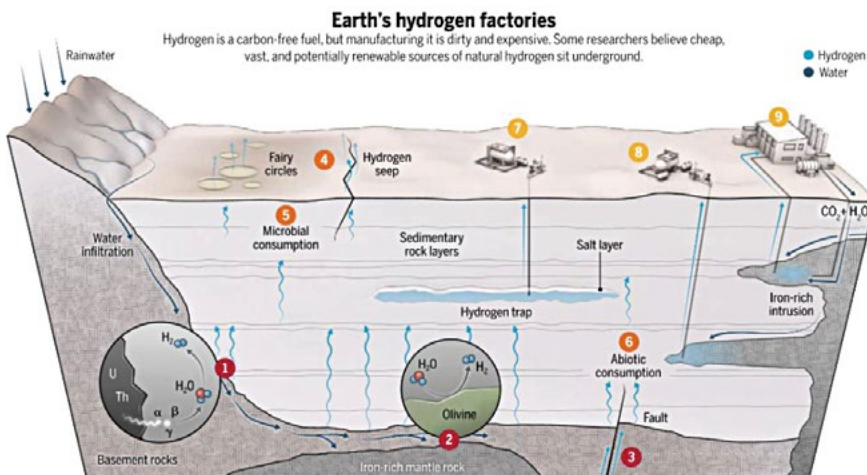
While hydrogen is the most abundant element, it rarely occurs in its free form in large quantities. **Grey hydrogen** is produced from natural gas, **brown hydrogen** from coal gasification, **pink hydrogen** from using nuclear energy, and **green hydrogen** from electrolysis of water using renewables like wind power, solar energy or hydro power.

White hydrogen is hydrogen that occurs in natural geological formations which can be recovered in readily usable form.

White hydrogen

The first recorded history of discovery of white hydrogen occurred in the African country of Mali when a water well exploded. Later analysis showed that the well was spewing a gas that was 98% hydrogen in its natural form. Later **Jacques Pirinus** and **Phillipe De Donato**, directors at France's centre for scientific research while assessing the amount of methane in the subsoils of Lausanne, France discovered unbound hydrogen or white hydrogen. They estimated that the reservoir could have 6 to 250 million tonnes. Geoffery Ellis a geochemist working for US geological survey estimates that reserves of white hydrogen worldwide could be in tens of billions of tonnes.

For a world looking for meaningful answers to climate change the discovery of white hydrogen in huge quantities should be the holy grail of climate change.





Oldest Black Hole discovered



A quasar - an extremely luminous active galactic nucleus (AGN), (aka quasi-stellar object or QSO). The emission from an AGN is powered by a supermassive black hole with a mass ranging from millions to tens of billions of solar masses, surrounded by a gaseous accretion disc.

In a groundbreaking revelation, NASA scientists have unveiled the most ancient black hole ever observed, shedding light on the early stages of the universe. The remarkable discovery was made using NASA's James Webb Space Telescope and the Chandra X-Ray Observatory. Collaborating over the past year, the teams have confirmed the existence of a supermassive black hole formed close to the dawn of the universe.

The black hole, estimated to have originated a mere 470 million years after the Big Bang, is a staggering 13.2 billion years old in the 13.7-billion-year-old universe. What sets this black hole apart is its immense size, being 10 times larger

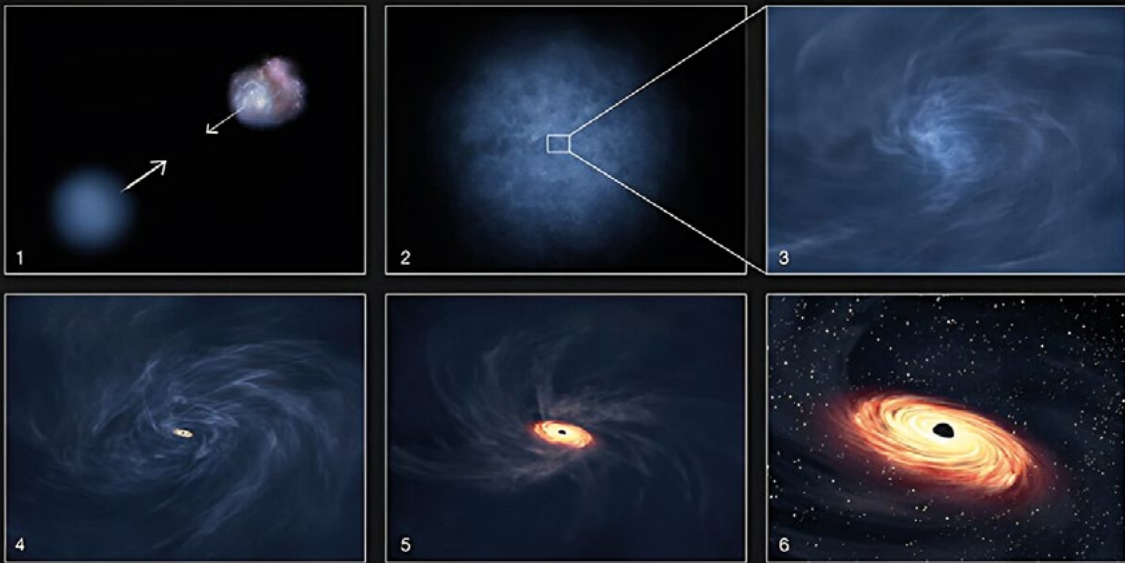
than the black hole found in our Milky Way galaxy.

Lead author **Akos Bogdan** from the Harvard-Smithsonian Centre for Astrophysics revealed that this colossal black hole weighs anywhere from 10% to 100% of the mass of all the stars in its galaxy, a stark contrast to the smaller black holes in our vicinity.

Yale University's **Priyamvada Natarajan**, part of the study published in *Nature Astronomy*, expressed astonishment at the black hole's early existence in the universe, stating, "It's just really early on in the universe to be such a behemoth. It's astounding how this thing actually is sitting in place already with its galaxy so early on in the universe."



Formation of a Heavy Seed Black Hole from Direct Collapse of a Massive Cloud of Gas



The collaboration between the Webb and Chandra telescopes marks a significant leap in our understanding of the cosmos, unravelling mysteries persisting since the universe's infancy.



Scientists posit that the black hole formed from massive gas clouds collapsing in a neighbouring galaxy. When two galaxies merged, this colossal black hole took charge.

Using X-rays, Chandra confirmed the black hole's existence, capturing the gas being gravitationally pulled into it, causing the gas to glow brightly in X-rays. Described as a **quasar** due to its active growth, this black hole is a testament to the marvels of the universe.

The telescopes employed gravitational lensing to magnify the space surrounding the galaxy, UHZ1, and its black hole. By using

light from a closer galaxy cluster, only 3.2 billion light-years away, the telescopes magnified UHZ1 and its black hole, providing a rare and fortunate glimpse into the cosmos.

Priyamvada Natarajan anticipates that more early black holes will be discovered, opening new windows to the understanding of the universe.

The collaboration between the Webb and Chandra telescopes marks a significant leap in our understanding of the cosmos, unravelling mysteries persisting since the universe's infancy.





India offers seven helicopters to Philippines

“India believes in taking everyone together. An earthquake rattled Nepal. We provided assistance to them. We did so, on the grounds of humanity. Be it Yemen or the Maldives, we tried to provide assistance at our best. Humanity is our central inspiration.”

- Narendra Modi

India has been emerging as a dependable friend of third-world countries. Whenever there is a crisis, we step forward to help others. We supplied vaccines to more than 90 countries during the pandemic.

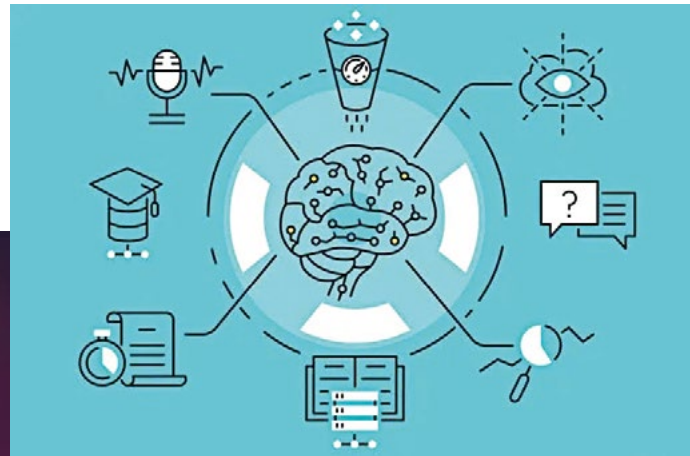
Our peacekeeping forces are doing commendable work in restoring peace in troubled regions. While opposing terrorism vehemently, we did not keep away from helping the suffering people of Gaza. Recently, we have emerged as a major supplier of defence equipment to other countries.

The latest testimony of India's benevolence is the offer to supply seven helicopters to the Philippines. The Philippines is a group of islands in South-East Asia. The nation faces threats from smugglers, drug peddlers, terrorists and some enemy countries. Constant surveillance along the sea coast is necessary to provide a peaceful and safe life for its citizens.

The helicopters, manufactured by **Hindustan Aeronautics Limited (HAL)**, will be used by the Coast Guard for surveillance and at the same time for rescue operations

during disasters. India will also provide the necessary training and maintenance support systems for the helicopter units. Spares and support systems will also be provided.

India is an emerging superpower in the world today. We are the fifth largest economy. We have also proved our mettle in science and technology. The international community has recognised India as the '**Pharmacy of the world**'. At the same time, we respect the sovereignty and integrity of other nations and help them to safeguard their freedom.



Samsung Gauss

The newest AI on the block

Generative AI is artificial intelligence capable of generating text, images or other media, using generative models.

Competition breeds innovation. This has been proven innumerable times throughout human history and right now we are seeing the same with Generative AI models. On 10th November 2023, the Korean tech giant Samsung unveiled Samsung Gauss, a competitor to ChatGPT owned and operated by OpenAI and Google's Bard.

Named after the German mathematician Carl Friedrich Gauss, Samsung Gauss was unveiled at Samsung AI forum, a tech hub and platform for discussions and developments in the field of AI since 2017. Gauss has been specifically designed to integrate with current and future Samsung devices to

enhance features and accessibility of smart devices globally.

Generative AI is artificial intelligence capable of generating text, images or other media, using generative models. **Generative AI models learn the patterns and structure of their input training data and then generate new data that has similar characteristics.**

Gauss implements its generative features in 3 core components.

Gauss Image

Specifically designed and focused on creative fields, Gauss image will greatly enhance users' ability to create, edit, enhance and manipulate images and videos with great ease.



One of the dangers with generative AI is the illegitimate use of images and text without crediting or acknowledging the original creator.



These include smart object removal or picture correction which allows the user to combine multiple parts of different pictures to get the best version possible.

Gauss Language

Similar to ChatGPT, Gauss language is a language model which users can largely interact with in a conversational manner. It can collect, consolidate and answer queries on a wide range of topics and generate and edit text to suit various purposes.

Gauss Code

Gauss Code is the more cutting-edge part of Samsung's AI ventures, designed primarily for industry professionals who work in software and coding.

It aims to reduce development time for software by suggesting coders alternatives to complex code, automating error correction and making navigation through different parts of complex code easier.

One of the dangers with generative AI is the illegitimate use of images and text without crediting or acknowledging the original creator. Another potential danger is the misuse of AI generated images and videos to harm a person's reputation or spread misinformation.

Samsung aims to curtail and protect against this through its AI Red team which will monitor Gauss for potential avenues of misuse and help in combating the same.

While currently deployed internally within Samsung, Gauss is expected to be accessible to the public in 2024 with the launch of the Samsung Galaxy 24 line of mobile phones.

Considering Samsung is heavily involved in the development and production of multiple other smart home appliances the potential uses of Gauss are practically limitless.





Kempegowda International Airport tops global ranking



Achieving the top position in any field is a testimony to the hard work by the team that works behind the screen. In a recent report published by the Aviation Analytics firm Cirium, the **Kempegowda International Airport (KIA)** in Bengaluru, also known as the Bengaluru International Airport, has been recognized as the **“world’s most punctual airport” for the past three consecutive months**. This achievement speaks volumes about the airport’s exceptional commitment to on-time departures and an impressive travel experience for passengers. Cirium specifically commended KIA for its consistently outstanding on-time departure performance. Cirium evaluates on-time performance by assessing whether an aircraft arrives at the gate within 15 minutes of the scheduled departure time.

Hyderabad’s Rajiv Gandhi International Airport was the other Indian airport listed among the top five punctual airports globally. KIA expanded its services by commencing international operations from its Terminal II just over a month ago. This ranking and expansion serve as a proof to the continuous efforts of the airport to enhance its services and contribute to the aviation growth of the country.



AI-powered elephant protection system

Tamil Nadu is pioneering the artificial intelligence (AI) - based early warning system designed to safeguard wild elephants from train collisions. It is being implemented along the Ettimadai–Walayar railway section, reminiscent of similar initiatives undertaken in India such as the Elephant Corridors in Karnataka and Kerala to prevent human-elephant conflicts.

India has a rich history of living in harmony with elephants. However, in recent years, the expanding railway network has intersected with traditional elephant habitats, leading to numerous collisions and casualties. This has been a cause for concern among conservationists and railway authorities for decades.

In simple terms, Artificial intelligence, is the science of making machines that can think like humans.

