

PRAJYA

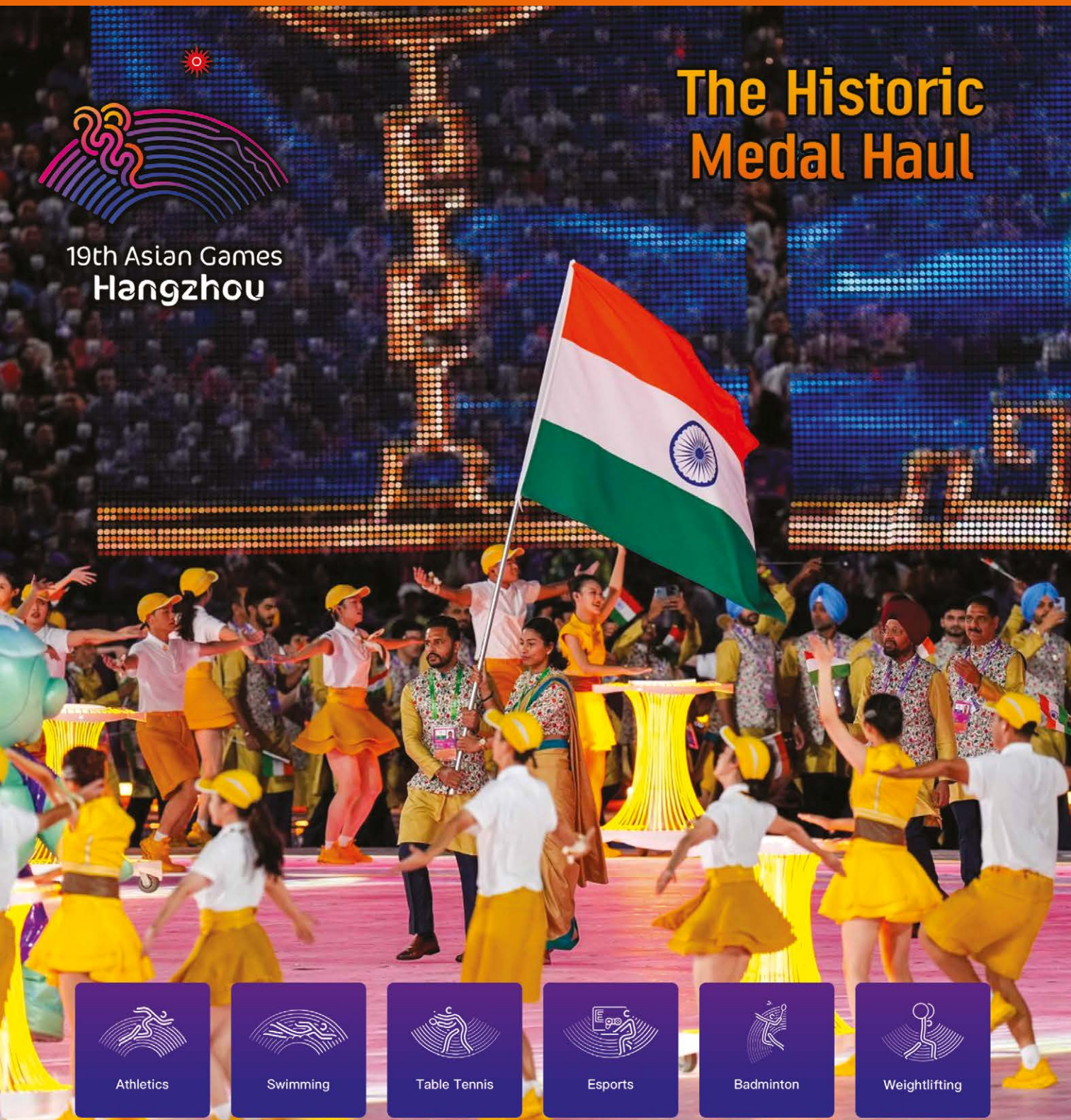
MONTHLY NEWS MAGAZINE FOR CHILDREN

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19th Asian Games
Hangzhou

The Historic Medal Haul



Athletics



Swimming



Table Tennis



Esports



Badminton



Weightlifting



World
ROSE DAY
WELFARE OF CANCER PATIENTS




22nd September

.....
**Cancer can affect many things
in life, but it cannot cripple the
love you have in your heart.**
.....



Together We Can

Make a difference in the lives of
Cancer Patients and their families





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“You will understand the Gita better with your biceps, your muscles, a little stronger. You will understand the mighty genius and the mighty strength of Krishna better with a little of strong blood in you.”

“The earth is enjoyed by heroes—this is the unfailling truth. Be a hero. Always say, "I have no fear.””

This was **Swami Vivekananda's** message to the youth of this great nation more than a century ago. These timeless words are as relevant now as then and shall remain a motivating mantra forever.

The Indian contingent at the recently concluded Asian Games proved themselves worthy of his clarion call. The hundred-plus medal tally of Indians is a heartwarming and morale-boosting achievement. The youth have displayed exemplary strength of body and mind and projected a resurgent nation.

To empower our youth, **National Skill Development Corporation** has come up with **Skills on wheels** programme aiming to equip them with crucial technical skills. This move focusing especially on the rural youth will certainly reduce, if not completely eliminate, the digital divide.

The **Atal Bihari Training Centre for Disability Sports** is a laudable initiative to provide specialized sports infrastructure so that the young para sports persons can undergo rigorous and specially designed training.

The newly approved **SHRESHTA** scheme aims to address educational disparities and create equal opportunities for students belonging to the SC community. This will go a long way in unshackling the marginalised youth.

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/>

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The India - Canada standoff

GOI had declared Nijjar as a designated terrorist in 2020 and placed a price on his head in connection with an explosion and the murder of a priest in India.

As I sit down to write this piece on the India -Canada standoff I see a breaking news flashed on the TV screen, that reads “Canada withdraws 41 diplomats from India”. This is ostensibly a reaction to the Indian government’s request to “implement parity in mutual diplomatic presence in New Delhi and Ottawa”.

While Canada portrayed it as a violation of the 1961 Vienna Convention on Diplomatic Relations, India vehemently denied the charge and said that it is perfectly legitimate given the fact that there was "continued interference" by Canada in the internal affairs of India.

The sequence of events

It all started with the allegation by the Canadian PM Justin Trudeau about the possibility of Indian government’s involvement in the

murder of Hardeep Singh Nijjar, Chief of the Khalistan Tiger Force, a Khalistani separatist militant organisation in June 2023. This accusation was made on the floor of the Canadian House of Commons on 18th September.

The allegation was shocking and certainly not the type India is accused of even by enemy countries. India rejected the charge as “absurd” and “motivated”. Subsequently Canada expelled an Indian diplomat and India retaliated by expelling a senior Canadian diplomat.

To this day no evidence has been produced by the Canadian government on this charge. It is also a concern that no arrests have been made till now. GOI had declared Nijjar as a designated terrorist in 2020 and placed a price on his head in connection with an explosion and the murder of a priest in India.





The popular reading is that Trudeau is being motivated by local politics and is indulging in plain vote bank politics.

During Trudeau's visit to New Delhi for the G 20 summit there was palpable unease in the air. However the one-on-one discussions were general in nature. Canada stressed the importance of the Rule of Law and Democratic Principles and India raised concerns over the growing Sikh extremism in Canada. But soon after, Canada put off indefinitely the Trade mission slated for October 2023.

Earlier in 1985, the Air India Flight 182 Kanishka from Canada to India exploded in the air killing 329 people. While the flight was still in the air there was another explosion at the Narita Airport Tokyo, killing two baggage handlers. This was also linked to the Flight 182 attack.

The investigation carried out by Canada on this was shoddy and insensitive to say the least with only one person getting convicted for the "largest mass murder in Canadian history". Canada had rejected India's request to handover the key conspirator Talwinder Singh Parmar of the Babbar Khalsa. He was later killed in a shoot out by the Punjab Police in 1992. Today the relations between the two countries has hit the same low prevalent then.

The compulsions

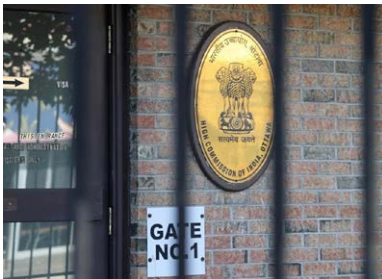
The Liberal Party Government of Trudeau is in a minority in the House of Commons and is dependent on the New Democratic Party led by Jagmeet Singh, a Sikh sympathetic to the Khalistan cause. Canada has about 8,00,000 Sikhs.

In 2018 when Justin Trudeau visited India with his family, he played to the "Sikh Gallery" during the personal leg of his tour. However in the official meetings that followed there was some headway.

In a first, Canada called for action against Sikh terror groups in a joint document with India. This seemed to be a high point in the relations between the two countries and there was hope of further cooperation. But when the farmer's agitation broke out in 2020 Trudeau openly supported the agitation. This did not go down well with India as it was purely an internal matter of India on which no foreign state had any business.

The popular reading is that Trudeau is being motivated by local politics and is indulging in plain vote bank politics. Whether it is his personal leg of his visit in





Five Eyes Alliance is an alliance comprising the US, UK, Canada, Australia and New Zealand, formed after World War II. The purpose is to enhance the security of the member countries by sharing Intelligence.

2018, his inaction and connivance at anti-India Sikh militant groups in Canada or his interference in the farmer’s agitation that was largely associated with the Sikhs of Punjab, Trudeau’s behaviour betrayed his approach of appeasing the Sikh vote bank in Canada.

It would not be out of place to mention that his father Pierre Trudeau was also uncooperative to Indira Gandhi’s request to control Sikh extremism in Canada.

How will it pan out?

Many in the international media and diplomatic circles feel that Trudeau has jumped the gun and is more on rhetoric than facts. India of 2023 is way different from that of the past decades. It is a growing economic power and is a strategic partner to the US to counter China. Its diplomatic representation is also stronger and enjoys credibility.

Hence US has to walk the tight rope and maintain the balance between Canada and India. While the US, UK and Australia have taken stances that have a slant towards Canada they might not go

any further until credible evidence emanates from Canada. This is despite the fact that the initial intelligence input on this has been given to Canada by the Five Eyes Alliance. The United States will try to cool the dispute.

The reduction in the diplomatic staff strength will result in backlog of application decisions and the visa process might take longer. Last year India was the top source for temporary foreign workers and international students in Canada.

Canada’s immigration minister has told that they would continue to welcome Indian immigrants. The country’s Foreign minister Melanie Joly has also said that they “would continue to engage privately with India”.

India also would not like to have a dent to its image of sane diplomacy and consensus building which has its advantages. It is in the interest of all to de-escalate the situation. How soon it happens will tell us whether the tension is between India and Canada or India and Trudeau.





Asian Games

India's historic medal haul

Top 12 Nations' Medal Standings					
S.No.	Country	Gold	Silver	Bronze	Total
1.	China	201	111	71	383
2.	Japan	52	67	69	188
3.	South Korea	42	59	89	190
4.	India	28	38	41	107
5.	Uzbekistan	22	18	31	71
6.	Chinese Taipei (TPE)	19	20	28	67
7.	Islamic Republic of Iran	13	21	20	54
8.	Thailand	12	14	32	58
9.	Bahrain	12	3	5	20
10.	North Korea	11	18	10	39
11.	Kazakhstan	10	22	48	80
12.	Hong Kong (China)	8	16	29	53

19th Asian Games held in Hangzhou, Peoples Republic of China (PRC) from 23rd September to 8th October was inaugurated by Chinese President Xi Jinping. The Games were postponed from 2022 because of Covid. 12,000 athletes from all 45 member countries of the Olympic Council of Asia competed for 481 sets of medal events held at 56 different venues. Nine sports - Artistic Swimming, Boxing, Breaking, Hockey, Modern Pentathlon, Sailing, Tennis and Water Polo were made Olympic qualifiers.

No fireworks were let off in this self-declared green and smart games. Indian contingent's flag bearers were Harmanpreet Singh (Field Hockey) and Lovlina Borgohain (Boxing). Slogan for the Games was "Heart to Heart, @ Future".





19th Asian Games
Hangzhou 2022

Shooters Divyaansh, Rudranksh and Aishwary Tomar



Sift Samra
Gold medal in the women's
25m rifle 3 position event

Rohan Bopanna & Rituraj Bhosale
clinch tennis mixed doubles gold



Dipika Pallikal & Harinder Pal Sandhu
clinch gold in Squash Mixed Doubles



Timeline of India's golden moments

Date	Gold Medal Events
Sept 25	Shooters Divyaansh, Rudranksh and Aishwary Tomar in the 10m air rifle event. Women's cricket team vs Sri Lanka.
Sept 27	Sift Kaur Samra in Women's 50m Rifle 3P , with 469.6 broke world record held by Britain's Mcintosh by 2.6 more points.
Sept 28	Win in 10m Air Pistol event.
Sept 29	Highest ever medal tally in shooting. 6 gold, 7 silver and 5 bronze medals
Sept 30	India defeated arch-rival Pakistan in a nail biting finish in Men's squash . Ruturaj and Bopanna won Mixed Doubles in Tennis .
Oct 1	Highest ever medal haul in a single day with 3 golds, 7 silver and 7 bronze. Avinash Sable in 3000m steeple chase . Tajinderpal Singh Toor in shotput . Shooting Trap in team event.
Oct 3	Parul Choudhury in 5000 metres . Anu Rani wins Javelin event.
Oct 4	Neeraj Chopra in Men's Javelin . Men's 4x400 metres relay . Archery Mixed team duo of Ojas and Jyothi.
Oct 5	Archery in team event. Deepika Pallikal and Harinder Sandhu in squash .
Oct 6	Men's Hockey .

ASIAN GAMES 2023

India finished its competition at the **19th Asian Games** in Hangzhou with 107 medals overall— 28 gold, 38 silver, and 41 bronze.

The Indian contingent has never performed better at the continental competition than they have now.





India's Gold Medal Tally in Asian Games 2023 – Sports wise

S.No.	Sporting event	Gold	Silver	Bronze	Total
1.	Shooting	7	9	6	22
2.	Athletics	6	14	9	29
3.	Archery	5	2	2	9
4.	Squash	2	1	2	5
5.	Cricket	2	–	–	2
6.	Kabaddi	2	–	–	2
7.	Badminton	1	1	1	3
8.	Tennis	1	1	–	2
9.	Equestrian	1	–	–	1
10.	Hockey	1	–	1	2
OTHERS		–	10	20	30

Year	Athletes	Gender - wise				Medal - wise			
		Men	Women	Mixed	Total	Gold	Silver	Bronze	Total
2023	661	52	46	9	107	28	38	41	107
2018	570	38	28	4	70	16	23	31	70

Next edition of Asian Games with slogan "Imagine One Asia" will be conducted in 2026 at Nagoya and Aichi Prefecture, Japan.





Brain chip for recovery from paralysis

The focus of this clinical study revolves around patients grappling with paralysis due to cervical spinal cord injuries or amyotrophic lateral sclerosis.

In a groundbreaking move, **Neuralink**, the brain-chip startup spearheaded by the prominent entrepreneur Elon Musk, has secured permission to initiate its inaugural human trial. This milestone marks a significant step in the quest to unlock the potential of brain-computer interfaces (BCIs). The focus of this clinical study revolves around patients grappling with paralysis due to cervical spinal cord injuries or amyotrophic lateral sclerosis (ALS). Although the announcement surfaced on 19th September, the precise number of participants is unknown.

Originally, Neuralink had set its sights on enlisting 10 participants for this pioneering study. However,

the journey to approval was far from straightforward. Concerns surrounding the safety of the procedure prompted the U.S. Food and Drug Administration (FDA) to raise questions, leading to a series of negotiations that ultimately led to an undisclosed participant count.

The recent development comes hot on the heels of Neuralink's prior achievement, securing the green light for its first-ever human clinical trial back in May. During this time, the company was also undergoing federal scrutiny concerning its animal testing practices.

Industry experts have chimed in on the potential timeline for Neuralink's ambitious project. Even if the Brain-Computer Interface

HOW DOES THE NEURALINK BRAIN CHIP WORK

1



The brain consists of special cells called neurons that transmit signals to other cells in the body, like our muscles and nerves.

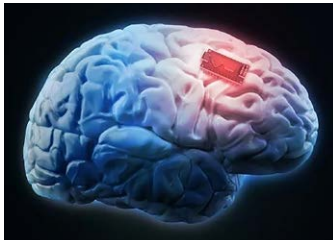


2

The electrodes of the Neuralink chip are able to read these signals, which are then translated into motor controls

3

This could control external technologies, like computers or smartphones, or bodily functions, like muscle movement



(BCI) implant proves safe for human use, it may be a decade or more before the technology gains clearance for widespread commercial application.

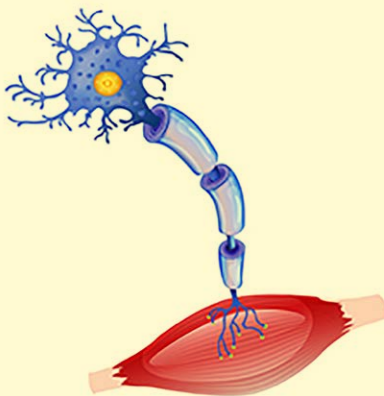
However, Neuralink's aspirations extend far beyond the realm of paralysis treatment. Elon Musk envisions a future where BCIs are used to rapidly implant chip devices capable of managing an array of conditions, spanning from obesity and autism to depression and schizophrenia.

At the core of this innovative trial lies a highly intricate surgical procedure. A robot will delicately position the BCI implant within a specific region of the brain responsible for the intent to move. The primary objective is to empower test subjects to interact with a computer keyboard or move a cursor using only their thoughts.

The clinical trial is anticipated to span roughly six years, providing a robust foundation for comprehending the implant's safety and effectiveness.

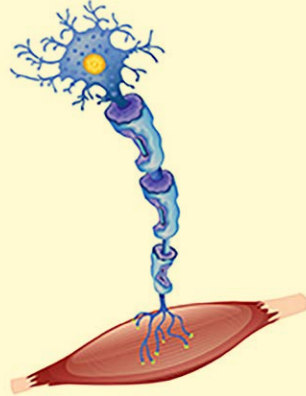
Amyotrophic Lateral Sclerosis (ALS)

normal nerve cell



muscle contracts

nerve with sclerosis



muscle unable to contract

Amyotrophic lateral sclerosis (ALS) is a fatal type of motor neuron disease characterized by progressive degeneration of nerve cells in the spinal cord and brain. It is often called **Lou Gehrig's disease**, after a famous baseball player who died from the disease.





India- Bangla tie-up for Multimodal transport route

The pact establishes a novel multimodal transport route that links the riverine port of Kolkata with northeastern India.

To bolster regional economic cooperation and enhancing connectivity, Syama Prasad Mookerjee Port in Kolkata, has inked an agreement with **Salf Powertec Ltd (SPL)** in Bangladesh. The pact establishes a novel multimodal transport route that links the riverine port of Kolkata with northeastern India via the ports of Chattogram and Mongla, as well as the Pangaon Inland Container Terminal in Bangladesh.

This development promises a range of benefits and opportunities for both nations.

HIGHLIGHTS

1. Enhanced Connectivity: A more efficient and interconnected

route for the movement of goods between India and its northeastern states. This plan leverages multiple ports and modes of transportation, including river-based transit, to streamline the process.

2. Distance and Time Saving: Substantial reduction in both distance and transit time translates to cost and time savings in trade between India and Bangladesh, benefitting both the economies.

3. Prosperity for Northeast India: The northeastern states of India stand to gain substantially from this improved connectivity. Goods movement will be more efficient and cost-effective, fostering economic growth.



Two dedicated vessels will be deployed by the Bangladeshi company in the next 3-4 months and this will in turn encourage others to bring more vessels on this route in the future.



4. Job Creation: Job opportunities will be created particularly in the logistics sector in both India and Bangladesh, in related industries such as transport, insurance and finance.

5. Revenue Generation: The heightened trade and economic activity will likely generate additional revenue for both Bangladesh and the northeastern states of India.

Two dedicated vessels will be deployed by the Bangladeshi company in the next 3-4 months and this will in turn encourage others to bring more vessels on this route in the future.

This collaborative endeavour will be a boon for trade and commerce between India and Bangladesh and boost the economic development of northeast India.