AI technology can process large amounts of and is able to do

things such as recognize patterns, make decisions, and judge like humans in a much broader scale.

Highlights

- ▶ **AI-based thermal cameras** on the towers to detect the movement of elephants hidden in thickets.
- ▶ **Drones and sensors** to collect real-time data on elephant movements.
- ▶ **Alert mechanism to identify elephant movement and communicate** this to both the Forest Department staff and railway authorities.
- ▶ **Train speed reduction:** Locomotive pilots will receive these alerts and reduce train speeds promptly, preventing accidents.

The urgency of this project is underscored by the fact that between 2008 and 2022, a total of 11 elephants lost their lives in six train collisions along the railway lines connecting Coimbatore and Palakkad.

DO YOU KNOW ?

- ◆ The elephant is the only mammal that can't jump.
- ◆ Elephants have been known to learn more than 60 commands.
- ◆ The elephant is the national animal of Thailand.

Elephant corridors are a strip of land that enable elephant movement between two or more secure and friendly habitats without being disturbed by humans.





FIDE Grand Swiss Tournament

It was a proud moment for India as **Vidit Gujrathi** of Maharashtra and **Vaishali Rameshbabu** of Tamil Nadu held their medals aloft at the FIDE Grand Swiss Tournament held in the Isle of Man, from 25th October to 5th November.

The FIDE Grand Swiss is a Swiss-system chess tournament, forming part of the qualification for the World Chess Championship. **In a Swiss system there are no eliminations but the rules are designed in such a way that each participant competes with another with a similar score every round.** Eventually, the participant who wins the most rounds is crowned the winner of the tournament.

In the Men's tournament, **Vidit Gujrathi came first beating American Grandmaster Hikaru Nakamura** as part of his final match. Vidit has been participating in the FIDE tournament since 2019 and has multiple significant wins under his belt, including the 2023 Chess World Cup where he was a quarterfinalist. This win at the FIDE Grand Swiss Tournament will qualify him to participate in the World Chess Championship of 2024.

Vaishali Rameshbabu beat Ukraine's Grandmaster Anna Muzychuk to win her medal. At the age of 15 she received the title of Woman International Master and was ranked second in India and

twelfth in the world in the Under 16 women's category. In 2018, she became a Woman Grandmaster at the Riga Technical University Open Chess Tournament conducted in Latvia.

She is the **third woman Indian grandmaster** and is also the sister of R Praggnanandhaa, who is the youngest player to reach the chess world cup final and is known as the youngest player to defeat the then-world champion Magnus Carlsen. He is also currently one of the finalists of the World Chess Championship.

As these young prodigies set their sights on the World Chess Championship cup in 2024, one thing is for sure, they will have an entire nation cheering for them.



DigiKavach

to fight online financial frauds



Phishing - a technique for attempting to acquire sensitive data, such as bank account numbers, through a fraudulent request in email or on a web site, in which the criminal poses as a legitimate business or reputable person.

For example, an email from a payment portal arrives telling the victim that their account has been compromised and will be deactivated unless they confirm their credit card details. The link in the phishing email takes the victim to a fake website and the stolen credit card information is used to commit further crimes.

DigiKavach is an online fraud identification programme, designed to prevent online financial cheating in India. A proactive step to address the growing concern of online financial frauds has been taken by Tech giant Google. In today's digital age, financial frauds have become a looming concern. With online banking becoming easy to perform, digital transactions, and the proliferation of financial technology (fintech), scammers and fraudsters are constantly devising new ways to exploit unsuspecting individuals. Google aims to combat these fraudulent activities by understanding the strategies employed by conmen and implementing relevant countermeasures.

At the outset, it is imperative to understand the strategies and tactics employed by scammers and ensure that the people transacting online are protected. DigiKavach employs cutting-edge technology to detect emerging threats. By means of early detection it endeavours to prevent financial losses to individuals and institutions. It is prudent to collaborate with various organisations if the programme has to be successful.

Towards achieving this, Fintech Association for Consumer Empowerment (FACE) a trusted

flagger, is working with DigiKavach to better detect fraud patterns and take swift actions against predatory loan apps. This ensures that individuals are protected from unscrupulous fintech companies.

Cyber Crime Helpline (1930)
This helpline, established by the Indian Cyber Crime Coordination Centre (14C) under the Ministry of Home Affairs, is a key ally of DigiKavach. They respond to threats by providing timely information and support to individuals affected by financial fraud.

The following are adopted by Google on its part in contributing to safeguarding the financial ecosystem:

a) Gmail Phishing Protection
Many financial frauds these days originate from deceptive emails. Gmail, Google's email service, automatically blocks more than 99.9 % of spam, phishing and malware.

b) Google Play Protect For Android users, Google Play Protect is a built-in defence mechanism. Each day, it scans 125 billion installed Android apps for malware, reducing the risk of downloading fraudulent apps.

Digikavach helps in protecting the hard-earned money of people from being lost out to unscrupulous elements.





GAGANYAAN TV-D1 MISSION takes a historic leap



The next prestigious project of the Indian Space Research Organisation (ISRO) after the successful launch of Aditya-L1, the **Gaganyaan**, saw the accomplishment of a new milestone in October.

The Gaganyaan mission aims to send humans to the space at a 400 km orbit for a 3-day assignment. This mission is a stepping stone in the country's plan to send humans to space and the moon.

One of the modules in the space vehicle – the Orbital Module – contains the **Crew Module (CM)**, inside which the crew will be housed during the actual manned flight. This Crew Module will contain facilities and conditions required for human stay in space. The safety of such a module is of paramount importance. Hence, there is a **Crew Escape System (CES)**, which would ensure the crew members are secure in case of an emergency, and will be brought back to earth safely, and land in Indian waters.

To test the efficiency and reliability of the CES, ISRO

conducted a test where they launched an unmanned Test Vehicle (TV) and simulated an artificial abortion of the mission. The **Test Vehicle-Demonstrator 1 (TV-D1)** went up a few kilometres in the atmosphere at a speed slightly higher than the speed of sound (called Mach-1). The mission was then forcibly aborted, which activated the CES.

The system then started a series of steps to protect the CM. These include the fuelling of fast-acting solid motors, effectively separating the CM from the craft. The CM then fell freely to the earth, and as it prepared to touch the sea, the deployment of parachutes slowed the descent, ensuring the module landed comfortably. The CES worked faultlessly, thereby reaffirming its efficacy in safeguarding the astronauts in the event of failure.

The mission was initially set back by weather, and later a glitch in the engine. Then finally, the Test Vehicle ascended to the skies at 10.00 am, marking 21st October, 2023 as an important day in India's progress into space science.





Dhordo among UNWTO's Best Tourism Villages

Dhordo is the sole village in India to earn this distinction among 54 villages worldwide.

Dhordo village in Kutch, Gujarat, has achieved international recognition from the **United Nations World Tourism Organization (UNWTO)** in 2023. It has been included in the list of 'Best Tourism Villages 2023,' becoming the sole village in India to earn this distinction among 54 villages worldwide.

The UNWTO launched this initiative in 2021 with the aim of promoting sustainable tourism development on a global scale. The villages recognized by **UNWTO** are evaluated across nine key areas, including cultural and natural resources, the promotion and conservation of cultural resources, economic, social and environmental sustainability, and

tourism development.

Initially, the Rann Utsav faced opposition from locals and environmentalists who feared it would disrupt the region's fragile ecology. However, over time, it has become a vital source of income for the region, earning local appreciation.

The Great Rann of Kutch, a part of the Thar Desert is known for its breathtaking beauty. Tourists can enjoy colourful attire, dance and music of locals against the backdrop of salt-covered mudflats. Camels adorned with mirror-work handicrafts offer desert rides. During monsoons, the desert turns into a shallow lake, attracting migratory birds, including the famous flamingoes.





Mud-based mirror-work decorating houses is another cherished local craft that has seen a resurgence thanks to tourism.

Dhordo is renowned for its hand-embroidered mirror-work, especially on chaniya-cholis. This craft has gained international recognition and is even used in Western and fusion apparel by leading fashion brands. Mud-based mirror-work decorating houses is another cherished local craft that has seen a resurgence thanks to tourism.

Dhordo and the Kutch region faced challenges, including a massive earthquake in 2001.

Tourism has played a vital role in revitalizing the area, transforming it into a symbol of beauty within an otherwise arid landscape. The Gujarat Tourism advertisement featuring Amitabh Bachchan further popularized Kutch, emphasizing the slogan '*Kutch nahi dekha to kuch nahi dekha*' (You have seen nothing if you haven't seen Kutch). "The UNWTO's recognition has added prestige to this memorable slogan. In 2022-23, more than 2.42 lakh tourists visited Dhordo.





ASIAN PARA GAMES

The Games' motto was **"Hearts Meet, Dreams Shine"**, symbolizing connectivity between the countries of Asia.

The 2022 Asian Para Games was held for Asian athletes with disabilities in Hangzhou, Zhejiang, China from 22nd to 28th October this year. The event was postponed due to Covid-19.

The word "parasport" for persons with disabilities came from the words 'paraplegic' (inability to move lower parts of the body) and "sports".

Around 3100 athletes from 44 countries participated in 501 events from 22 sports. There were 19 final venues ready for the events. Since 2010, the Asian Para Games are usually held after Asian Games in the same host country. The Games' motto was **"Hearts Meet, Dreams Shine"**, symbolizing connectivity between the countries of Asia.

The official emblem of the 2022 Asian Para Games, **"Ever Forward"** features a wheelchair

athlete striving forward on a running track. The emblem apparently reflected the sublime heroism of the para-athletes in preserving and challenging themselves.

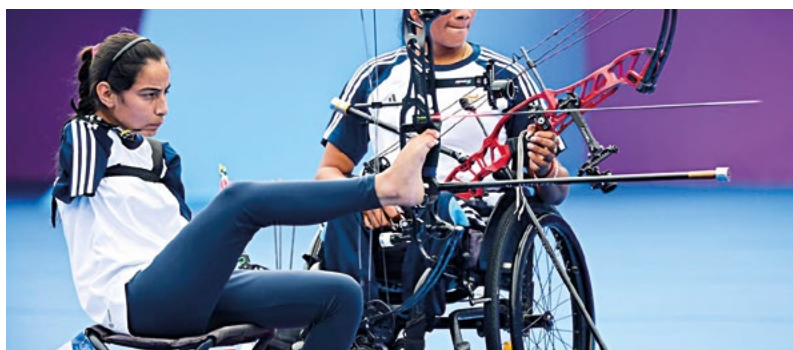
S.No.	Sport	Medals
1.	Athletics	55
2.	Shuttlers	21
3.	Chess	8
4.	Archery	7
5.	Shooting	6
6.	Canoe	4
7.	Power Lifting	3
8.	Table Tennis	2
9.	Judo	2
10.	Taek Wando	1
11.	Swimming	1
12.	Rowing	1



Medal Standings

S.No.	Country	Gold	Silver	Bronze	Total
1.	China	214	167	140	521
2.	Iran	44	46	41	131
3.	Japan	42	49	59	150
4.	South Korea	30	33	40	103
5.	India	29	31	51	111
6.	Indonesia	29	30	36	95
7.	Thailand	27	26	55	108
8.	Uzbekistan	25	24	30	79
9.	Philippines	10	4	5	19
10.	Hong Kong (China)	8	15	24	47

Year	Host	Gold	Silver	Bronze	Total	Ranking
2023	Hangzhou, China	29	31	51	111	5
2018	Jakarta, Indonesia	15	24	33	72	9
2014	Incheon, South Korea	3	14	16	33	15
2010	Guangzhou, China	1	4	9	14	15



India finished with a medal tally of **111 medals**, the best ever by the country in any major international multi-sport event with **29 gold, 31 silver and 51 bronze**.

Compared to the able-bodied athletes haul of 107 medals in the Hangzhou Asian Games held on September 2023, para-athletes have won 4 more at 111 medals.

Teenaged sensation, armless archer Sheetal Devi became the first Indian woman to win two gold medals in a single edition of the Asian Para Games by claiming the top honours in the women's individual compound event. It was a hat-trick of medals for the 16-year-old from J&K. She was discovered and adopted by the Indian Army from a remote part of Kishtwar in J&K, ever since her childhood. Sheetal who had earlier won World Championship medal in July, **defeated Singapore's Alim Nur Syahidah 144-142 in the gold medal match**.

A day before the penultimate day, India overtook the previous highest of 72 medals achieved in the 2018 edition. And on the penultimate day, inspired by Sheetal Devi's historic achievement, our contingent took their tally to 99 and continued their podium finishes. On the concluding day, we added another 12 medals.

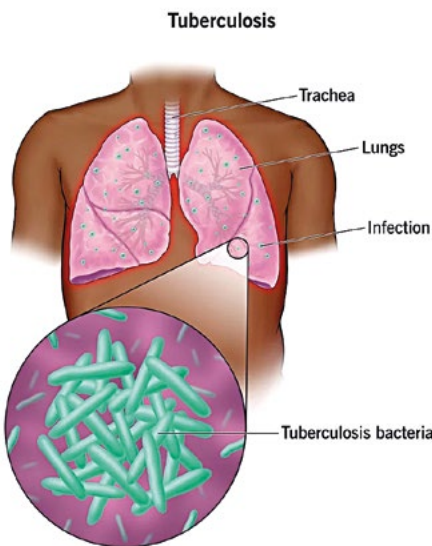
The next edition of Asian Para Games is scheduled to be held in Nagoya, Japan, in October 2026.

The Hangzhou Asian Para Games 2023 was a great saga of achievement and inspiration for our nation with **313 Indian athletes, competing in 17 out of 22 sports**. Though physically disadvantaged, the athletes proved they have nerves of steel. The para-athletes have made the nation proud with their impressive medal tally.





India's relentless fight against TB



Tuberculosis (TB) is an infectious bacterial disease caused by *Mycobacterium tuberculosis*. Though most commonly infects the lungs, TB can affect any part of the body except nails and hair. It is transmitted via droplets from the throat and lungs of patients with active respiratory disease. Over 25% of worldwide victims are from India. Though 40% of our population carry the infection in their body, only 10% get the disease.

There are broadly two categories of TB (1) **Pulmonary** and (2) **Extra Pulmonary**, that affects other organs apart from lungs. **Miliary TB**, affecting the whole body and **TB Meningitis** which affects the central nervous system are their two serious forms. The most common symptom is cough, lasting more than 2 weeks. Weight loss, loss of appetite and fever during night are common for all types.

Patients must consume a nutritionally rich and balanced diet that includes cereals, pulses, oil, egg, fish etc. They should not be ostracized but supported through their recovery and encouraged to complete their treatment.

Ministry of Health, Government of India have created **TB Arogya Saathi App**, for basic clarifications and resources. The app gives the list of both government and private sector Health Centres in each district. The Ministry has also created a toll-free number **1800-11-6666** for counselling and support.

Pradhan Mantri TB Mukh Bharat Abhiyan (PMTBMBA) through their **Nikshay Poshan Yojana** provides monthly nutritional support of ₹ 500 through DBT to over 75 lakh people for entire duration of treatment. **India is the only country in the world to have developed a mathematical model deploying which we are able to quickly determine the true burden of the disease.**

We observed **24th March as World TB Day** at the One World TB Summit in India, essentially highlighting the ethos of **One World One Health** that our PM strongly believes in and are striving to eliminate the scourge from the country by 2025, five years ahead of the global Sustainable Development Goal.

Patients must consume a nutritionally rich and balanced diet that includes cereals, pulses, oil, egg, fish etc.





India's first reference fuel

A higher-octane rating means the fuel is better balanced and stabilized against spontaneous combustion, which can cause engine knocking and damage to a vehicle. Premium petrol may also contain additional or higher-quality additives compared to regular petrol.

Transportation fuels like diesel and petrol are crucial for the economic development of a country. They are derived from refining crude oil which yields a variety of other products like kerosene, naphthalene etc., apart from diesel and petrol. However reference fuels are distinctly different from normal petrol that is sold at the pumps.

Reference fuels

Reference fuels (petrol and diesel) are premium high-value products, used for calibration and testing of vehicles by original equipment manufacturer (OEM) and organizations involved in testing and certification in the automotive field.

A reference fuel has higher specifications like higher octane value. Hence reference fuels are required by automobile

manufacturers and other regulatory bodies for assessing engine performance to ensure operability in all climatic conditions.

Indian Oil Corporation's achievement

IOC has for the first time developed “reference grade” petrol at Paradip refinery in Odisha and diesel at its Panipat refinery in Haryana. For decades India relied on imports to meet the demand of reference grade fuels. **These indigenously developed reference fuels will replace imports and ensure a steady supply, at a lower cost.** While the international price of reference fuel is ₹ 800/l to ₹ 850 /l, that produced by IOC is ₹ 450/l. This is the first time India is venturing into production of reference fuels. That is a hallmark of their brilliance, technological capability and hard work.



Kum Silpa Nandakumar



10-year-old wins wildlife photographer award



Prominent French photographer Bruno Barbey said, "Photography is the only language that can be understood anywhere in the world." The beauty of photographs transcends beyond age and experience.

Vihaan Talya Vikas, the prodigy from Bengaluru, has made heads turn by winning the top prize in his category at the renowned Wildlife Photographer of the Year (WPY) competition held in London. This prestigious competition, often referred to as the '**Oscars of Photography**', serves as a global platform for showcasing the world's outstanding wildlife photography.

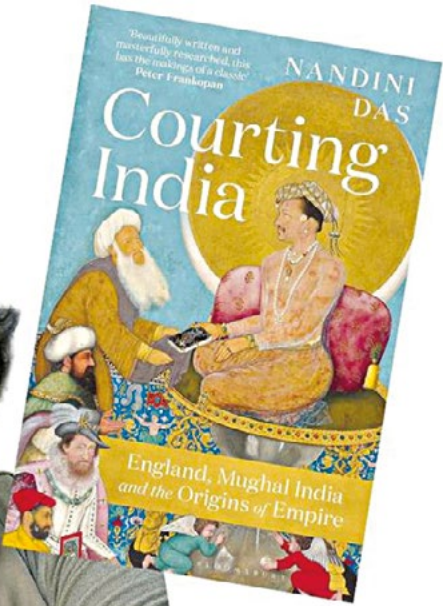
Vihaan's winning photograph showcases his extraordinary talent and creativity. His image portrays a spider in a fascinating pose, alongside a sculpture of Lord Krishna.

The captured moment stands out for its aesthetics and thought-provoking narrative. It beautifully encapsulates a connection between the realms of nature and spirituality.

Vihaan secured the coveted award out of the 50,000 entries received from 95 countries in the under-10 category. He started photography three years ago, by using both macro and telephoto lenses in his work. Vihaan's passion extends from going on safaris, capturing images of spiders and insects at nearby parks in Bengaluru, to studying astronomy.

The winning entry will become a part of the prestigious WPY59 collection and will be featured in the upcoming Wildlife Photographer of the Year Exhibition at the Natural History Museum.





Nandini Das



Nandini Das an Indian-born author has created a new sensation by winning the British Academy Book Prize for Global and Cultural Understanding with her remarkable work of literature – *‘Courting India: England, Mughal India, and the Origins of Empire.’*

The 49-year-old academic and Professor in the English faculty at the University of Oxford, has sought to offer a new perspective on the beginnings of the British Empire. Her book probes into the historic arrival of the first English Ambassador in India, **Sir Thomas Roe**, during the early 17th century. Subsequently, the book examines the cultural and intellectual interactions between the Mughal and the British empire laying ground work for the empire that would eventually come into being.

Professor Charles Tripp, Chair of the prize jury described, “Through her beautiful writing and exceptional research, the jury was drawn to the contrast between an impoverished, insecure Britain and the flourishing, confident Mughal Empire and the often-amusing, sometimes querulous exchanges between their various representatives”.

The British Academy Book Prize for Global Cultural Understanding, previously known as the Nayef Al-Rodhan Prize established in 2013, continues its mission to recognise and honour the phenomenal work of non-fiction setting examples for academic rigour and originality, contributing to public understanding of global culture and interactions. Nandini Das instils a sense of determination in the minds of millions of young authors of India to push for greater heights.





Mera Yuva Bharat

Empowering the Youth of India

MY Bharat is set to create a "phygital" ecosystem that seamlessly combines physical and digital elements, empowering young individuals to act as catalysts for community transformation.

Mera Yuva Bharat (MY Bharat) is an autonomous body designed to serve as a pivotal mechanism for youth development, with a strong emphasis on technology-driven solutions.

The primary objective is to provide equal opportunities for the nation's young individuals who are in the age group of 15-29 years, to realize their aspirations and actively contribute to the holistic development of the country. MY Bharat aims to enhance leadership skills in the youth through experiential learning, shifting from isolated physical interactions to structured skill development programmes.

The initiative endeavours to bridge the gap between young individuals' ambitions and the practical needs of their communities, fostering a sense of purpose and responsibility.

This autonomous body will also promote programme convergence by integrating existing initiatives, creating a centralized platform that consolidates a wide array of youth and government programmes.

It will also establish a centralized database for youth-related information and resources, streamlining access to various opportunities and services.

MY Bharat is set to create a "phygital" ecosystem that seamlessly combines physical and digital elements, empowering young individuals to act as catalysts for community transformation. This initiative holds great significance as India envisions an "Amrit Bharat" by 2047. **It seeks to unite youth from rural and urban areas on a common platform, adapting to the fast-paced, technology-driven world.**

Supported by a robust technology platform, Mera Yuva Bharat promises to significantly enhance the outreach efforts of the Department of Youth Affairs, enabling more efficient engagement with youth across the country. **This initiative holds the potential to not only empower young individuals but also to create a more interconnected and dynamic youth sector in India, thereby contributing to the overall development of the nation.**





IIT-M's first International Campus in Tanzania

DO YOU KNOW ?

- ◆ Prof. Preeti Aghalayam has been appointed as the Director-in-charge of the IIT-M Zanzibar campus. She is the first woman to be given this position amongst all IITs.
- ◆ IIT Delhi is also planning to start their International campus in Abu Dhabi.

Brand IIT goes global yet again in a more profound way with IIT Madras establishing their **first international campus in Tanzania**. IIT-M, achieved a historic milestone by becoming the first among the IITs to enter into a Memorandum of Understanding (MoU) to create the first overseas campus. This agreement was signed between the Union Ministry of Education, IITM, and the Ministry of Education and Vocational Training (MoEVT) in Zanzibar.

This unique partnership will bring the renowned educational expertise of IITM in developing the academic programs, curricula, student selection procedures, and pedagogical details for the new campus. The Govt. of Tanzania will

provide the necessary funds for the capital and operating expenses. It is also to be noted that Indian students are also eligible to apply for these programs.

Classes for the first Academic Year (2023-24) commenced in October 2023 with two full-time academic programmes – a four-year Bachelor of Science in Data Science and Artificial Intelligence and a two-year Master of Technology in Data Science and Artificial Intelligence.

Why Zanzibar?

NEP 2020 envisions high performing Indian Educational Institutes to setup campuses abroad. Zanzibar, was chosen to further the unique educational partnership between India and Tanzania.





The giant leap of Indian universities

India leading the Asian countries with 148 Indian institutions making it to the list is certainly a significant achievement to be proud of.

In the recent **Quacquarelli Symonds (QS) Asia University** ratings Indian universities have taken the lead by occupying 148 slots. This surpasses China's 133 and Japan's 96 slots. IIT Bombay has secured the top slot among Indian universities and it ranks 40 in the list. IIT Delhi at 46, IISc at 52 and IIT Madras at rank 53 have also made India proud. IIT Kanpur, IIT Kharagpur and the University of Delhi also feature in the top 100 of the list.

QS is a renowned Global Higher Education analyst and this 2024 edition released by them has 856 universities from 25 countries. To this date this is the largest. The criteria for evaluation of these institutions covers **global recognition, teaching resources,**

research capabilities and internationalization among other things.

The top 3 slots were bagged by Peking University, China (for the second consecutive time), University of Hong Kong and The National University of Singapore (NUS) in that order. There were some new entrants to the list, like Cambodia, Myanmar and Nepal.

India's Pride

India leading the Asian countries with 148 Indian institutions making it to the list is certainly a significant achievement to be proud of. This shows that the overall education ecosystem in India has grown and it is not just one green shoot here and another there.





The highest number of new entrants is from India and the number is a whopping 37, while China had only 7 new entrants. **The higher visibility of the Indian institutions goes to prove that the improvement in the Indian education ecosystem is widespread and there is a newfound aggression and purpose.** From only 16 universities that held ranks in 2014 to 148 in 2022 is indeed a giant leap forward.

Experts also credit the National Education Policy (NEP 2020) too for this leap. It has made some path-breaking reforms with an orientation towards research, innovation and other global criteria.

IIT Bombay has excelled in areas like academic reputation, employer reputation, faculty student ratio and papers per faculty. **The Anna University has moved 120 places up and is now within the top 500 in Asia.** It has improved significantly in areas of academic reputation and research productivity. In fact it takes the top slot on papers per faculty.

The Indian Statistical Institutes making it to the list and the strides made by private universities like the Chandigarh University and Shoolini University bear testimony to the fact that the Indian education system, which is the third largest in the world today, is progressing in the right direction.

Focus areas going forward

The best of the Indian universities ranks only 40th in Asia. In the Top 10 there are four Chinese universities and two each from Hong Kong, South Korea and Singapore. No Indian university had made it to the top 10.

India needs to take cognizance of the areas where it is below the regional average like academic reputation and employer reputation and work on improving those areas. Indian universities excel in areas like papers per faculty metric. This demonstrates a high research output and a well-qualified faculty. These can be further leveraged upon.

Another point to ponder upon is the fact that, in 2022-23 there has been a 35% rise in Indian students opting for American universities. About 2,69,000 students have enrolled in American universities. Indian universities should address this phenomenon and take the learnings to improve the quality of education further in India. After all, more than 500 years before the Oxford University was founded, India's Nalanda University had attracted 10,000 students from across the world for study in various disciplines.

The march towards becoming the VISWA GURU has indeed commenced. It is now for us to accelerate it.