Whoosh

Southeast Asia's First High Speed Railway

On 2nd October 2023, Indonesia unveiled SE Asia's first high speed railway spanning 142 kilometers connecting Jakarta, the capital of West Java province to Bandung, the third largest city in Indonesia. With a bullet train that has a potential top speed of 350 km/h, it is expected to cut the travel time from 3 hours to just 40 minutes.

“Waktu Hemat, Operasi Optimal, Sistem Handal,” or WHOOSH, meaning “timesaving, optimal operation, reliable system.”, was the official name given to this system by President Joko Widodo who remarked at the launch event

“The Jakarta-Bandung high-speed train marks the modernization of our mass transportation, which is efficient and environmentally friendly,”

The project was a collaboration between China and Indonesia as part of Chinese leader Xi Jinping's Belt and Road Initiative (BRI) which is a global infrastructure development strategy adopted by the Chinese government in 2013 to invest in more than 150 countries and international organizations to build connecting pathways across Asia.

The development of WHOOSH has been beset by troubles which

Indonesia has overcome with much difficulty. This has been because of the unique geography of the country comprising multiple small islands.

The 600-train system was initially set to be completed by 2019 and cost less than USD 500 crores. Land acquisition problems and COVID-19 pandemic caused a delay; the final budget came up to USD 700 crores.

The ballooned cost has not been without its benefits, however.

The trains have been specifically engineered and designed to suit the humid climate of the tropical country and the cost of travel is also expected to suit the localities that it connects. The trains, manufactured in China, have state-of-the-art safety features and technology that make navigation and logistical operation much easier and cost effective.

By 2030, Indonesia aims to extend its network of railways to over 10,000 kilometers. WHOOSH is a significant milestone in the country's effort to develop its railway infrastructure.





Mohamed Muizzu

wins Maldives presidential election

This election was viewed by many observers as a test of Maldives' connections with China and India.

The Republic of Maldives, also called as the Maldivian Islands lies south-west to the Indian sub-continent. It is a chain of nearly 1,200 islands, most of which are uninhabited. The economy of Maldives revolves around tourism and scores of islands have been developed for the top end of the tourist market. In a recent political development Mohamed Muizzu has won the presidential elections defeating the ruling President Ibrahim Mohamed Solih. Mohamed Muizzu is perceived as being pro-China whereas Solih had strengthened relations with India and taken the Maldives back into the Commonwealth.

Muizzu holds a PhD in civil engineering from the University of Leeds in the UK. He entered

politics in 2012 as minister of housing. This election was viewed by many observers as a test of Maldives' connections with China and India. Maldives has long been under India's sphere of influence. Maintaining its presence there gives Delhi the ability to monitor a key part of the Indian Ocean.

Both India and China are trying to strengthen their presence in the strategically located islands which straddle busy east-west shipping lanes. Both Delhi and Beijing have given the Maldives hundreds of millions of dollars in the form of loans and grants for infrastructure and development projects. It is time for India to wait and watch the unfolding of the new relationship with Maldives under the new president.

Pierre Agostini



Ferenc Krausz



Anne L'Huillier



Moungi G. Bawendi



Louis E. Brus



Aleksey I. Yekimov



Jon Fosse



Narges Mohammadi



Nobel Prize 2023 winners

Nobel prize for Medicine this year was awarded to **Katalin Kariko** from the University of Pennsylvania and **Drew Weissman** for their discoveries concerning nucleoside base modifications that enabled the development of an effective mRNA (messenger ribonucleic acid) based vaccines against Covid 19. Prior to Covid most vaccines were developed either with an inactivated virus or inserting the viral genetic code into a vector. When inoculated the patient develops a coordinated immune response.

The production of proteins that are responsible for many bodily functions has a fascinating cascade of steps. DNA (deoxy ribonucleic acid) the master molecule that has all the genetic information for life enables protein synthesis. This it does by making several copies of itself (mRNA's) which enables protein synthesis. It is

now a known fact that the spike protein in the SARS-Cov-2 virus causes the infection which triggers an immune response. The Nobel laureates constructed a special mRNA platform-based vaccine development process. This was later scaled up to produce mRNA based Covid 19 vaccines on an industrial scale. The advantage of mRNA-based vaccine development is that the genetic code can be tweaked and reset to develop vaccines against new variants and for a variety of other diseases.

Nobel prize for Physics was awarded to **Annie L'Huillier** from Lund University Sweden, **Pierre Agostini** of Ohio State University and **Ferenc Krausz** from Max Planck University, Germany for their experimental methods to generate atto second (a unit denoting 10^{-18}) pulses of light for the study of electron dynamics in matter. For a very long time the

study of matter at subatomic levels remained a theoretical construct. Thanks to the seamless integration of various scientific disciplines and the development of instrumentation a closer look at subatomic levels looks interesting.

Attosecond Physics: An attosecond is one quintillionth of a second. That is the timescale at which the properties of an electron changes. In 1988 Annie L'Huillier and her colleagues in Paris passed infra-red light through a noble gas. The gas emitted a light whose frequency was a high multiple of the incipient beam. An electron would gain energy from such an input and move away only to lose that energy to get back into original position. This process was later described using equations of quantum mechanics. Later in 2001 Agostini et al from Paris and Ferenc Krausz et al from Vienna were able to produce verified attosecond



Claudia Goldin



Katalin Karikó



Drew Weissman



pulses in a “train” followed by a gap. Techniques got so refined further that in 2017, scientists were able to produce a pulse of light as short as 43 attosecond. Studying subatomic particles got closer ever since. Applications may come in many fields of instrumentation, more efficient solar panels etc.

Nobel prize for Chemistry was awarded to **Louis Brus** of Columbia University, **Alexy Ivanovich Ekimov** of Russia and **Moungi.G.Bawendi** of MIT for their discovery and synthesis of quantum dots.

Quantum Dots: A quantum dot is a small assembly of atoms, let’s say a few thousands and a few nano meters wide. Electrons in such circumstances have very little place to move and hence exhibit the quirky effects of quantum mechanics. Quantum dots are neither an atom nor a molecule. Their properties change when their structure is tweaked and hence it is possible to have varied applications from medicine to solar panels.



When did it start? Attempts to create quantum dots started in 1983 when Louis Brus and his colleagues succeeded in creating quantum dots in liquid. Later a team led by Moungi. G. Bawendi from MIT used hot injection method to create quantum dots in liquid. A reagent is injected into a chosen solvent then heated till nano crystals form. The crystals are filtered out. This method accelerated the adoption of quantum dots in varied technologies. Eventually quantum dots may find applications in production of super-efficient solar panels, highlighting tumours, efficient ways to produce hydrogen through hydrolysis and many more technologies.

Nobel Prize for Economics was awarded to **Claudia Goldin** of Harvard University for her work to uncover the key drivers of gender differences in the labour market. She provided the first comprehensive account of women’s earnings and labour market participation through centuries. Goldin showed that female participation in the labour market did not have an upward tick all the time. It was U shaped curve. The participation of married women in the labour market dropped as society shifted to an industrial one from agrarian. The growth in the services sector and its structural changes alongside women’s responsibilities at home ensured more women participation. The access to contraceptive pill played

an important role in accelerating this revolutionary change by offering more opportunities for career planning. Despite better education for women, gap in income parity exists. Historically much of the gender gap in earnings can be explained by differences in occupational choices and education.

Nobel peace prize was awarded to Iranian peace activist **Nargis Mohammadi** for her fight against the oppression of women in Iran and her fight to promote human rights and freedom. After graduation in physics, she worked as an engineer. Even then she was a star campaigner for women’s rights, contributing articles for reform newspapers.

In 2003 she became involved with Defenders of human rights Centre, founded by Shiren Ebadi, the first Nobel laureate from Iran. Mohammadi was arrested in 2011 for her efforts to assist incarcerated activists and their families. While still out on bail she campaigned against death penalty, that led to her rearrest in 2015. In prison she protested against torture and sexualized violence against political prisoners. The popular Mahsa Amini protest enthused her to assume leadership from inside the prison, from where she directed her support for demonstrators only to face stricter conditions in jail.

Nobel prize for Literature has been awarded to Norwegian **Jon Fosse** for his innovative plays and prose which gave voice to the unsayable. Fosse’s breakthrough plays “**Namnet**”, “**Night songs**” and “**Dreams of autumn**” explore the existential themes of human emotion, paradox and experience of divinity. Fosse’s plays have a far-reaching impact in everything he writes play, poetry or prose.





World's first Green Bond Standards to combat Greenwashing

European Union lawmakers have approved new standards for companies issuing "European Green Bonds" or EuGB. Green bonds, alternatively known as climate bonds are used to fund projects that have positive environmental and/or climate benefits. These new standards are the first of its kind in the world and will help investors pick sustainable companies and avoid greenwashing (false claims about climate friendliness).

The new standards align with the EU's taxonomy framework that defines which activities are considered environmentally

sustainable. At its core, an activity has to meet the following two criteria to be environmentally sustainable:

1. Contribute to at least one of the six environmental objectives listed in the taxonomy;
2. Do no significant harm to any of the other objectives, while respecting basic human rights and labour standards.

The six environmental objectives of the taxonomy are:

- ▶▶ climate change mitigation
- ▶▶ climate change adaptation
- ▶▶ sustainable use and protection of water and marine resources

- ▶▶ transition to a circular economy
- ▶▶ pollution prevention and control
- ▶▶ protection and restoration of biodiversity and ecosystems.

At least 85% of the funds generated through these bonds should be allocated towards activities that align with the aforementioned taxonomy. The companies have to disclose a considerable amount of information about how the bond proceeds will be used. The company should also be engaging in a general green transition.

A registration system and supervisory framework will be set up for external reviewers. This system will also ensure that any actual or potential conflicts of interest external reviewers may face are properly identified, managed or eliminated in a transparent manner.

Europe is the world's largest issuer of green bonds, making up more than half of global volume in 2021, although issuance is still only 3% - 3.5% of the overall bond market.





Operation Ajay facilitates the return from Israel of those Indians who wished to come back home as a series of brazen attacks on Israeli towns by Hamas militants triggered fresh tensions in the region.

As the Israel-Hamas war escalated and countries scrambled to bring home their people trapped in the fighting or looking for a way out of the war zone, India announced it was launching **Operation Ajay** to repatriate its citizens from Israel and Palestine. The Indian government facilitated the return of Indian citizens through special chartered flights.

Prime Minister Narendra Modi, when he received a phone call from Israeli Prime Minister Benjamin Netanyahu, highlighted the issue of safety and security of Indian citizens in Israel. Benjamin Netanyahu assured full cooperation and support.

Operation Ajay facilitates the return from Israel of those Indians who wished to come back home as a series of brazen attacks on Israeli towns by Hamas militants triggered fresh tensions in the region. Israel has already mounted a massive military offensive to avenge the attacks.

The Government of India had thus arranged Special charter

flights and ensured the safety and well-being of our nationals staying abroad. There are thousands of Indian citizens living and working/studying in Israel. A big chunk of them work as caregivers but there are also about 1,000 students, several IT professionals and diamond traders. The Indian embassy in Israel had emailed the Indian citizens about the special flights.

The sixth flight under India's Operation Ajay had successfully evacuated 143 Indian citizens, along with two Nepalese nationals. It followed a previous flight, which transported 286 passengers, including 18 Nepalese citizens, out of the war-torn region without mishap.

The Ministry of External Affairs (MEA) has set up a 24-hour control room to monitor the situation and provide assistance.

The phone numbers of the control room in Delhi are 1800118797 (toll-free), +91-11-23012113, +91-11-23014104, +91-11-23017905 and +919968291988, and the e-mail ID is situationroom@mea.gov.in.



PRAGATI

Transformative initiative for Uttar Pradesh farmers

Water distribution systems that directly apply water to the root zone of plants will be provided to small land holders.

UP is our most populous State leading the nation in terms of agricultural production and accounting for a quarter of the country's agricultural output. Over 86% of the land under irrigation receive abundant water.

This has led to adopting highly water intensive cropping patterns like rice and sugarcane. But the combination of small landholdings and obsolete technology is contributing to farmer's low income.

PRAGATI, an initiative conceived in 2022, is acronym for **Program for Agricultural Transformation and Increased Incomes** and also meaning "progress" in Sanskrit and Hindi, is being led by Agriculture Production

Commissioner of UP State Government.

The programme sets out to transform agricultural production in UP by enhancing water use efficiency, improving mechanization and integrating climate-smart water management practices.

1. Water use efficiency

Increase micro irrigation from 200,000 to 750,000 hectares in the next 5 years. Will improve water use efficiency, increase productivity, and ease water stress. Water distribution systems that directly apply water to the root zone of plants will be provided to small land holders. Between July and September 2023, 35,000 farmers have registered, covering approximately 55,000 hectares.





2. Improving mechanization

1% increase in the level of mechanization is found to give 1.6% yield increase in crops. PRAGATI helps in access, availability and affordability of machinery and equipment to small farmers resulting in both yield and crop productivity.

3. Climate-smart water management

Micro-irrigation in specific crops could slash per yield soil carbon dioxide, nitrous oxide and nitric oxide emissions by 59%, 38%, and 20% respectively. The area under climate-smart rice-wheat systems, for the small and medium farmers, will be increased from 25,000 to 250,000 hectares promoting practices such as direct seeded rice (DSR), rice crop from seeds directly planted in the field rather than transplanting from nursery rice (TPR).

TPR is a source of greenhouse gases, while DSR even as it helps to avoid methane emissions, saves water and labour. PRAGATI in due course would reduce carbon footprint and the switch to better practices will give better earnings.

PRAGATI was conceived by the State's Multi Stakeholder Platform and is supported by 2030 Water Resources Group (2030 WRG).

The latter is a multi-donor trust fund managed by the World Bank's Water Global Practice (WGP) and financed by Bill & Melinda Gates Foundation (BMGF).

The ambitious initiative aims to make UP a global leader in sustainable agriculture within the next 5 years.

Unified Portal for Agricultural Statistics

The Indian government has launched the Unified Portal for Agri-Statistics (UPAg), a digital platform that aims to provide stakeholders with credible and standardized data for informed decision-making in the agriculture sector. The portal, developed by the Ministry of Agriculture, will address challenges related to data governance and offer features such as data standardization, analysis, granular production estimates and commodity profile reports.

UPAg is an advanced agricultural data management platform to generate crop estimates and integrate with other systems generating agriculture statistics such as price, trade,

procurement, stock etc. This centralized hub will provide near real time information on crop production, market trends, pricing and other vital agricultural data.

UPAg aims to empower stakeholders in the agriculture sector, including policymakers, researchers, and farmers, by providing them with comprehensive insights to support informed decision-making.

The portal aims to address the data-related governance challenges such as lack of standardised and verified data, which make it difficult for policymakers, researchers and stakeholders to make informed decisions regarding agriculture.





New World heritage sites Santiniketan and Hoysala Temples

Three Hoysala-era temples in Karnataka recently made it to UNESCO's World Heritage List under the collective entry of 'Sacred Ensembles of the Hoysalas'.

The historic West Bengal town of Santiniketan and the Sacred Ensembles of the Hoysalas, a series of 12th and 13th century temples in Karnataka, have both been added to UNESCO's renowned World Heritage List. **India now has 42 sites on the list.**

Santiniketan was established in 1901 by Rabindranath Tagore, the Nobel Prize-winning poet and philosopher. The town, which includes a residential school, an art centre and a 'world university', was created based on a vision of the unity of humanity, one that transcends religious and cultural boundaries. Santiniketan is directly and tangibly associated with the ideas, works and vision of Tagore and his associates, pioneers of the Bengal School of Art and early

Indian Modernism. The university was rightly defined by Tagore as "where the world makes a home in a nest". Eminent people from across the globe come here to gain knowledge and to seek harmony between nature and nurture.




The Sacred Ensembles of the Hoysalas – namely the **Channakeshava Temple** in Belur, the **Hoysaleswara Temple** in Halebidu and the **Keshava Temple** in Somanathapura - are considered the most representative examples of temple complexes from the Hoysala empire in southern India. These styles of temples are distinct, as its shrines are characterized by hyper-real sculptures and stone carvings that cover the entire architectural surface. They are a culmination of various temple building traditions



Hoysala temples declared UNESCO World Heritage Sites

Context: Three Hoysala temples in Karnataka were declared UNESCO World Heritage Sites

All three temples are protected by the Archaeological Survey of India (ASI) and the nominations were entered as **'The Sacred Ensembles of Hoysalas'**. They have been on UNESCO's Tentative list since 2014

Temple	Features
 <p>Chennakeshava Temple (Belur, Hassan, Karnataka)</p>	<ul style="list-style-type: none"> Year: 1117 AD (period of king Vishnuvardhana) Deity: Lord Vishnu (Chennakesava) Richly sculptured exterior depicting scenes from Vishnu's life, epics, and some representations of Shiva. "Chenna" means beautiful, "Keshava" means Vishnu Follows a stellate plan with a raised platform. Constructed using chloritic schist (soapstone).
 <p>Hoysaleswara Temple (Halebidu, Hassan, Karnataka)</p>	<ul style="list-style-type: none"> Year: 1121 CE Deity: Lord Shiva (Hoysaleswara) Known for more than 240 wall sculptures depicting various themes Walled complex with three Jaina basadi (temples) and a stepped well in Halebidu.
 <p>Keshava Temple (Somanathapura, Mysuru, Karnataka)</p>	<ul style="list-style-type: none"> Year: 1268 CE (regime of Narasimha III) Deity: Lord Krishna (Keshava, Janardhana, Venugopala) Trikuta Temple dedicated to Lord Krishna in three forms: Janardhana, Keshava, and Venugopala. The main Keshava idol is missing, and the Janardhana and Venugopala idols are damaged.

prevalent in the northern, central and southern India such as the Nagara, Bhumija and Dravida styles.

The practice of having sculptural panels narrating stories from the Hindu epics and Puranas along the walls of the temple deepening the religious experience of the circumambulation path, was first introduced by the Hoysalas. Chennakesava Temple is one of the most significant. It was constructed by King Vishnuvardhana in the 12th century to commemorate his victory over the Cholas.

The inscription of these temples in the World Heritage List is a combined homage to the great temple-building tradition of India. The temples provide a wholesome experience with their exquisite architecture, sculptures and intricate carvings reflecting the genius of the sculptors in translating religious beliefs, stories and abstract ideas into the medium of stone. These heritage sites are but a reflection of the great rich cultural and historical greatness that Bharath has always been home to!



WOMEN'S RESERVATION BILL

Another milestone
in women's
empowerment



“There is no chance for the welfare of the world
unless the condition of women is improved.

It is not possible for a bird to fly
on only one wing.”

- Swami Vivekananda

This Act along
with other
measures
initiated
by the
government
would help
us to build an
egalitarian
society.

Though our history and culture emphasize gender equality, even today India like most other countries exhibits patriarchal character in social and political life. Political empowerment of women is a prerequisite for their social and economic upliftment. Women leaders would be in a better position to identify and solve the problems faced by women in the country.

One-third of seats are reserved for women in our local self-government. Unfortunately, women's representation in our national and state legislative bodies is one of the lowest in the world. Scandinavian countries like Sweden and Norway have more than 45% women representation in their national legislatures. In our Lok Sabha, it is just 15%. It is lower than even many of the developing countries of Asia and Africa.

The Constitution (One Hundred

and Twenty-Eighth Amendment) Bill, 2023 was introduced in Lok Sabha on 19th September 2023. The Bill seeks to reserve one-third of all seats for women in Lok Sabha and State Legislative Assemblies. One-third of the total number of seats reserved for Scheduled Castes and Scheduled Tribes shall be reserved for women of those groups in the Lok Sabha and the legislative assemblies. Reserved seats may be allotted by rotation to different state or union territory constituencies. Reservation of seats for women is for a period of 15 years after the enforcement of this Amendment Act. **The bill became an act as it was passed with a thumping majority in both houses of Parliament and the President gave her assent.**

This Act along with other measures initiated by the government would help us to build an egalitarian society.



Smt Archana Sundar

Skills on Wheels bridges the digital divide



In a remarkable endeavour to empower rural youth, particularly women, the Union Education and Skill Development Minister, Dharmendra Pradhan, and Lok Sabha Speaker Om Birla have launched the 'Skills on Wheels' initiative in partnership with the **National Skill Development Corporation (NSDC)** and IndusInd Bank. This aims to enhance the employability of rural youth and equip them with crucial digital skills.

Over the next five years, 'Skills on Wheels' intends to empower 60,000 rural youth to improve their livelihoods by providing essential skills. This initiative wants to women job-ready and proficient in an increasingly digital world. A customized bus, known as 'Skills on Wheels,' has been equipped with cutting-edge tools and technology to reach the remotest areas, serving

as the flagship of the 'Skill India Mission.'