*Sahana Vavathu..... Maa vidvishaavahai
Om Shantih Shantih Shantih!*





Smart ring for contactless payments

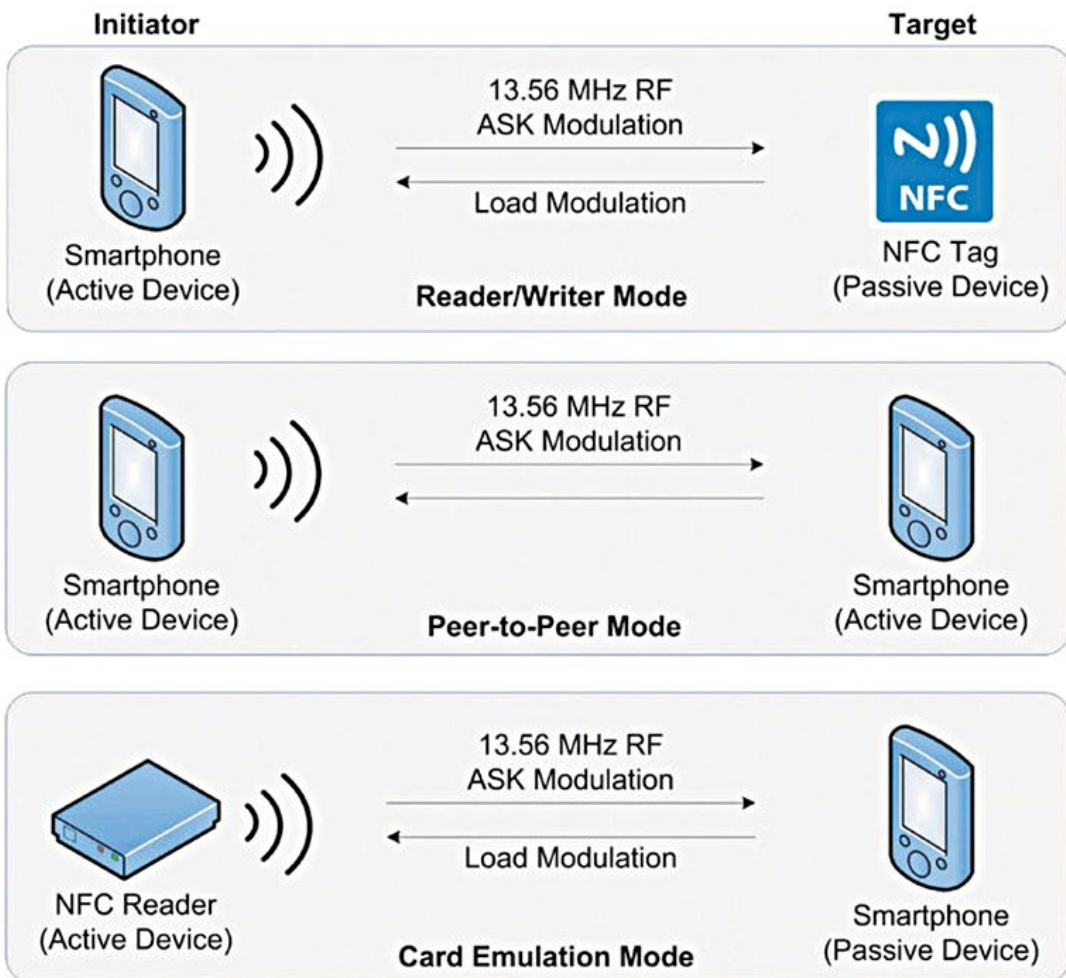
NFC devices are low powered chips that store limited data that can be accessed by bringing them close to a compatible device.

India's Atmanirbhar Bharath scheme has successfully led to several indigenous startups across various fields. Nowhere has this been more evident than in the field of technology and smart devices. India has become the second largest manufacturer of smartphones and has also grown leaps and bounds in the smart wearables market with smartwatches produced at reasonable prices.

The latest innovation in the field has come from the tech startup Seven. The 7 Ring, launched on 8th November, is a zirconia ceramic smart ring that allows users to make contactless payments at retail outlets across the country.

The 7 Ring uses NFC (Near Field Communication) as the basis of all its operation. NFC devices are low powered chips that store limited data that can be accessed by bringing them close to a compatible device. NFC as a technology has existed for decades. The innovation by 7 Ring is that they are providing this method of convenience at a lower price than other competitors in India. This is possible because it has been designed, assembled, manufactured and patented in India by a team of Indian founders.

Seven claims that the ring is an extremely safe and reliable method of payment across stores that are equipped with contactless payment options.



FACETS OF NFC AND ITS IMPACTS



They also provide an application that allows users to track their spending, set limits and also enable and disable rings for safety. **The ring does not require any charging or power as it relies on the payment device for the same.**

Payments on the ring can be made by making a fist and tapping it on any wireless transaction machine that accepts tap to pay cards. **Accidental payments and potential security risks are prevented because, if the user does not make a fist, they will be unable to complete the transaction.**

While the product has been announced and soft launched to a limited number of users who have signed up to the programme, it does show incredible potential to become our wallet in the future.





National Games 2023

From 25th October to 9th November 2023, Goa played host to the 37th National Games of India, an event that sprawled across five cities - Mapusa, Margao, Panjim, Ponda and Vasco. Bringing together athletes from different corners of the country and the Services team representing the Indian Armed Forces, the Games were truly a showcase of physical and mental prowess.

Structured like the Olympic games, athletes compete in various sports to win medals for the state they represent. The 37th National Games consisted of over 10,000 athletes participating across 42 disciplines, ranging from traditional events like Mallakhamb, Yogasana and Kabaddi to events like Triathlon, Water polo and Pentathlon.

Olympic swimmer **Srihari Nataraj** (eight gold, one silver and a bronze) was awarded the best male

athlete while gymnasts **Sanyukta Prasen Kale** and **Pranati Nayak** (four golds and one silver each) were awarded the joint-best female athletes.

Maharashtra clinched the top spot with an impressive 228 medals, including 80 gold, 69 silver and 79 bronze, earning them the **Raja Bhalindra Singh Trophy**. Named after Bhalindra Singh, an Indian sports administrator and former first-class cricketer, the trophy is awarded to the state winning the most medals.

The Services team, reigning champions in the previous four editions, secured the second position with 66 gold, 27 silver and 33 bronze medals. The **Services Sports Control Board (SSCB)** is a sports board run by the Indian Armed Forces. Military personnel from various parts of the armed forces can choose to compete in games of their choice.





The top 10 States and Union Territories

S.No.	State	Gold	Silver	Bronze	Total
1.	Maharashtra	80	69	79	228
2.	Services	66	27	33	126
3.	Haryana	62	55	75	192
4.	Madhya Pradesh	37	36	39	112
5.	Kerala	36	24	27	87
6.	Karnataka	32	32	37	101
7.	Manipur	30	22	30	82
8.	Delhi	29	26	67	122
9.	Goa	27	27	38	92
10.	Tamil Nadu	19	26	32	77

The opening ceremony on 26th October set the tone with cultural performances and the march past, following which PM Modi declared the Games open. Dignitaries, athletes and fans gathered in great numbers at the commencement of the Games. The closing ceremony was held on 9th November 2023.

As the National Games concluded, it left behind a legacy of sportsmanship and national unity. **The event celebrated not only the triumphs on the field but also highlighted the unifying power of sports.** Until the next edition, the memories of these Games will linger as a tribute to the spirit of Indian athletes and the enduring tradition of the National Games.





Ayodhya's Deepotsav

A spectacular festival of lights and cultural splendour

Deepotsav, Ayodhya made history by securing a Guinness World Record for simultaneously lighting over 2.2 million lamps at a single location.

Over the past four years, Ayodhya has orchestrated the elaborate Deepotsav celebration, a cultural extravaganza in Uttar Pradesh designed to showcase the city's rich heritage, extending beyond the traditional presentation of earthen lamps.

The celebration featured a diverse range of programmes including vibrant fireworks, processions showcasing tableaux inspired by the Ramayana and exhibits addressing social issues. The Shri Ram Janmabhoomi Path was adorned with floral decorations, creating a festive atmosphere.

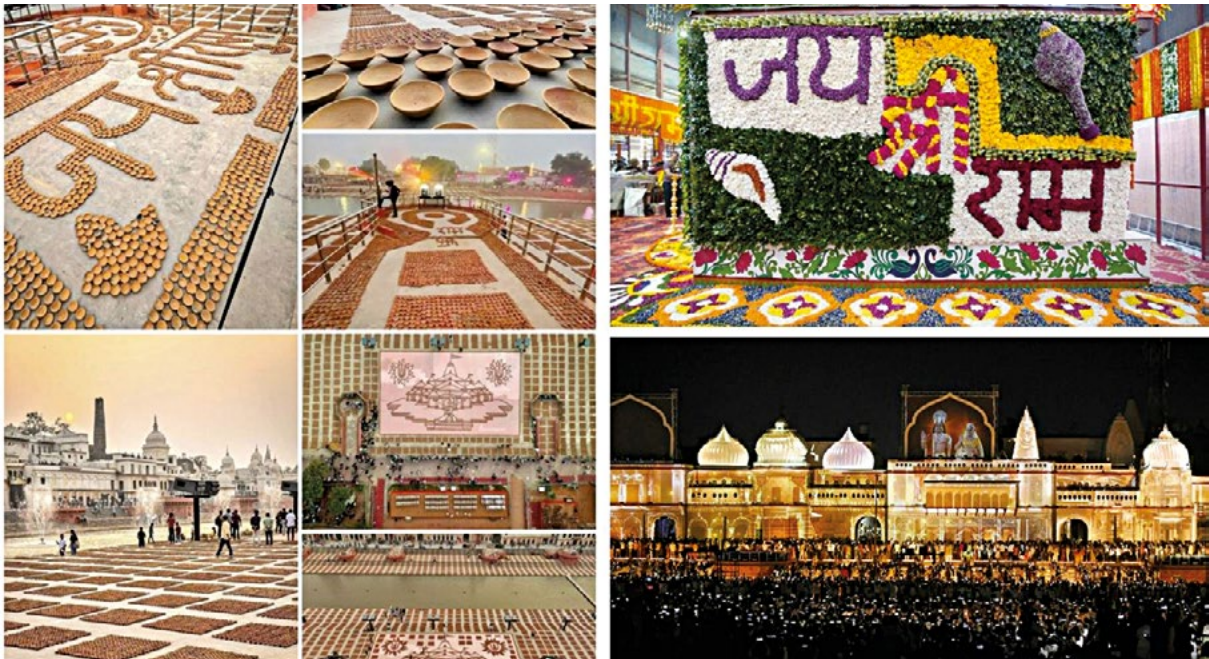
During the Deepotsav, Ayodhya made history by securing a **Guinness World Record for simultaneously lighting over 2.2 million lamps at a single location.** As it earned the prestigious certificate, chants of 'Jai Shri Ram' filled the air

alongside the sea of illuminated lamps.

Distinguished guests, including UP Chief Minister Yogi Adityanath and Governor Anandiben Patel joined the festivities. The event commenced with a grand chariot procession depicting the joyous return of deities Ram, Sita and Lakshman after 14 years of exile.

The Deepotsav also witnessed active participation from tribal visitors from Jharkhand's Pakur district, and the involvement of 48,000 volunteers, primarily students from Dr. Ram Manohar Lohia Avadh University.

The event embraced global participation through the e-Deepotsav portal, allowing individuals to remotely purchase and illuminate diyas at designated locations in Ayodhya.



The success of Deepotsav is not only measured by the records it has set but also by the sense of community, devotion and celebration it fosters.

The portal also provided a live feed of the events, connecting worshippers worldwide to the grand celebration. Various participation packages, ranging from ₹ 51 for a single diya to ₹ 1,100 for 51 diyas offered participants the chance to win exciting prizes, including lamps, cardamom seeds, 'laddu' prasad, a model of the Ram temple and unique souvenirs.

Setting the record involved a monumental task of mobilizing 25,000 volunteers, primarily students, who strategically placed

256 diyas on 4.5-foot-wide blocks across 51 ghats. The local municipal corporation played a crucial role in ensuring the cleanliness and preparation of the ghats for the spectacular display.

The success of Deepotsav is not only measured by the records it has set but also by the sense of community, devotion and celebration it fosters. It remains a symbol of cultural pride and religious harmony, making it a truly unparalleled and iconic event on the cultural calendar.





WORLD FOOD INDIA 2023

Processing for Prosperity



The second edition of 'World Food India 2023' unfolded as a transformative event at Bharat Mandapam, Pragati Maidan, New Delhi, from 3rd to 5th November 2023. This significant gathering aimed to position India as the 'food basket of the world' and concurrently celebrate 2023 as the **International Year of Millets**.

The event showcased an array of initiatives contributing to the robust growth of India's food processing sector. A **standout feature was the disbursement of Seed Capital Assistance to over one lakh Self Help Group (SHG) members, a move to strengthen these groups and enhance local economies through improved packaging and quality manufacturing.**

Adding a flavourful touch to the event, the **Food Street**, featured regional cuisines and royal culinary heritage. Over 200 chefs participated, presenting traditional Indian cuisine and creating a unique culinary experience for attendees.

The event served as a dynamic networking and business platform, bringing together government

bodies, industry professionals, farmers, entrepreneurs and stakeholders. With **participants from over 80 countries and the active involvement of CEOs from prominent food processing companies**, discussions and partnerships focused on exploring investment opportunities in the agri-food sector.