'Skills on Wheels' will travel to aspirational and backward districts, spreading awareness about free skill training programmes that can transform the lives of rural youth. Industry-relevant skill training and enhancement of theoretical knowledge lead to better employability. By aligning candidates' academic background, aptitude and skillset with industry requirements, 'Skills on Wheels' aims to bridge the gap between industry needs and unemployed youth.

'Skills on Wheels' promises to be a game-changer in the landscape of rural skill development, ultimately benefiting not just individuals but entire communities and regions, bringing them closer to a brighter, digitally empowered future.



Rashtriya Vigyan Puraskar

Awards for innovation

The Rashtriya Vigyan Puraskar, as revealed by Union Minister for Science and Technology Dr. Jitendra Singh, is a set of awards designed to recognize and celebrate the contributions of scientists in four different categories.

The long-anticipated release of the Shanti Swarup Bhatnagar awardees list, which had been postponed for a year, has finally occurred. The Shanti Swarup Bhatnagar award remains a prestigious honour for young scientists and retains its original name.

The four categories:

- ▶▶ **Vigyan Ratna:** This acknowledges the lifetime achievements of eminent scientists.
- ▶▶ **Vigyan Shri:** Distinguished contributions to specific fields of science will be honoured under this category.

▶▶ **Vigyan Yuva Shanti Swarup Bhatnagar:** Exceptional young scientists will be encouraged through this.

▶▶ **Vigyan Team:** Teams consisting of three or more members who have made noteworthy contributions to the field of science will be recognized.

These awards are set to be implemented from 2024. They will be bestowed in **13 different domains**, encompassing a wide range of scientific disciplines, including Physics, Chemistry, Biological Sciences, Mathematics, Earth Science, Medicine, Engineering Sciences, Agricultural Science, Environmental Science, Technology and Innovation, Atomic Energy and Space Science and Technology.

The annual Vigyan Ratna awards will be limited to three categories: 25 Vigyan Shri, 25 Vigyan Yuva, and 3 Vigyan Team. The Vigyan Yuva category, however, comes with an age limit of 45 years.

The process for nominations will open every year from 14th January to 28th February, coinciding with National Science Day. The names of the awardees will be unveiled on 11th May (National Technology Day). The actual award ceremony, though, will take place on 23rd August, designated as the new **National Space Day**, commemorating India's Chandrayaan-3 lunar landing.

For the first two years, the Council for Scientific and Industrial Research (CSIR) will manage the award processes. Afterwards, this responsibility will be taken over by the newly established National Research Foundation.

Dr. Singh emphasized that the aim is not to reduce the number of awards but to streamline and enhance their prestige and value. To this end, the practice of endowments, where families funded awards in memory of deceased scientists, has been discontinued to ensure that awards are based solely on merit and achievement.



Veerangana Durgavati Tiger Reserve is India's 54th

DO YOU KNOW ?

- ♥ MP has the highest number of tigers in the country (785), followed by Karnataka (563) and Uttarakhand (560) and retains the "Tiger State" status.
- ♥ 29th July is celebrated yearly as **International Tiger Day**.
- ♥ Rani Durgavati of Gondwana fought 51 battles (3 against Mughals) and never lost.

Largest cat species, a cultural icon or a symbol of power? Tiger is all that and much more. The presence of this species conserves the entire forest ecosystem.

Madhya Pradesh is home to the largest number of big cats in the country. The MP government recently unveiled the Veerangana Durgavati Tiger Reserve marking it the 7th in the state and 54th in the country.

Spreading across Sagar, Damoh and Narsinghpur districts of Madhya Pradesh, it covers an area of 2,339 sq. km. It encompasses areas within Nauradehi Wildlife Sanctuary and Durgavati Wildlife Sanctuary. The Sanctuary was named after the Queen of

Gondwana, Durgavati, who ruled the region in the 16th century.

There are 6 tiger reserves in the state namely Kanha, Bandhavgarh, Pench, Panna, Satpura and Sanjay Dubri. A green corridor is being developed to link Panna Tiger Reserve with Durgavati, facilitating the movement of tigers to the new reserve. Parts of the reserve will fall under the Narmada and Yamuna River basins. The famous Singorgarh fort is also located within the reserve. The reserve is home to a variety of flora and fauna including Bengal tiger, leopard, sloth, nilgai etc. The new reserve will help in conservation of wildlife species in the region, boost tourism and benefit the local economy.



India's first Hydrogen - run bus

What is fuel cell technology?

A fuel cell consists of two electrodes—a negative electrode (anode) and a positive electrode (cathode)—sandwiched around an electrolyte. A fuel, such as hydrogen, is fed to the anode and air is fed to the cathode. A catalyst separates hydrogen atoms into protons and electrons, which take different paths to the cathode. The electrons go through an external circuit, creating a flow of electricity. The protons move through the electrolyte to the cathode, where they reunite with oxygen and the electrons to produce water and heat.

Indian Oil Corporation (IOC) unveiled India's first-ever hydrogen-fueled bus that releases only water as its by-product. Union Minister of Petroleum & Natural Gas and Housing & Urban Affairs, Hardeep S Puri flagged off the bus on Kartavya Path, Delhi, on 25th September 2023. This is a great leap for our nation in terms of clean energy transition and establishing a carbon-free economy.

"Our government has ambitious plans on clean and green energy. India has taken many steps towards low carbon development- through emerging fuels like hydrogen and biofuels and shall account for 25% of global incremental energy demand growth over the next two decades," Puri said.

IOC has undertaken operational trials of 15 hydrogen fuel cell buses powered by green hydrogen in

Delhi, Haryana and UP. As a part of this programme, 2 buses were launched in Delhi. All 15 buses are set to be launched by the end of this year and they will cover a cumulative mileage of more than 3 lakh kilometers to assess long-term performance and durability of the new technology.

IOC's Research and Development Centre in Faridabad is producing the green hydrogen required for the trial run. Green hydrogen (GH₂) is hydrogen produced by electrolysis of water, using renewable electricity. As much as 50 units of renewable electricity and 9 kg of deionized water are needed for the production of one kilo of green hydrogen. The buses need 4 cylinders with a capacity of 30 kg to run 350 km. It takes 10-12 minutes for the four tanks to fill.



INDIAN BANKS

The new destination for global investments

India's large and young consumer market, skilled labour force, and potential for innovation and entrepreneurship make it an attractive destination for investors.

Over the years, India has emerged as one of the fastest-growing economies in the world, and it now offers a thriving environment for investments. India's GDP currently stands at around USD 3.7 trillion, with every possibility of it doubling to USD 7 trillion by 2030. This exponential growth is attributed to an expanding middle class, policy reforms, infrastructural development and a shift toward clean energy, among other factors.

With the largest youth population in the world, it has very favourable demographics, with the median age of its citizens below 30. India's huge domestic consumption, led by the private sector, has played a major role in the country's growth. India has an estimated middle class of 400 million people who are

the main drivers of consumption expenditure.

The possibilities seem endless if the right policies can be aligned with the anticipated rapid population growth. Under this scenario Indian banks are likely to attract increasing global investment from investors looking for better returns as there is higher credit growth, improved margins and stable political order. The total market value of foreign institutional investors' holdings in Indian banks is at ₹ 8.363 trillion as of 30th June from ₹ 7.713 trillion a year prior (S&P Global Market Intelligence). This is a significant rise from the ₹ 6.734 trillion in June 2020.

A host of government initiatives has also enabled India's investment growth, including improving the infrastructure, and propagating



Mergers and acquisitions are business transactions in which the ownership of companies, business organizations, or their operating units are transferred to or consolidated with another company or business organization.

FDI involves purchase of an asset in another country giving direct control to the purchaser over the asset.



an investor friendly FDI (Foreign Direct Investment) policy, in which most sectors are open for 100% FDI under the automatic route.

As the economy grows and consumers are in need of more credit, the banking and NBFC (Non Banking Financial Company) sector are both growing bigger. Additionally, digitalization is enabling the growth and profitability of the banking sector.

It is seen that the majority of foreign institutional investors' holdings are in India's biggest private-sector banks. They have been growing at more than 15% in the last 10-15 years which offer better growth prospects, higher quality of management, bigger

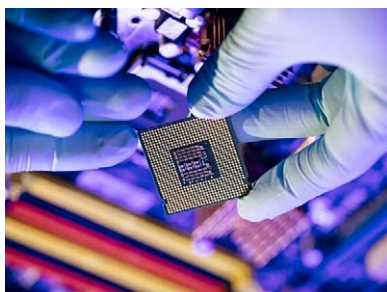
market share and consistent profitability. This is also attributed to the quick turnaround in growth post-COVID.

Homegrown deal makers are hopping overseas, tracking their clients who are expanding globally. Indian investment banks are opening offices abroad and striking alliances with overseas M&A (mergers and acquisitions) specialists as cross border activity dominates the Indian deal economy.

Capital Research and Management Co. based out of USA, is at the top of the list of foreign investors in Indian banks by market value, followed by BlackRock Inc. and Singapore's GIC Private Ltd.



India's first Silicon Carbide device



India is poised for a technological revolution with the inauguration of its cutting-edge Silicon Carbide (SiC) device manufacturing plant. This milestone underscores the nation's commitment to homegrown innovation, aligned with the 'Aatma Nirbhar' (self-reliant) vision.

Continental Device India Private Limited (CDIL), a semiconductor manufacturing leader, has invested approximately ₹30 crores to establish a Surface Mount Semiconductor Packaging Line at its Mohali plant in Punjab, becoming the nation's pioneer in SiC device production.

SiC devices are rapidly gaining recognition in the semiconductor industry due to their remarkable features. SiC's low ON resistance, high-temperature, high-frequency and high-voltage performance position it as the ideal candidate for the next generation of low-loss semiconductors, simplifying design and enhancing efficiency.

SiC technology is a game-changer for high-power applications, vital for electric

On-resistance is the total measured resistance from the VIN (input voltage) to VOUT (output voltage) pins of the load switch. As load current (ILOAD) passes through the device, this resistance causes a voltage drop in the power path.

vehicles, renewable energy systems and more. Its enhanced power-handling capabilities and efficiency have broad implications across various sectors, including electronics, energy and transportation. CDIL's recent expansion of assembly lines will increase their production capacity to a remarkable 600 million units annually, meeting India's growing demand and evolving our capabilities in the global semiconductor industry.