Various pavilions showcased the innovation and strength of the Indian food processing industry, while **48 sessions addressed crucial aspects such as financial empowerment, quality assurance, and innovations in machinery and technology.** And to move the food distribution programme towards a diversified food basket, reduce post-harvest losses and leverage technology to minimize wastage. **CEOs' roundtables were dedicated to discussions on investment and the Ease of Doing Business in the sector.**

World Food India 2023, stands as a testament to India's commitment to shaping a food-secure and sustainable future for the world.





Dr Meenesh Shah

on board International Dairy Federation



Dr. Shah's contributions have been instrumental in promoting India's unique smallholder-based dairying system on the global stage.

The International Dairy Federation (IDF) is the leading source of scientific and technical expertise for all stakeholders of the dairy value chain. IDF's network of dairy experts has provided a mechanism for the dairy sector to reach a global consensus on how to help feed the world with safe and sustainable dairy products.

Dr Meenesh Shah, Chairman & Managing Director, National Dairy Development Board (NDDB) was elected to the **Board of International Dairy Federation (IDF)** during the General Assembly of IDF on 15th October 2023.

With a long history of involvement with IDF, **Dr. Shah's** contributions have been instrumental in promoting India's unique smallholder-based dairying system on the global stage.

He is also the **Member Secretary of the Indian National Committee and also a member of the Standing Committee on Dairy Policy and Economics.**

He spearheaded the successful organisation of the **World's largest**

Dairy Conference – IDF WDS 2022 in India in September 2022, which was inaugurated by PM Modi. Accepting this responsibility and thanking the IDF delegates for the trust bestowed on him, **Dr Shah** mentioned that a representative from India, who contributes more than 23% of the global milk production, is on the Board of IDF.

According to him, an inclusive and better global dairying ecosystem will have the following advantages:

- ▶ Spread voice of millions of dairy farmers from the smallholder-based dairying system to the global forum.
- ▶ Help design suitable policies, frameworks, systems and processes.
- ▶ The collective journey with other countries will help bring out the best in the global dairy sector.
- ▶ Leverage the expertise of other nations towards advanced scientific measures and technologies to make Indian dairying more efficient, effective and sustainable.





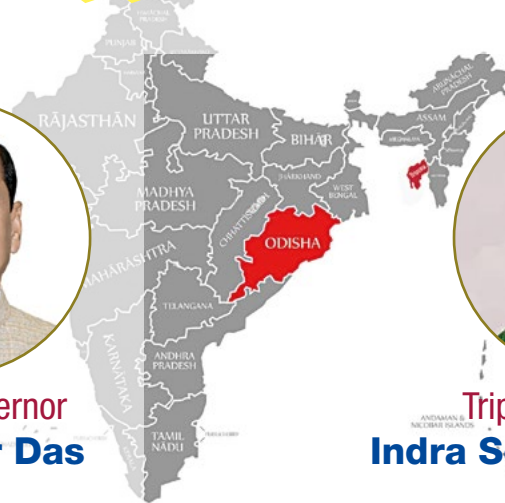
New Governors appointed



Odisha Governor
Raghubar Das



Tripura's Governor
Indra Sena Reddy Nallu



Background

Das was the first non-tribal Chief Minister of Jharkhand from 2014 to 2019. He is the only leader who completed a full five-year term as the Chief Minister of Jharkhand.

Political career

Das was part of the Janata Party in 1977 and joined the BJP as a founding member in 1980. Das was elected as an MLA in 1995 when Bihar and Jharkhand were one state. In 2004, he was appointed as Jharkhand state president of the BJP. Das, a grassroots leader of the party, is a former employee of Tata Steel. He was a national vice president of the BJP.

Background

Nallu Indrasena Reddy was a three-time MLA and a prominent BJP leader from Telangana. He previously held the position of national secretary of the party.

Political Career

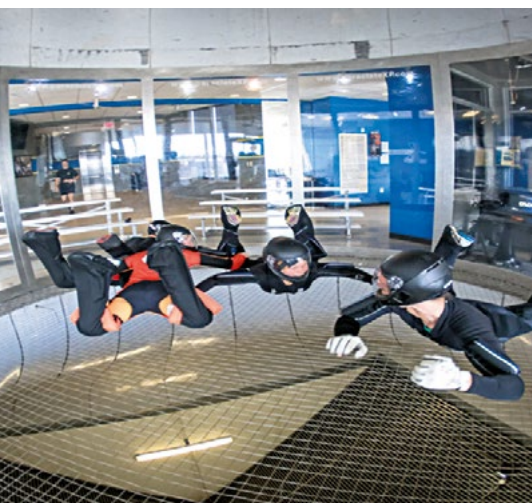
He was elected as a legislator thrice in 1983, 1985 and 1999. He also served the party as state president of undivided Andhra Pradesh in 2003 and was appointed the party's national general secretary in 2014.





Col Shashidhar M V (Retd)

First vertical wind tunnel installed at Army Training School



In a landmark move to augment the training infrastructure of special forces and combat free-fallers our Army's first **Vertical Wind Tunnel (VWT)** located at the **Special Forces Training School (SFTS)** in Bakloh (Himachal Pradesh) was virtually inaugurated by Chief of Army Staff, Gen Manoj Pande on 25th October 2023.

The state-of-the-art wind tunnel is a first of its kind offering a controlled environment to enable military trainees to enhance their skills by simulating real life free-fall conditions.

With the current impetus given to integration of technology into training methodologies and the ongoing transformation of the Army besides modernisation of training infrastructure, the installation of the first VWT is poised to greatly enhance the operational efficiency of the combat force to tackle challenges

of current and future battlefields by promising faster and more precise training results.

Functionality and benefits

The VWT generates a column of air at specific velocities to simulate various **combat free fall (CFF)** conditions. The controlled environment enables trainees to enhance their skills by replicating real-life freefall conditions.

- ▶ Allows for assessing individual responses to different situations while operating in an airborne environment.
- ▶ Reduces potential instability during freefall and parachute deployment, aiding trainees in becoming accustomed to such conditions.
- ▶ Provides beginners and also seasoned free-fallers advanced levels of training.



Indian Navy successfully test fires BrahMos Supersonic missile



On 1st Nov 2023 India successfully test-fired a supersonic BrahMos missile from a warship in Bay of Bengal thus paving the way for its induction into the Navy. Tested as part of a pre-induction trial from an indigenously built stealth destroyer based in the Navy's eastern fleet, **the missile successfully destroyed its target with pinpoint accuracy after performing high-level and extremely complex manoeuvres.**

BrahMos supersonic missile

The BrahMos supersonic missile was test fired in December 2020 jointly developed by the Defence Research and Development Organisation (DRDO) and NPOM of Russia. The missile has already been a major deterrent on modern-day battlefields. It is a multi-role and multi-platform weapons system and has already proven its mettle against a varying range of targets for the three arms of the Armed Forces.

Developed as part of an Indo-Russian joint venture the BrahMos is a two-stage missile with a solid propellant booster engine and

second stage liquid ramjet that takes the missile closer to Mach 3 speed in cruise phase.

The strike range of the nine-metre-long missile has been extended from 290 km to 450 km plus after India's full membership to the **Missile Technology Control Regime (MTCR)** that removed caps on the range of BrahMos cruise missile. The BrahMos-II Hypersonic cruise missile can be deployed to hit the target within a range of 450 – 600 km in a Mach 7 velocity.

Evolution of trials and result

Recently on 18th October, our Sukhoi Su-30MKI jets flew from Thanjavur Air Base in Tamil Nadu, covering a distance of 1500 kms and launched a BrahMos-A missile (BrahMos's air-launched variant) successfully destroying its target in the Bay of Bengal. Another test occurred a week earlier (11th October) in which the IAF and the Army jointly fired four BrahMos-ER extended-range supersonic cruise missiles over two days which was covered in our last defence update of Prajya.





BSF installs beehives on India - Bangladesh fence

The BSF has launched a combined scheme of beekeeping and medicinal plant cultivation in a pilot project along the Indo-Bangladesh border.

India shares around 4,096-km frontier with Bangladesh, out of which 2217 km borders with West Bengal. Approximately a 250 km stretch of this stretch falls under the South Bengal region. Here the **Border Security Force (BSF)** on a regular basis combat a slew of illegal activities like smuggling of items like narcotics, cattle, gold and medicine on these borders.

Infiltrators and smugglers crossing into India will soon come face to face with “BEE-bites” translating into stinging boils and swollen faces as “bee -warriors” will also now jointly be manning this porous border along with the BSF.

Action Plan

The BSF has launched a combined scheme of beekeeping and medicinal plant cultivation in a pilot project along the Indo-Bangladesh border. This novel initiative will feature bee boxes being installed along the fencing and keeping them positioned slightly above the ground **to prevent cutting of border fencing while at the same time helping the local villagers to generate livelihood.**

The installation of the beehives is part of an integrated project launched by the BSF in association with the Ministry of Ayush which aimed to grow medicinal plants along the fenced stretches while undertaking **apiculture** at the same time involving the local villagers





The villagers were imparted suitable training on farming and apiculture and soon will be provided technical expertise to encourage them to cultivate more medicinal plants and mustard in these locations for their livelihood.

to discourage them from their association with the smuggling network. This initiative is aimed to act as a deterrent for the smugglers trying to cut the alloy-made fencing and combat a swarm attack of the bee-warriors instead.

Sujeet Kumar, Commandant of the 32nd BSF battalion who conceptualized the idea under the Centre's "Vibrant Village Programme" (VVP), later approached the AYUSH ministry to provide them with medicinal plants and mustard that bears flowers which then can be planted around these bee boxes so that the bees can pollinate in abundance.

Training the locals

People living in the border are solely dependent on conventional farming which now gives them little dividends. With few job opportunities the smuggling operators often exploit to trap them by luring them for easy money.

As a first step BSF has distributed over three thousand

saplings of medicinal plants like black *tulsi*, *ekangi*, aloe vera, *satmuli* and *ashwagandha* among locals and planted them on one km stretch close to the fencing in Nadia district. The villagers were imparted suitable training on farming and apiculture and soon will be provided technical expertise to encourage them to cultivate more medicinal plants and mustard in these locations for their livelihood.

Once the medicinal plants mature, the AYUSH authorities will collect them for value addition. **The value-added herbal products and honey will be marketed through BSF and the entire benefit will be distributed among the villagers thus aiming to enhance their earning with integrity and to involve them in the protection of border fencing.**

Pay offs

BSF's initiative will thus make the border fencing more secure and ensure overall development of the locals by creating new employment opportunities.





Online investment in Gold

If you are interested in investing in gold, there are two mutual fund schemes where you can pay online and invest small amounts in gold without holding it in physical form.

Gold ETF in India in the month of October 2023.

Inflows into gold ETFs in the month of October 2023: ₹1069.51 crores.

Shravan and Gita were in the garden with their grandpa picking up the *parijatha* flowers strewn on the ground. Soon, their baskets overflowed with the fragrant flowers.

Gita said, "Grandpa, this plant gave so very few flowers all these months that I wondered whether it was worth the efforts of watering. Now I can't believe that it is giving such a big bounty!"

The children sat down on the garden bench with Grandpa next to them.

He said, "This is an important lesson from nature. You need to nurture the plants daily and wait patiently for the plants to grow. You will then be rewarded for your efforts."

Shravan exclaimed. "Like investing in a recurring deposit."

Gita asked. "We were learning about investing in gold. Is there an option to invest small amounts to buy online gold similar to a recurring deposit?"

Just then their neighbour Mrs. Sharda greeted them.

"This new gold jewellery shop in our neighbourhood has introduced a monthly savings scheme. I am thinking of paying them ₹ 5000 every month so that I can accumulate enough to buy some gold during Diwali next year."

Shravan: "Is this like bank recurring deposit?"

Grandpa shook his head. "You are not even getting interest on the payments made."

Mrs. Sharda replied. "They have promised a discount of ₹ 5000 when we buy gold jewellery."

Grandpa smiled. "The market rate of gold might increase in one year.

The jeweller will add making charges and other costs and fix the price of jewel at a much higher level.

There is also the risk of the jeweller closing down. You might lose all your money. If you are interested in investing in gold, there are two mutual fund schemes where you can pay online and invest small amounts in gold without holding it in physical form.



Unlike regular mutual funds, an ETF trades like a common stock on a stock exchange.

Gold ETF	Gold Mutual Funds
<ul style="list-style-type: none"> » Traded like stocks. » Need a demat account and trading account to buy and sell. » Minimum investment is 1 gm of gold. » Need to invest the equivalent amount at the prevailing market rate to buy one unit. » Redemption is subject to taxation like other mutual funds. 	<ul style="list-style-type: none"> » Do not require a demat account . » Can be bought and sold like any other mutual funds. » Minimum investment can be lower and as low as ₹1000 per month through SIPs. » Redemption is subject to taxation like other mutual funds.



4 Smart Ways To Invest in Gold



Gold ETF

Gold ETFs are Exchange Traded Funds which track prices of gold.



Gold Savings Fund

Gold Saving funds are fund of fund schemes which invest into an underlying Gold ETF.



Sovereign Gold Bond Scheme

Sovereign Gold Bond Scheme (SGBS) is linked to gold price and enables investors to earn interest on their investments.



E-Gold

"E-Gold" enables you to buy gold in an electronic form on the National Spot Exchanges' trading platform.

- Gold Exchange Traded Fund (ETF)
- Gold mutual funds

"Can you please tell me more?" Mrs. Sharda asked.

Gita added, "Yes. We would like to learn about these gold investments."

Shravan: "What is an ETF?"

Grandpa replied, "Unlike regular mutual funds, an ETF trades like a common stock on a stock exchange. The traded price of an ETF changes throughout the day like any other stock, as it is bought and sold on the stock exchange."

GOLD ETF

A Gold ETF is an **exchange-traded fund (ETF)** that aims to track the domestic physical gold price.

They are passive investment instruments that are based on gold prices and invest in gold bullion.

In short, Gold ETFs are units representing physical gold which may be in paper or dematerialised form. One Gold ETF unit is equal to 1 gram of gold and is backed by physical gold of very high purity.

Mrs. Sharda: "How can we buy this gold ETF?"

"Buying Gold ETFs means you are purchasing gold in an electronic form. You can buy and sell gold ETFs just as you would trade in stocks.



Benefits of Investing in a SIP



"Can I get the maturity proceeds in gold?"

"When you actually redeem Gold ETF, you don't get physical gold, but receive the cash equivalent."

How can we sell gold ETF?

Gold ETFs can be sold at the stock exchange through a broker using a demat account and trading account.

What is the benefit of investing in gold ETF?

ETFs are best used as a tool to benefit from the price of gold rather than to get access to physical gold. So, when one liquidates Gold ETF Units, one is paid as per domestic market price of the gold.

Investors looking for diversification in their portfolio can choose gold ETF.

Transparency in pricing, avoiding charges and storage risks make gold ETFs more attractive than physical gold.

Gold Mutual funds

Gold mutual funds invest

in gold ETFs. They provide an opportunity for investors to invest smaller amounts either in lumpsum or through **systematic investment plan. (SIP)**

What is Systematic investment plan?

Similar to bank recurring deposits, investors can invest small amounts regularly in mutual funds through SIP to build a corpus.

What is the difference between gold ETF and gold Mutual funds?

Mrs. Sharda: "I have invested in some mutual funds but not heard of gold ETF or gold mutual funds."

Grandpa : "Gold ETFs have become a popular investment option because people have a liking for gold and yet find it difficult to buy and store physical gold." Look at this latest data released by AMFI

Redemption/repurchase:

□ 228.28 crores.

"This shows that Gold ETF is growing in popularity as an investment option."

Shravan: "What's AMFI?"

Grandpa: "The Association of Mutual Funds in India (AMFI)



is a non-profit organization working under the guidance of SEBI (Securities and Exchange Board of India). It is dedicated to developing the Indian Mutual Fund Industry on professional, healthy and ethical lines."

Objectives of AMFI

- ▶▶ To recommend and promote best practices in mutual fund industry.
- ▶▶ To protect investor interests.
- ▶▶ To spread awareness and knowledge about mutual funds.
- ▶▶ Disseminate information on mutual fund industry.

Mrs. Sharda smiled. "Thanks. I feel more confident about investing in gold ETF and gold mutual funds now."

Grandpa nodded. "There are many mutual fund companies offering gold ETF. You can find more information on AMFI website

www.amfindia.com



REFRESHER QUIZ - 2



This series has completed 30 editions since 2021! Considering that we have covered many different topics since the last refresher Q&A (eighth edition), this seems to be a good juncture to look back and refresh our memory regarding some of the subjects discussed until now.

In the Indian context, corporate social responsibility means companies integrate social and environmental concerns in their business operations and interactions with their stakeholders.

What is corporate social responsibility?

In the Indian context, corporate social responsibility can be said to mean operating a business in a manner which meets or excels the ethical, legal, commercial and public expectations that a society has from the business. This means companies integrate social and environmental concerns in their business operations and interactions with their stakeholders

What are some of the international conferences held to discuss conservation/preservation of the environment?

- ▶ The Stockholm Conference, 1972
- ▶ Brundtland Commission Report 1987 (“Our Common Future”)

- ▶ The Earth Summit (Rio Conference), 1992
- ▶ World Summit on Sustainable Development (Earth Summit) 2002
- ▶ Conference of the Parties (Paris Convention) 2015

What are the elements / requirements of a valid contract?

Competence of parties, offer, acceptance, lawful consideration, legality of object and free consent.

What are the broad divisions of tax in India and the legislations governing them?

In India, the major direct tax is income tax, governed by the Income Tax Act, 1961 and the major indirect taxes are the Goods and Services





Tax (GST), governed by the Central Goods and Services Tax Act, 2017 and customs duty governed by the Customs Act, 1962.

What are the elements and stages of a crime?

Elements: Action by a human being, *mens rea* (guilty mind), *actus reus* (guilty action/ omission) and injury caused.

Stages: Intention, preparation, attempt and accomplishment.

How are intellectual property rights generally split in India and what are the legislations governing such rights?

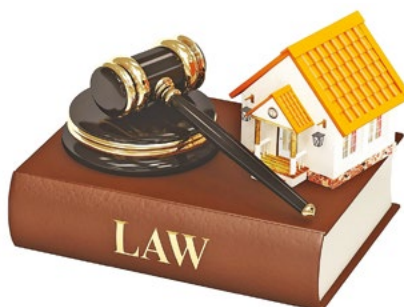
- (i) Copyrights governed by the Indian Copyright Act, 1957
- (ii) Patents governed by the Patents Act, 1970
- (iii) Trademarks governed by the Trade Marks Act, 1999
- (iv) Geographical indications governed by the Geographical Indications Act, 1999
- (v) Industrial designs governed by the Designs Act, 2000
- (vi) Plant varieties governed by Protection of Plant Varieties and Farmers' Rights Act, 2001

Which major judgements discussed the power to amend the Constitution?

- ▶ Shankari Prasad v. Union of India (1951)
- ▶ Sajjan Singh v. State of Rajasthan (1965)
- ▶ C. Golak Nath & Ors. v. State of Punjab (1967)
- ▶ Kesavananda Bharati v. State of Kerala (1973)

What are the some of the primary environmental legislations in India?

- (i) The Wildlife (Protection) Act, 1972
- (ii) The Water (Prevention and Control of Pollution) Act, 1974
- (iii) The Forest (Conservation) Act, 1980
- (iv) The Air (Prevention and Control of Pollution) Act, 1981



- (v) The Environment (Protection) Act, 1986
- (vi) The Biological Diversity Act, 2002
- (vii) The National Green Tribunal Act, 2010.



What are a few remedies for breach of contract in Indian law?

- ▶ Rescission of contract (and refusal to perform obligations)
- ▶ Damages (compensation for loss suffered)
- ▶ Specific performance (performance of obligations by the party in breach)
- ▶ Injunction (restriction on performing an action)
- ▶ *Quantum meruit* (payment of 'as much as is earned').



Sujatha Ramadorai

(Born 23.05.1962)

The first Indian to get the ICTP Ramanujan Prize

One of the greatest influences in Sujatha's life has been her grandmother from whom she imbibed the values of discipline and earnestness.

A good training in mathematics helps you develop your analytic faculties and to think logically. Pure mathematics by itself, finds unexpected applications in areas ranging from medical imaging to internet security, transport planning etc., to name just a few", observes Padma Shri Prof. Sujatha Ramdorai.

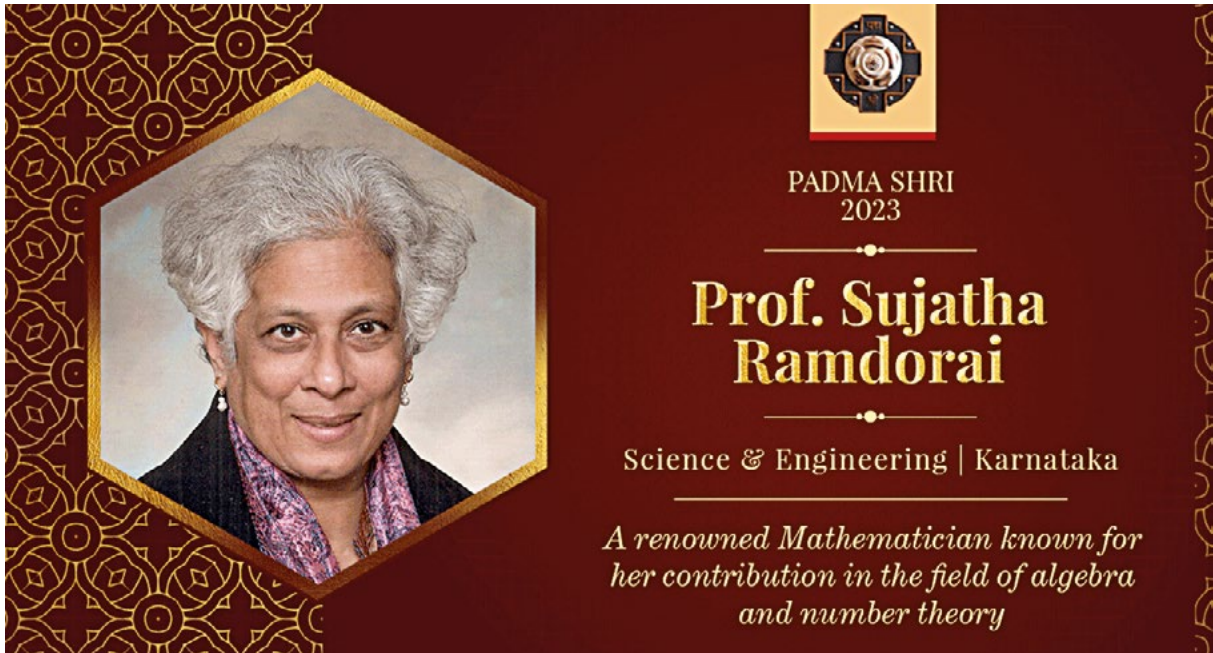
She is an Indian mathematician currently associated with the University of British Columbia, Canada. She is also a professor in the School of Mathematics at the **Tata Institute of Fundamental Research (TIFR)**, Mumbai. Prof. Sujatha is an internationally reputed algebraic number theorist.

"Once you understand, you do not have to fear the mathematics monthly test. Mathematics is also highly valued in society. If you did well in mathematics, then you

were to be appreciated," says Prof. Sujatha, looking back at her school days. "After I learnt addition, whenever I went out in a car or a scooter, I used to add the digits on the number plates of the vehicles on the road. It became a game for me and my brother, both wanting to add the numbers faster than the other. For me mathematics was equivalent to the computer games that today's children play.

One of the greatest influences in Sujatha's life has been her grandmother from whom she imbibed the values of discipline and earnestness. "She taught me and my brother the dignity of labour. Whatever you do, do it to the best of your abilities is what she used to tell us. Being not fully educated herself, my grandmother's lifelong interest in learning influenced me to a large extent," she said.





During my 12th standard, when I was debating between pursuing engineering and mathematics, my to-be husband, supported me strongly, saying, “Look, everybody does engineering. If you like mathematics, why don’t you pursue mathematics?”

Young Sujatha who was attracted to abstract thinking and structured formalisms opted for B.Sc. in Mathematics at St. Joseph’s College, Bengaluru. She got married while about to complete her graduation. Soon she became a mother, and was unclear where her husband would settle down. New family, daily chores, newborn in hand - nothing deterred her passion for continuing her maths education. She started looking out for options to pursue higher education while balancing her life. She felt that distance education would be a reasonable solution and immediately joined M.Sc. at Annamalai University. When she relocated to Bombay with a baby, an advertisement from the Tata Institute of Fundamental Research (TIFR) made her boldly knock

its doors that changed her life completely.

During her Ph.D. days, she had to commute 35km one way by train. Being a part of many research related activities like other scholars was not easy because she was not staying on campus. At the same time, her child needed her nurturing and she need time to focus on her research. Fortunately, her advisor Prof.Parimala Raman, a very well-known mathematician and her grand advisor Prof. Sridharan were great believers in the capabilities and potential of women. They were extremely supportive and encouraging also, without being patronising. Sujatha spoke to her family members and worked out an arrangement that helped her balance family, research and career.

She believes “young women should just follow their hearts and follow their passion. It helps to have a strongly supportive environment. And I think talking to the parents would help. And if a youngster is married, then talking to the extended family helps. And also enabling lateral entries help.

And those things are possible today with technology.Those kinds of networks and mentorships should be encouraged.”

Soon after successfully defending her thesis in 1992, she worked at TIFR for a few years before moving to Ohio State University to do her post-doctoral research. **She was recognised as INSA Young Scientist in 1993 and later she was awarded Alexander von Humboldt Fellowship in 1997- 1998.**

She achieved international recognition for her work in the theory of quadratic forms, real algebraic geometry and motives. About a decade ago, Sujatha joined the Mathematics Department at the University of British Columbia as a Canada Research Chair.

In recent years, Sujatha has become a bridge between Canadian and Indian mathematical landscapes and has played an important role in opening up opportunities for junior researchers in both countries. Throughout her career, Sujatha made significant contributions in algebraic theory of quadratic forms, arithmetic geometry and study on subjects like elliptic curves.