India's SiC device manufacturing plant launch marks a pivotal moment propelling India into a new era of self-sufficiency and technological advancement.



DO YOU KNOW ?

- ♥ China leads the world in SiC device exports, with a market worth USD 374 million, followed by Norway, the Netherlands and Germany.
- ♥ India ranks fifth as a SiC device importer, spending approximately USD 53 million annually on imports.





Recent GI Tags

Pashmina Craft and Yak Churpi

DO YOU KNOW ?

- ♥ Darjeeling tea became the first GI tagged product in India, in 2004–2005.
- ♥ The top 5 states in India which holds maximum number of GI tags includes Uttar Pradesh, Tamil Nadu, Karnataka, Maharashtra, and Kerala with Tamil Nadu topping the chart with almost 58 Tags.
- ♥ As of 2023, there are over 400 Indian products with GI tags.

Added to the list of GI tags in India were Pashmina Craft from Jammu and Kashmir's Kathua district and Yak Churpi from Arunachal Pradesh.

The GI tag is a type of intellectual property right granted to a product. Its primary feature is its uniqueness, which guards against any form of third-party misuse. It is valid for a period of 10 years, following which it needs to be renewed.

Who issues it?

- ▶ At the International level, GI is governed by the World Trade Organisation's (WTO's) Agreement on **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.
- ▶ In India, the **Geographical Indication Registry** in Chennai grants the GI tag. This

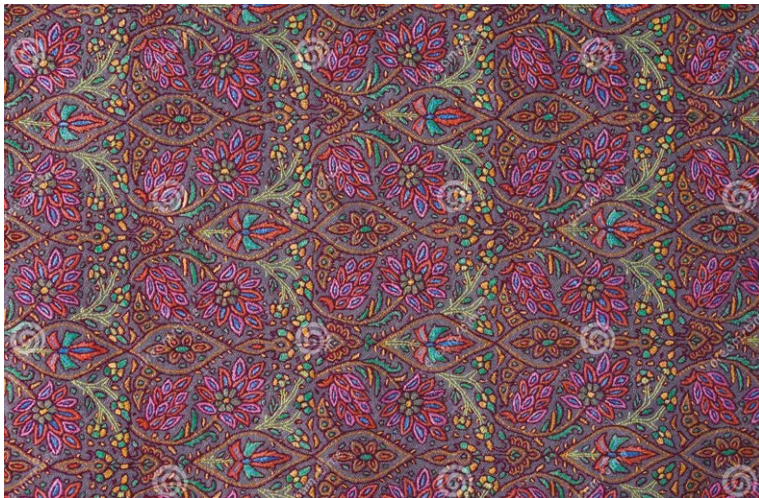
is overseen by the Controller General of Patents, Designs and Trade Marks under the Ministry of Commerce and Industry.

Yak Churpi

Yak Churpi is a naturally fermented milk product prepared from the milk of Arunachalee yak (unique yak breed found in West Kameng and Tawang districts of Arunachal Pradesh).

- ▶ An excellent source of proteins and is frequently used as a substitute for vegetables by tribal yak herders in the vegetation-starved cold and hilly mountainous regions of the state.
- ▶ Also considered an integral part of the tangible cultural and tribal heritage of Arunachal Pradesh.





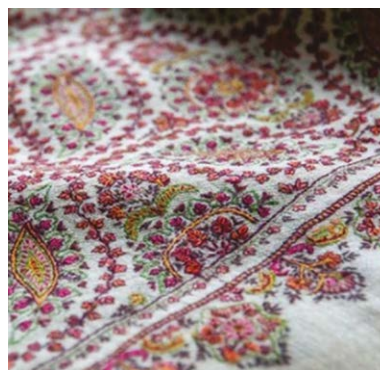
Arunachalee yak is a breed reared by tribal yak pastoralists known as **Brokpas** who migrate along with their yaks to high reaches - up to 10,000 ft altitude during summers and descend to mid-altitude mountainous regions during winters.

Pashmina Craft

Basohli Pashmina - a hand-spun product known for extreme softness, fineness and light-weight, is a more than 100-year-old traditional craft known for its exceptional craftsmanship from Jammu and Kashmir's Kathua district.

Pashmina is a fine variant of cashmere derived from the **Changthangi goat**, not by shearing it (like all other types of wool), but by combing the goat.

- ▶ These goats are found on the Changthang Plateau in Tibet and parts of Ladakh.
- ▶ The main centre for production is Srinagar where the spinning, weaving and finishing of Pashmina is all done by hand.
- ▶ Various things can be crafted from Pashmina - like shawls, mufflers, blankets and even baskets.





National Turmeric Board established



Turmeric is an inevitable ingredient of the Indian cuisine and so, over 75 % of global turmeric production is from our country.

Did you know that India holds the title for being the world's largest producer, consumer and exporter of turmeric? Banking on this spice, the Central Government has announced the formation of the National Turmeric Board. It is aimed to focus on the development and growth of turmeric products in the country.

Turmeric is an inevitable ingredient of the Indian cuisine and so, over 75 % of global turmeric production is from our country. It is majorly cultivated in Tamil Nadu, Telangana, Karnataka, Madhya Pradesh, Odisha, Bengal and Gujarat. The Board is expected to aid in setting up processing units and in the export of turmeric products.

The Board's objective is to further increase awareness and

consumption, develop new markets internationally and promote research of new products. It aims to take our traditional knowledge to a greater platform. The turmeric growers will also be given capacity and skill building assistance for harnessing greater benefits.

The Board shall have a chairperson to be appointed by the Central Government, members from the Ministry of AYUSH, departments of Pharmaceuticals, Agriculture & Farmers Welfare, Commerce & Industry of the Union Government, senior state government representatives from three states (on rotation basis), select national/state institutions involved in research, representatives of turmeric farmers and exporters, and have a secretary to be appointed by the Department of Commerce.

Smt Sarada Devi Ravutu



Sarakka Central Tribal University

The legend of Sammakka and Sarakka

Sammakka, wife of Pagididda Raju, a feudal chief of the Kakatiyas who ruled the Warangal area in the thirteenth century fought a battle against the local rulers in protest against the taxes imposed on Koya tribes. Saramma, her daughter died in the battle while Sammakka disappeared into the hills. The local tribals believed that she transformed into a vermilion casket.

In memory of the mother-daughter duo, Mulugu hosts a biennial festival called the **Sammakka Sarakka Jatra** at a place called Medaram. The festival has among the largest gatherings of tribal people globally.

One of the challenges faced by our country is regional imbalances and as a measure to remove these, the Union cabinet has approved the setting up of the Sarakka Central Tribal University in Mulugu, a reserved Scheduled Tribes (ST) assembly constituency, which has a population of around 2.6 lakhs as per the 2011 Census with a 75% ST population of Telangana at a cost of ₹ 889 crore.

Background

As per the Andhra Pradesh Reorganisation Act, 2014, both Andhra Pradesh and Telangana would get support from the Central government to establish a tribal university each. After overcoming

the problem of land allocation of 500-600 acres.

Finally, PM Modi announced that the university would be named after Sammakka-Sarakka – a mother-daughter duo revered among the local tribal community.

Objective

The university will not only improve the quality of higher education in the State but also promote instructional and research facilities in tribal art, culture and traditional knowledge system for the benefit of the tribal population in Telangana.

The decision to name the university after them is significant, as it connects the institution with local traditions and legends.





Hi Tech Sports Training Centre for Divyangjan

On 2nd October 2023, PM Modi inaugurated the country's first high-tech sports training centre for Divyangjan, named after former Prime Minister Atal Bihari Vajpayee, in Gwalior, Madhya Pradesh. Dr. Virendra Kumar, Minister for Social Justice and Empowerment, was also present on this occasion.

Dedicated to training and nurturing para sportspersons (PwDs), 'The Atal Bihari Training Centre for Disability Sports' is a state-of-the-art facility housing world-class infrastructure and coaching staff. Divyangjan from all over the country can train and practise at the Centre.

This is a pivotal step towards providing equal opportunities in sports to individuals with disabilities, fostering their talents and encouraging participation in various sporting disciplines, thus promoting sports inclusivity and accessibility for all.

Key objectives

- ▶ **Establishment of a World-Class Centre of Excellence:** Create an international-level centre of excellence for para sportspersons adhering to accessibility standards.
- ▶ **Specialized Sports Infrastructure:** The facility offers rigorous and tailor-made training.
- ▶ **Global Standards:** Committed to delivering training facilities that meet or exceed international standards.
- ▶ **Encouraging Participation:** Encourage greater



participation by Divyangjan in sports activities, enabling them to compete effectively at international events.

- ▶ **Confidence Building and Social Integration:** Boost the confidence of Divyangjan and facilitate their seamless integration into society.

HIGHLIGHTS

- ▶ A budget of ₹151.16 crores.
- ▶ Spread over 34 acres.
- ▶ Autonomous body under Ministry of Social Justice & Empowerment, Govt of India.



INDIA re-elected as AIBD GC President



The aim of AIBD is to achieve a vibrant and cohesive electronic media environment in the Asia Pacific region through policy and resource development.

STRUCTURE

Full Members	26 countries
Affiliate Members	67
Partners	50 (Asia , Pacific, Europe, Africa, Arab states & North America)

On 6th October 2023, India achieved the rare feat of being elected as the president of the **Asia-Pacific Institute for Broadcasting Development (AIBD) General Conference (GC)** for the third consecutive time.

India had already served two terms from 2018 – 2021 and 2021 – 2023. **No other country has achieved this in the last 46 years!!**

AIBD was established in **August 1977** under the auspices of the United Nations Educational, Scientific and Cultural Organisation (UNESCO). It is a unique regional inter-governmental organisation servicing countries of the **United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP)** in the field of electronic media development. It is hosted by the Government of Malaysia and the secretariat is located in Kuala Lumpur.

Vision

The aim of the institute is to achieve a vibrant and cohesive electronic media environment in the Asia Pacific region through policy and resource development.

Mission

The Institute:

- ▶ encourages regional dialogue

and cooperation in electronic media policy of the Asia Pacific region;

- ▶ provides an Asia-Pacific regional platform for international cooperation in electronic media development;
- ▶ assists member countries in human resource development in the electronic media, consistent with their development needs;
- ▶ assists member countries with electronic media consultancy.