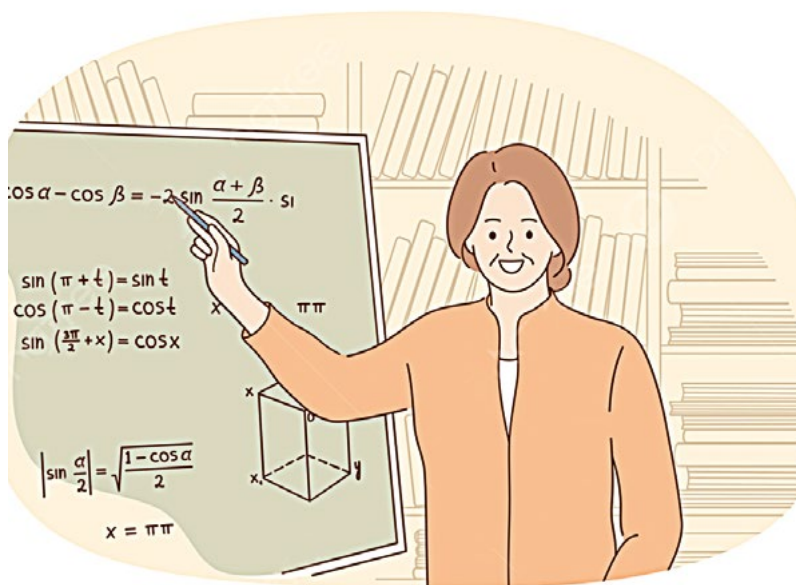
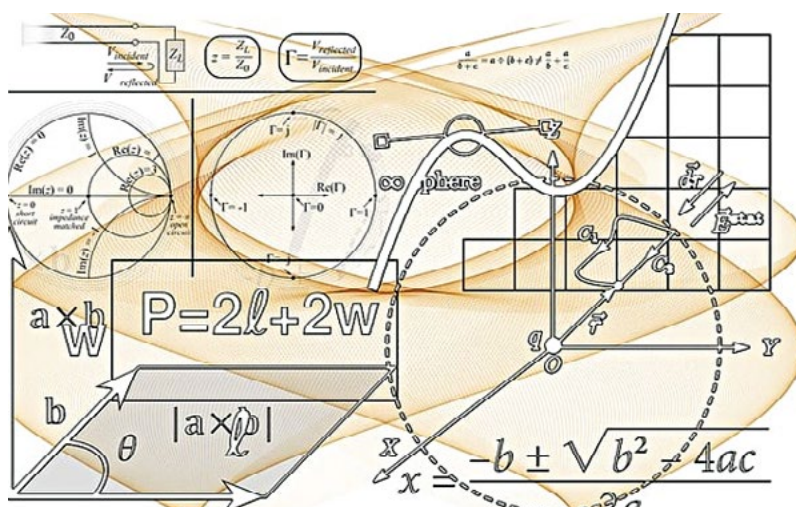
Career Highlights

- ▶▶ **2004** Awarded the **Shanti Swarup Bhatnagar Prize**, the highest honour given in the field of science in India.
- ▶▶ **2005** Elected as the Fellow of the Indian National Academy of Sciences.
- ▶▶ **2006** Became the first Indian to get the esteemed **ICTP Ramanujan Prize** awarded by the Abdus Salam International Centre for Theoretical Physics, Italy. This is the world's most prestigious award for mathematicians working in developing countries who have conducted outstanding research.
- ▶▶ **2007-2009** Member of the National Knowledge Commission,
- ▶▶ **2010-2014** Member, National Innovation Council; Scientific Advisory Council to the PM.
- ▶▶ **2020** Krieger-Nelson Award by Canadian Mathematical Society.

She was able to guide policy and direct reforms in the areas of education, science, technology, agriculture, industry and governance.

Prof.Sujatha and her husband Ramadorai conceptualised, planned and established the Srinivasa Ramanujan Math Park, at the campus of the Agastya Foundation, in Kuppam.

She focuses on creating quality online Digital Resources in Mathematics, aligned to the school curriculum in India, through **Gyanome Foundation**. She mentors students and was an invitee to the White House for a panel discussion on STEM Education and Mentorship under the Obama Administration.



As a member and ambassador of the International Women in Mathematics, she works actively to advance education, research and policy in STEM with equity, diversity and inclusion as objectives.

While people may be aware of her achievements in maths, Professor Ramdorai is a true inspiration in many other ways. In 2015, she was diagnosed with brain cancer and had to undergo an emergency surgery. “For me the main concern was whether I would be able to do math again. This deep concern led me to think about why I love mathematics so much – there is a sense of mystery, there is a

sense of being confronted with the unknown,” she said during one of her TEDx Talks.

She believes in transforming learning of mathematics in the classroom in a way that encourages students to develop more interest in it.

She insists that instead of making learning competitive, we can think of making it cooperative and make students aware that knowledge is a collective endeavour and make them become more imaginative which will give a ‘can do’ feeling to the learners. Her world-view and life experience can help us metamorphose into better humans.



Integrating Naturopathy and Allopathy medicines

The National Naturopathy Day was celebrated on 18th November. Why do we need naturopathy?

Naturopathy, a holistic approach to healthcare, emphasizes the body's inherent ability to heal itself through natural remedies and lifestyle interventions. This form of alternative medicine has gained recognition for its focus on treating the root causes of illnesses rather than merely alleviating symptoms.

Why do we need to integrate naturopathy with allopathy?

Integrating naturopathy with allopathy helps to provide comprehensive healthcare that addresses the diverse needs of patients.

Holistic wellness: Rooted in the principle of treating the whole person - mind, body and spirit - naturopathy provides a holistic framework for healthcare.

This approach considers the interconnectedness of various bodily systems and recognizes that imbalances in one area can affect overall well-being. By addressing lifestyle factors, nutrition and emotional health, naturopathy promotes long-term wellness.

Individualized treatment: Naturopathic practitioners prioritize personalized treatment plans, tailoring interventions to each patient's unique constitution and health history. This individualized approach allows for a more precise identification and targeting of the underlying causes of illness. Integrating this aspect with allopathy ensures that patients receive comprehensive care that considers both their specific conditions and overall health.



6 Principles of Naturopathic Medicine



Benefits of NATUROPATHY TREATMENT

- Disease Prevention
- Help in overcoming insomnia
- Alternative therapies
- Improve body's own healing
- Treatment by traditional medicine
- Connect with their inner self

Preventive care: Naturopathy places a strong emphasis on preventive healthcare, empowering individuals to adopt healthy lifestyles and make informed choices that can ward off potential illnesses. **Combining naturopathic preventive strategies with allopathic treatments can create a synergistic effect, enhancing the body's resilience and reducing the risk of recurrent health issues.**

Minimizing side effects: Allopathic treatments often come with side effects that can impact a patient's quality of life. Naturopathy, with its focus on natural remedies, offers a complementary approach that may help minimize these side effects. Integrating naturopathic interventions alongside allopathic treatments allows for a more balanced and patient-centred approach, enhancing the overall therapeutic experience.

Chronic disease management: Chronic illnesses often require a multifaceted approach for effective management. Naturopathy, with its emphasis on lifestyle modifications, dietary changes and natural therapies can play a crucial role in managing chronic conditions. Integrating these approaches with allopathic treatments can lead to a more comprehensive and sustainable strategy for addressing chronic diseases.

In conclusion, naturopathy's emphasis on holistic wellness, individualized treatment, preventive care and the minimization of side effects makes it a valuable complement to allopathy. The integration of these two approaches (naturopathy and allopathy) is essential for providing patients with a well-rounded and effective healthcare experience. **By embracing the strengths of both systems, we can move towards a future where patients receive truly comprehensive care that addresses the complexities of health and wellness.**





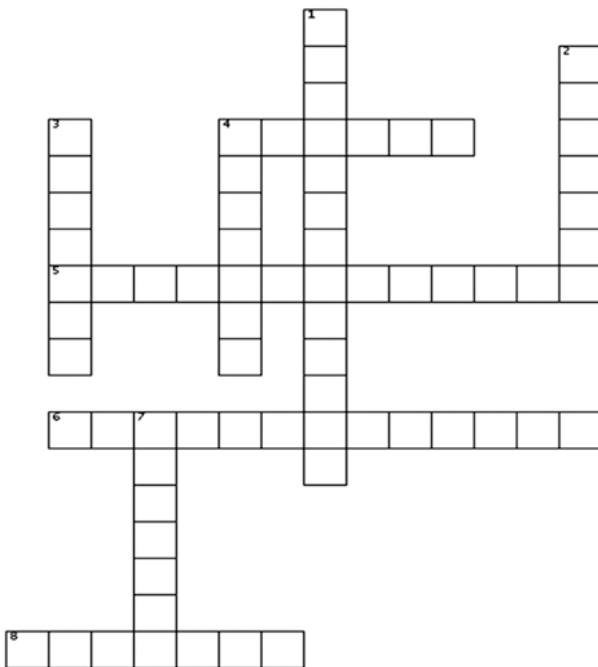
Lesser-known facts about Chennai

Chennai, the capital city of Tamil Nadu is situated on the Coromandel Coast of the Bay of Bengal. It has an estimated population of 11,981,478 (as of 2022). Chennai has been an important administrative, military and economic centre since the 1st century. Many South Indian emperors of the Pallavas, Cholas, Pandyas and Vijayanagara Empire have ruled over the area. Even today Chennai is ranked among the most populous urban agglomerations in the world under the UN Mega cities. It is India's fourth-largest city after Delhi, Mumbai and Kolkata.

I. What am I?

- I am the second largest judicial complex in the world. My campus covers a massive 107 acres and has a four-storey administrative building with 12 court halls.
- Inaugurated in the year 1688, I am the oldest administrative body in India and still active.
- Inaugurated in the year 1856, I am the oldest Railway station still functional in India.
- I am a leading car manufacturer and I launched my first manufacturing plant here in India.
- Started in Chennai, I am the oldest surviving English language newspaper in India.
- Inside the premises of Fort St. George, I have the pride of the first tricolour hoisted here after the Indian independence.
- Constructed in 1973, I am India's first longest flyover.

II. CROSSWORD



ACROSS

- Second longest natural urban beach in the world.
- This is the largest library in Asia.
- Chennai was an ancient fishing village known by this name.
- First port built by the Portuguese in 1522 in Chennai.

DOWN

- This oldest classical dance form in India has its roots in the temples of Chennai.
- Chennai is also known as the '_____ to South India'.
- This country attacked Chennai during the World War I.
- Chennai is the _____ capital of India.
- Chennai is one of the largest producers of automobile components in the world and hence the name _____ of South Asia.

ANSWERS ON PAGE 66





Major Somnath Sharma

Major Somnath Sharma was the first recipient of the Param Veer Chakra Award of the Indian Army for his bravery and sacrifice in the defence of our country. He was just twenty-four years old when he gave his life for the defence of Kashmir against the Pakistani army's invasion. Major Somnath Sharma (son of Major General Amarnath Sharma) was born in Himachal Pradesh on 31st January 1923 and was commissioned into the Kumaon Regiment on 22nd February 1942. His brother, General V.N. Sharma, served as the Chief of Army Staff from 1988 to 1990.

Major Somnath Sharma fought in the Arakan operations during World War II. On 22nd October 1947, Pakistan launched the tribal invasion of Jammu and Kashmir. India sent troops to Srinagar to protect the state from the invasion of the tribes.

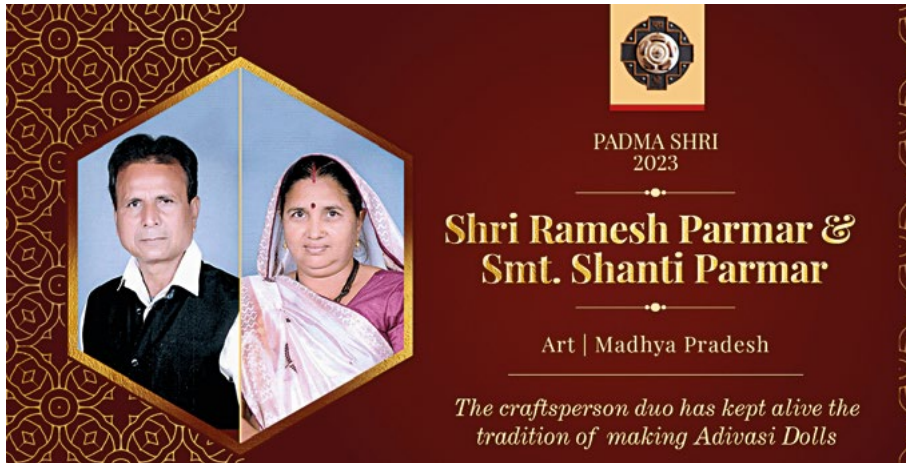
Major Sharma's D Company of 4 Kumaon was airlifted to Srinagar

on 31st October. Despite having a fractured arm, he insisted on being with his company at this critical time. On 3rd November the company came under heavy fire from a large force of the enemy, about 700 strong men. Major Sharma rushed across the open ground to his sections, exposing himself to enemy fire and laid out panels to guide IAF aircraft to their targets. He and his men held on for six hours against heavy odds, and when heavy casualties adversely affected the firing power



of the company, Major Sharma, with his right hand in plaster, took upon himself the task of filling the magazines and issuing them to men, operating light machine guns. While he was busy fighting the enemy, a mortar shell exploded on the ammunition near him. His last message to Brigade HQ was, **“The enemy is only 50 yards from us. We are heavily outnumbered. We are under devastating fire. I shall not withdraw an inch but will fight to our last man and our last round.”**

In the end, Major Sharma, one Junior Commissioned Officer, and twenty other ranks were killed in the battle of Bagdam. But their sacrifice did not go in vain. He and his men stemmed the tide of the enemy's advance into Srinagar and the airfield for some very crucial hours. Major General Amarnath Sharma received India's first and highest wartime gallantry medal, Param Vir Chakra, on behalf of his brave son.



Ramesh Parmar & Shanti Parmar

Ramesh Parmar (born on 1st May 1963) and Smt. Shanti Parmar (born on 15th July 1968) are stalwarts of the handicraft industry. For the last 30 years, they have been manufacturing tribal dolls, traditional tribal dresses and tribal toys. Their remarkable contribution to establishing these tribal products as an identity of the region all over India through participating in handicraft fairs is noteworthy.

In 1993, Shanti Parmar participated in entrepreneurship training from **Udhyamita Vikas Kendra**, Jhabua, which changed the direction of their life. They took the initiative to introduce the new generation to ancient traditions through tribal dolls and other related products.

Living in a backward area like Jhabua, they faced numerous challenges, including sourcing raw materials from neighbouring

Gujarat. However, they did not give up and despite many hurdles, the Parmar couple received a district-level award from Jhabua Collector, which gave them the confidence to pursue their dreams.

The duo started giving training in this art form and restarted the nearly dead **Prashikshit Ayodhyogik Kamgar Samitee**. Through it, they started organizing training camps at various places across the district, and till now, they have trained more than 1000 young artisans, who are proficient in this art and are employing it to earn their livelihood.

Parmars' passion for preserving tribal traditions is commendable. Their dedication to this art form has not only helped them earn their livelihood but has also helped other young artisans to do the same. They are an inspiration to many young artisans who want to preserve their cultural heritage through art.





Unlocking the potential of Java Plum



Known for its edible fruits, the tree is cultivated in tropical and subtropical regions for purposes ranging from food and timber to landscaping, dye production and medicine.

S*yzgium cumini*, scientifically known as *Eugenia jambolana* Lam, stands as a prominent member of the *Myrtaceae* family, characterized by its stature as a large evergreen tree native to the Indian subcontinent. Recognized by various colloquial names such as Java plum, Portuguese plum, Malabar plum, black plum, Indian blackberry, jaman, jambu, jambul, and jambool, this species holds cultural and economic importance.

Botanical features and geographic distribution

Reaching majestic proportions, it finds its roots in the Indian subcontinent, Southeast Asia, China and Queensland. Its leathery, oblong-ovate to elliptic leaves, ranging from 6 to 12 centimetres in length, contribute to its distinct appearance. The tree's panicles, mostly located beneath the leaves, host clusters of small flowers,

showcasing the plant's reproductive vigour.

Economic importance and uses

The economic significance of jamun lies in its multifaceted utility. Known for its edible fruits, the tree is cultivated in tropical and subtropical regions for purposes ranging from food and timber to landscaping, dye production and medicine. Despite being recognized as a medicinally important fruit tree, it remains relatively underexplored as an indigenous fruit crop in India.

Phytochemical composition and medicinal properties

Scientific studies have shed light on its rich phytochemical composition with a particular emphasis on flavonoids, lignans, phenolic acids, and tannins. Various extracts from different parts of the jamun tree exhibit significant



JAMUN SEED POWDER

A Powerhouse of Nutrients!



VITAMINS

MINERALS

Vitamin A

Calcium

Vitamin C

Iron

Vitamin E

Magnesium

Vitamin B6

Potassium

Antioxidants

Phosphorous



biological actions, including antibacterial, antifungal, antiviral, anti-allergic, anti-inflammatory, anti-diarrheal, chemo protective, anticancer, antioxidant and anti-diabetic properties.

Nutritional content

The fruit is composed predominantly of water (80.80%), with additional elements such as ash (0.70%), protein (0.81%), sugar (12.70%) and acidity (0.63% as sulphuric and 0.88% as malic). The seeds contain alkaloids, including jambosine and antimellin, contributing to the plant's pharmacological profile.

Jamun emerges as a vital source of pharmaceutically active compounds, advocating for its integration into agroforestry systems. The plant also plays a crucial role in supporting pollinators and native bee fauna. It presents itself as a botanical treasure trove with extensive economic, medicinal and environmental significance. Hence, this underutilized fruit tree deserves greater attention and integration into agroforestry programmes, ensuring its sustained conservation and contribution to diverse fields.

Benefits Of Jamun Honey

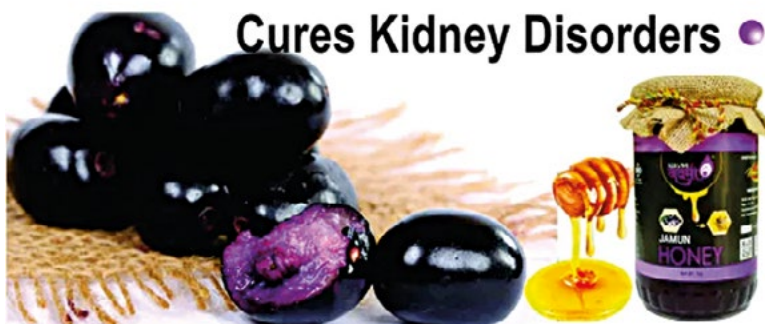
Regulates Blood Sugar Level ●

Prevents from Seasonal Problems ●

Keeps Skin Fresh ●

Prevents from Infection ●

Cures Kidney Disorders ●





Lord Siddhanath Temple

In the heart of the Satara district in Maharashtra lies the quaint town of Mhaswad, a place abundant in spiritual significance and home to the illustrious Siddhanath Temple. This sacred abode is dedicated to Lord Siddhanath, idolized as an incarnation of the mighty Lord Shiva. As a patron god of the adjacent regions, Lord Siddhanath holds a special place in the hearts of devotees, regarded as one of the revered Kshetrapal deities in Maharashtra.

The temple is not merely a physical structure; it is a sanctuary where the divine energy of Lord Siddhanath is believed to reside. Within its hallowed walls, devotees encounter the divine idols of Lord Siddhanath and Mata Jogeshwari, symbolizing the cosmic union of Lord Shiva and Goddess Parvati. These sacred representations become focal points for worship, drawing pilgrims from far and wide who seek the blessings of the divine couple.

The meticulously crafted pillars and the overall symmetry of the temple evoke a sense of reverence and appreciation for the skill of the artisans who brought this marvel to life.

Festivals and celebrations

Jatra festival of Lord Shri Siddhanath is celebrated every year by the locals. During this festival, a chariot of Lord Siddhanath is taken around the town by the devotees. Lord Shri Siddhanath Rath Yatra is celebrated on a large scale where lakhs of devotees from all over Maharashtra comes to Mhaswad to witness this event.

How to reach Lord Siddhanath Temple, Satara, Maharashtra

By road: The Mhaswad town has good road connectivity with major cities of Maharashtra.

By air: The closest airport is located at Kolhapur (133 km).

By train: Karad (79 km) Satara (85 km) and Sangli (99 km).

Architectural wonder

What sets Siddhanath Temple apart is not only its religious significance but also the awe-inspiring architectural marvel that graces the landscape of Mhaswad. The temple's design, a masterpiece rooted in Maharashtrian temple architecture, captures the imagination with its intricate carvings and finely crafted sculptures depicting the rich mythology and divine narratives associated with Lord Siddhanath.





Sheetal Devi

SHEETAL DEVI, a 16-year-old archer from Loidhar village, Jammu and Kashmir, became the first female archer without arms to compete internationally. Using her legs to aim and shoot, she bagged three medals at the Asian Para Games in Hangzhou - 1 Silver medal in **doubles compound** and 2 **Gold medals** in mixed doubles and women's individual.

Earlier this year, Sheetal also won a silver medal at the World Para Archery Championships conducted in the Czech Republic.

Sheetal was born with **Phocomelia**, a rare congenital

disorder that causes under-developed limbs. Her father toiled hard in the farms and mother reared few goats to meet their family needs and hardly had any savings. This motivated Sheetal to make a name for herself.

The big leap in her life started when she enrolled for a youth event organised by the Indian Army in her village in 2021. Impressed by her athleticism, the scouts contacted various sources for a prosthetic arm. Unfortunately, it didn't fit her and this looked like a huge hurdle in her journey. But none of them lost hope. She started to focus on her strength

which was her strong upper body, a result of climbing trees since her childhood.

Coaches Abhilasha Chaudhary and Kuldeep Vedwan stepped in to train her in archery. Inspired by the 2012 London Paralympics silver medallist Matt Stutzman who used his legs to shoot, they modified a locally-made releaser into a shoulder releaser and put together a string mechanism for the chin and mouth to create the trigger to help her release the arrow.

When the training session started, Sheetal did not believe that she could shoot an arrow. Initially, she could not even lift the bow properly. With continuous practice, she started shooting 50-100 arrows everyday which increased to 300. Six months later, she won a silver medal at the Para Open Nationals in Sonapat. **She also finished fourth when competing against able-bodied archers at the Open Nationals.**

Sheetal Devi has proved that one could create wonders even in a short span of time with utmost dedication and consistent training.





Bhai Mani Singh

Bhai Mani Singh, who was a devoted Sikh and a prominent figure in the community, was appointed as the caretaker of the Harmandir Sahib (Golden Temple) in Amritsar.

Bhai Mani Singh was a prominent figure in Sikh history, known for his role in the early 18th century. One significant event associated with Bhai Mani Singh took place in 1737, and it is commonly known as the "*Chhota Ghallughara*" or the "Smaller massacre."

In 1737, the relationship between the Sikhs and the Mughal authorities had become strained. The governor of Lahore, **Zakariya Khan**, issued a decree imposing a heavy tax on Sikhs and ordered their extermination. The Sikhs, under the leadership of **Banda Singh Bahadur** had earlier established their authority in parts of Punjab, which was seen as a threat by the Mughal rulers.

Amidst the rising tension, Bhai Mani Singh, who was a devoted

Sikh and a prominent figure in the community, was appointed as the caretaker of the *Harmandir Sahib* (Golden Temple) in Amritsar. He faced pressure from the Mughal authorities to pay a hefty tax, known as "*Jizya*," and to prevent Sikhs from gathering in large numbers.

Bhai Mani Singh, understanding the gravity of the situation, requested permission from Zakariya Khan to hold an annual gathering at Amritsar. The governor granted permission, thinking it would be an opportunity to gather Sikhs in one place and then take action against them.

However, Bhai Mani Singh had a different plan. Instead of paying the tax, he decided to send offerings of weapons, which were a symbolic way of refusing to pay the *Jizya*.



The Mughal authorities were infuriated by this act, and in response, they ordered the massacre of Sikhs gathering at Amritsar.

When the Sikhs gathered for the annual festival, they were surrounded by Mughal forces. Bhai Mani Singh, realizing the danger, encouraged the Sikhs to stand firm in their faith and face martyrdom with courage. In the ensuing battle,

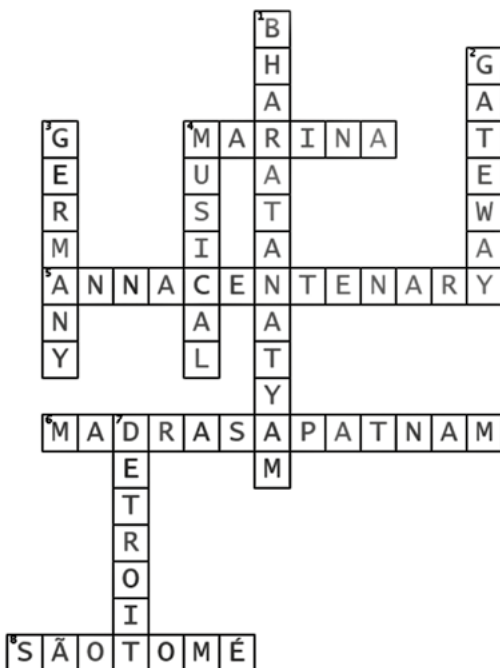
many Sikhs were killed, and Bhai Mani Singh was captured alive.

As a punishment for his defiance, Bhai Mani Singh was given the choice to convert to Islam or face death. Bhai Mani Singh chose death and faced a gruesome execution. His body was dismembered limb by limb, but he remained steadfast in his faith until the end.

The martyrdom of Bhai Mani Singh and the Sikhs at the Chhota Ghallughara became a significant event in Sikh history, symbolizing the sacrifice and resilience of the Sikh community in the face of oppression.

The memory of Bhai Mani Singh's courage and sacrifice continues to inspire Sikhs today.

II. CROSSWORD



ANSWERS

OF PAGE 58

I. What am I?

1. Madras High Court
2. Chennai Municipal Corporation
3. Royapuram Railway station
4. BMW
5. The Madras Courier
6. The Fort Museum
7. Anna/Gemini Flyover.



INTERNATIONAL DAY FOR THE ERADICATION OF

POVERTY

A hand is shown on the right side of the image, holding a black eraser and erasing the word 'POVERTY' which is written in white chalk on a dark blue chalkboard. The word 'POVERTY' is underlined with a white chalk line.

17th October

— // —

Dignity for all in Practice.

— // —

Ending poverty is not just helping the poor
– it is giving every woman and man the
chance to live with dignity.

Poverty is the parent of
revolution and crime



WORLD

FOOD

A row of colorful food illustrations including a burger with lettuce and tomato, a red tomato, a mushroom, a yellow bell pepper, a cucumber, and a purple eggplant.

16th October

DAY

.....
Good food, safe food
Everyone deserves both
.....