Founding Organizations

The International Telecommunication Union (ITU), the United Nations Development Programme (UNDP), and the UNESCO are founding organizations of the institute and they are non-voting members of the General Conference.

The Asia-Pacific Broadcasting Union (ABU) is a founding organization of the institute and is a non-voting member of the General Conference.

Membership

Full membership of the AIBD is confined to sovereign states and they are invited to designate the broadcasting authority of the country to be the beneficiary.





SHRESHTA SCHEME

for

SC students

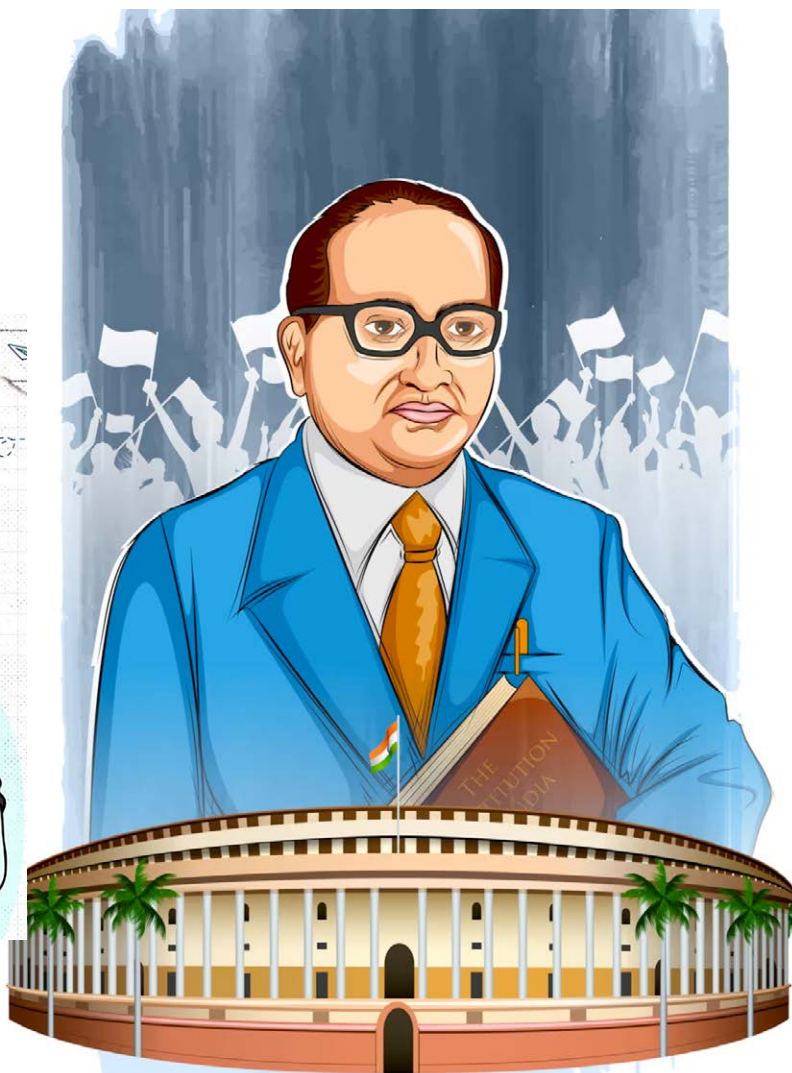


Towards enhancing education and bolstering the socio-economic advancement of Scheduled Caste (SC) students, the Ministry of Social Justice & Empowerment has unveiled the ‘Scheme for Residential Education for Students in High Schools in Targeted Areas’ (SHRESHTA). The primary objective of this initiative is to extend the influence of government development programmes and address service gaps in regions predominantly inhabited by SC communities within the education sector.

The scheme’s implementation

comprises two distinct approaches. The first category includes top CBSE/State Board-affiliated private residential schools known as SHRESHTA institutions. The second implementation approach relates to existing NGO/VO-operated schools and hostels. This approach is specifically intended for educational institutions up to the 12th grade that are managed by voluntary organizations (VOs) and non-governmental organizations (NGOs).

One of the core components of the SHRESHTA scheme is the identification and nurturing of outstanding SC students.



Students who perform exceptionally well in the NETS will gain admission to schools affiliated with CBSE/State Boards for their education from Class 9 to 12.

To accomplish this, the National Testing Agency (NTA) will conduct the National Entrance Test for SHRESHTA (NETS). This national-level examination will serve as a crucial selection tool, ensuring that only the best and brightest students are given the opportunity.

Students who perform exceptionally well in the NETS will gain admission to schools affiliated with CBSE/State Boards for their education from Class 9 to 12. These schools are carefully chosen by a dedicated selection committee. The committee evaluates the performance of these schools, ensuring they meet specific

criteria. Institutions with a pass rate exceeding 75% for classes 10 and 12 over the past three years will be among those chosen for admitting these exceptional students. This criterion emphasizes the government's commitment to providing SC students with top-quality education.

This initiative aims to address educational disparities and create equal opportunities for students belonging to the SC community. **The government is striving to create an inclusive educational landscape that empowers SC students with the tools needed to break the barriers and overcome challenges.**





Nationwide CORS Network Survey

India now has a world class Precise Location based service, which is capable of providing centimetre level positioning services in real time, said Union Minister of State Science & Technology, Dr Jitendra Singh at the launch of the National Survey Network.

The **National Survey Network (NSN)** is operated by

the Survey of India, India's oldest scientific department in charge of mapping our nation. It consists of 1000 **Continuously Operating Reference Stations (CORS)** placed across the country.

CORS is a Global Positioning System reference station that provides continuous and real-time positioning information for a specific area. It is made up of a GPS receiver that is operational 24 hours a day, collecting raw data from multiple devices.

The data can be used for high-accuracy mapping of a particular area, boosting navigational capabilities, helping with automation of aviation, agriculture, mining and construction activities by providing machines that operate in the sector with accurate geographic data.

NSN has worked on setting up this state-of-the-art mapping system to aid with multiple government initiatives such as the SVAMITVA project, the Smart Cities & AMRUT Project for urban development, National Hydrology Project to harness water resources and multiple other infrastructural and developmental projects.

The most immediate use for the data collected through the CORS network is expected to be in the aviation and meteorological industries. The study of upper and lower atmosphere, weather patterns and accurate mapping changes in wind directions are all expected to be possible through the data collected.

The **Survey of Villages Abadi and Mapping with Improved Technology in Village Areas (SVAMITVA)** scheme will also greatly benefit from the high-resolution maps that can be generated from the data obtained through CORS.

The Nationwide CORS based services are also significant because they will be made available to both the public and private sector. This has been done to remove any restrictions on the potential use of the data obtained.

The successful implementation of NSN will ensure a greater understanding of the unique landscape of our nation allowing innovators to tailor solutions specifically to Indian needs, ensuring greater innovation.





The evolving Metrorail map of India



DO YOU KNOW ?

- **MetroNeo:** Rubber-tired electric coaches powered by overhead traction system suitable for smaller cities with PHPDT (Peak Hour Peak Direction Traffic) up to 8000. Project cost - estimated to be 25% of the conventional Metro.
- **WaterMetro:** Urban Mass Transit System using inland waterways. Operational in Kochi since December 2021.

URBANISATION is an index of transformation of the economy from a traditional rural one to a modern industrial economy. It is not an effect of industrial growth but an integral part of the process of growth. The growth of urban population is thus inevitable.

The urban population in India has increased from 286 million in 2001 to 498 million in 2021. In percentage terms it means that in 2001, 27.8% of our population lived in urban areas which increased to 35.39% in 2021. The urban population is estimated to be 675 million by 2035 (43.2%). There has to be concomitant increase in urban infrastructure and civic amenities. One of the major challenges is people transport. With heavy road congestion in almost all our cities the only sane solution is to improve and enhance the Rail Transit system.

Today Rail Transport plays a vital role in intra-city transportation in the major cities of India. This

encompasses the suburban rail, mono rail, rapid transit and the tram. Let us focus on the Rapid transit system that is popularly called the Metrorail.

The evolution

The evolution of the Metrorail has been on many fronts like expansion of the network, policy framework, diversified modes of transit, technology and cost.

Expansion

The first Metro in India was the Kolkata Metro. This was recommended by a committee in 1919. The next proposal for this was made in 1949-50 by B.C.Roy the Chief Minister of West Bengal. The master plan for this was done in 1971 and the foundation stone for the project was laid in 1972.

The Metro was finally opened in 1984. While this is certainly path breaking, the timeline will put any country to shame. Subsequently there was no continuity and the real break came when PM Atal Bihari Vajpayee dedicated the Delhi Metro



DO YOU KNOW ?

- Regional Rapid Transit System (RRTS) :** A rapid transit system connecting two cities. The first is going to be between Delhi and Meerut. Operational speed -160 kmph covering the distance in less than one hour. Expected to be operational by June 2025.
- MetroLite:** A low cost Mass Rapid Transit System designed for cities with PHPDT up to 15000. Project cost - estimated to be 40% of conventional Metro.

to the nation in 2002. The 348.12 km long Metro that has a ridership of about 6 million every day is the longest and the busiest in India.

The Metro concept and culture gained traction since then. It would be unfair not to mention the name of **E.Sreedharan** who spearheaded the Delhi metro project that has become the bench mark for all subsequent metro projects in India. No wonder he had earned the sobriquet “**Metro Man of India**”. From the 3.4 km stretch in 1984, **India today has an operational metro network of 869 kms across 16 cities** and an under-construction network of 714 kms across 7 cities. The network is estimated to be 1100 kms by 2024 and 1985 kms in the next 5 to 7 years. Over 40 cities will be adopting the Metro network.

Policy

The Modi government institutionalized a Metro Rail Policy in 2017 to expedite and smoothen the process of expansion of the Metro network in the country. The policy facilitates the financial viability and financing of the projects, promoting Public –Private Partnership, mobilising capital at reasonable cost and last mile connectivity.

It has also resulted in diversified urban transit modes like RRTS, MetroLite, MetroNeo and WaterMetro.

Technology and Cost

The policy lays emphasis on standardization and indigenization that would eventually lead to cost reduction. The current cost of the construction of one kilometre of metro line is ₹ 407 crores. Initiatives like **Make in India** have resulted in up skilling of people and hence the reduction in the cost. The cost of making coaches has reduced from ₹ 12 crores to ₹ 8 crores. The coaches are now designed and manufactured in India. Coaches are also being exported. India has also attained self-sufficiency to a very large extent in Rolling stock, Signalling, Design and manufacture of platform screen doors. **NCMC-National common Mobility card**, Automatic Train Supervision system, iMetro – a forum for exchange of ideas and information and knowledge sharing and driverless train operation are also the deliverables of this policy.

Green initiatives

Various green initiatives have been taken by the Metro rail ecosystem. Energy efficient air conditioners and propulsion systems, regenerative braking, light weight coaches and use of LED lights and thrust on building solar power capacity are some of them. Stations of various metros have been awarded with Platinum rating –the highest possible rating from the Indian green building council.

India has now experienced the transformative potential of the metrorail system in enhancing urban connectivity and alleviating the congestion in our cities. It is also an efficient and eco-friendly mode of transportation.

“A developed country is not a place where the poor have cars, it is where the rich use public transport,” said President Gustavo Petro of Colombia. The India Metro story will certainly validate his hypothesis.





Smt Manju Aildasani

India - Sri Lanka ferry service launched



From India, travellers can access significant religious sites in Colombo and the southern parts of Sri Lanka.

The launch of a passenger ferry service from Tamil Nadu's Nagapattinam to Kankesanthurai near Jaffna in Sri Lanka is a truly big step for boosting people-to-people contacts said External Affairs Minister S. Jaishankar

On 14th October 2023, India and Sri Lanka launched a ferry service across the Palk Strait, nearly four decades after the link between Nagapattinam and Kankesanthurai was disrupted by the civil war in the island nation.

The initiative is also aimed at bolstering bilateral ties and boosting tourism. It is expected to benefit local traders on both shores. This can amplify religious tourism in the coastal regions of both countries. From India, travellers can access significant religious sites in Colombo and the southern parts of Sri Lanka. Indian pilgrim centres such as Nagapattinam, Nagore, Velankanni, Thirunallar, and temple towns such as Thanjavur, Madurai and Tiruchirapalli are expected to see an influx of Lankan tourists.

Launching the service, PM Modi said connectivity is not only about bringing two cities closer but “also brings our countries closer, our people closer and our hearts closer.” Union Ports, Shipping and Waterways Minister Sarbananda Sonowal and Tamil Nadu Public Works Minister EV Velu flagged off the ferry **Cheriyapani** from Nagapattinam with 50 passengers and 12 crew members.

The high-speed craft is operated by the Shipping Corporation of India and has a capacity of 150 passengers. The distance of about 60 nautical miles (110 km) will be covered in approximately four hours instead of flying to Colombo and then making a road trip of up to 10 hours.

External affairs minister S. Jaishankar who attended the inauguration in virtual mode underscored the importance of regional cooperation. The ferry service will be discontinued during the northeast monsoon and resume during fair weather in January 2024.





Indigenous **DHRUVA STRA** MISSILE approved

Rewind

- ▶ July 2020- The successful test-firing of Dhruvastra was a significant milestone for India's indigenous missile development programme.
- ▶ Developed by DRDO, the helicopter launched NAG missile (HELINA)- an anti-tank guided missile (ATGM) was flight-tested from a static launcher positioned at Integrated Test Range (ITR) under simulated conditions off the coast in Orissa. Renamed Dhruvastra after Advanced Light helicopter (ALH) DHRUV.
- ▶ February 2021- Joint User Trials for Helina (Army Version) and Dhruvastra (Air Force Version) Missile Systems was carried out from ALH platform in desert ranges.

Approval by DAC

On 15th September 2023,

the Defence Acquisition Council (DAC), chaired by Raksha Mantri, cleared nine capital acquisition proposals of various weapons systems and platforms, fighter jets and missiles, aircraft upgrades under the **Make in India** initiative for approximately ₹45,000 crores. The procurement of the Dhruvastra short-range air-to-surface missile as a potent indigenous precision-guided weapon is one among the nine proposals.

Cutting Edge Features

A third generation “**Lock on Before Launch (LOBL)**” fire and forget ATGM, it can engage targets both in direct hit mode and top attack mode. The system has all-weather day and night capability and can defeat battle tanks with conventional armour as well as with explosive reactive armour with its special penetrating warhead. It is one of the most-advanced anti-tank weapons in the world.

- ▶ Capable of engaging and destroying enemy tanks and armoured vehicles in both direct hit mode and top attack mode, the missile has a minimum range of 500 metres and a maximum range of 7 kilometres.
- ▶ Can be launched from an altitude of up to 4 kilometres and can hit targets moving at speeds of up to 70 kph.
- ▶ Effective target tracking is based on the **Imaging Infrared seeker (IIS)** which guides the missile onto the target based on its heat signature both in low light and adverse weather conditions.

Dhruvastra is a noteworthy achievement for India's self-reliance in the field of missile technology and defence equipment as it enhances the combat prowess of the Army and IAF against enemy tanks and armoured vehicles.



Super High Altitude Firing Ranges in Arunachal Pradesh



Chinese troops incursion into Yangtse (Tawang sector) in December 2022 resulted in injuries to troops on both sides.

Rewind

- ▶ India - China face-off in June 2020 in Galwan valley, Ladakh (J&K) with severe casualties on both sides.
- ▶ Chinese troops incursion into Yangtse (Tawang sector) in Dec 2022 resulted in injuries to troops on both sides.
- ▶ An integrated surveillance and firepower training exercise 'Buland Bharat' was carried out at Mandala on 23rd May while firing exercises will soon commence at Kamrala.
- ▶ The armed forces carried out an integrated surveillance and firepower training exercise to test "simulated war conditions in high altitude areas during this exercise.

In a strategic move with long term implications two super high altitude firing ranges were made available to the armed forces for the practice of various kinds of weapons and surveillance equipment in Arunachal Pradesh within an aerial distance of 50 kilometres from the highly sensitive Line of Actual Control.

Super high altitude firing ranges

Arunachal Pradesh shares a

1,129-km-long LAC with China's Tibet Autonomous Region and the notification to hand over the two ranges at Kamrala and Mandala, each located above 10,000 feet, to the Armed Forces was approved under the personal initiative of Chief Minister Khandu.

Implications

The two firing ranges will be highly advantageous for the armed forces as troops deployed in high-altitude strategic locations in Ladakh, Himachal Pradesh, Uttarakhand, Sikkim & Arunachal Pradesh can test their firepower and get acclimatised.

Besides, synergised application of surveillance and firepower capabilities of the infantry, artillery radars and weapon systems, air resources in close coordination with special forces, aviation and Central Armed Police Forces can be practised and validated.

Handling of artillery weapon systems, firing of infantry weapons and missiles, surveillance equipment requires training at high altitude and for which facilities will soon be available to troops for the first time in the northeast.



BrahMos - ER

Supersonic missiles tested

News Update

The IAF and the Army recently test fired four BrahMos-ER (extended range) supersonic surface to surface missiles on 9th October 2023 near the eastern seaboard archipelago of Andaman & Nicobar.

The missiles successfully hit their targets with precision achieving the mission objectives. These can strike both land and sea targets at maximum ranges of 400-500 kms.

What is BrahMos?

The BrahMos is a ramjet supersonic cruise missile of a short range developed by DRDO and the Russian Federation's **NPO Mashinostroyeniya (NPOM)**. It is named after two major rivers of India and Russia: Brahmaputra and Moskva.

An intergovernmental agreement signed in 1998 between India and Russia led to the formation of BrahMos Aerospace. BrahMos Aerospace is a joint venture between the DRDO and NPOM. The technology used in this joint venture is based on the Russian P-800 Oniks cruise missile and similar sea-skimming cruise missiles from Russia.

The BrahMos supersonic cruise missile was first tested on 12th June 2001 off Chandipur at sea in Odisha. It has since been upgraded many times across various platforms viz sea (including submarine), land and air.

Special Features

- ▶ Stealth Technology
- ▶ Advanced guidance system
- ▶ High Target Accuracy (irrespective of weather conditions)
- ▶ Constant supersonic speed
- ▶ Operates on 'Fire and Forget' principle
- ▶ One of the heaviest missiles, weighing up to 2.5 tonnes, it is the world's fastest anti-ship cruise missile in operation.
- ▶ Can attain a speed of MACH 2.8 to MACH 3 with likely upgrades up to MACH 5 (Hypersonic).
- ▶ With a carrying capacity of 250-300 kgs, this missile is capable of carrying both regular and nuclear warheads.

The manufacture of BrahMos missiles is soon to commence from Lucknow under the "Uttar Pradesh Defence Industrial Corridor" from March 2024.



Col Shashidhar M V (Retd)



First LCA trainer for IAF

DO YOU KNOW ?

- Launched in 1983, LCA Tejas programme was aimed to design and produce an agile, technologically advanced fighter aircraft with state-of-the-art systems by collaborating the expertise of various Indian defence organizations.
- It is the largest R&D programme ever undertaken in India.

State-run aircraft manufacturer Hindustan Aeronautics Limited (HAL) recently delivered the first trainer version of the Light Combat Aircraft (LCA) Tejas to the Indian Air Force (IAF).

It has the capabilities to support the roles of both training and fighter requirements of IAF.

The Tejas trainer aircraft is part of an earlier order for 40 Mk-1 jets, which includes both the Initial Operational Clearance (IOC) and the more advanced Final Operational Clearance (FOC) configurations. Out of these 40 aircraft, the IAF has already inducted 32 single-seater jets and established two LCA squadrons. The remaining eight aircraft are trainers.

This twin-seater LCA boasts state-of-the-art design and technology, embodying 4.5

generation aircraft capabilities with features like

- Relaxed static stability
- Advanced glass cockpit
- Quadruplex fly-by-wire flight control and use of advanced composite materials.
- Integrated digital avionics system.

Hawk is a British single-engine, jet-powered advanced trainer aircraft, earlier known as the Hawker Siddeley Hawk, and subsequently produced by its successor companies, British Aerospace and BAE Systems. It has been used in a training capacity and as a low-cost combat aircraft.



Investment in Gold



The gold monetization scheme accepts a minimum deposit of 10 grams of raw gold in the form of a bar, coin or jewellery. There is no maximum limit of investment under this scheme.

Shravan and Gita, with their grandpa were making a list of items to be purchased for Diwali. The children had volunteered to plan and organise the festivities within the allotted budget.

Gita: “Let’s go to the shopping mall.”

Mom looked up from her newspaper. “That reminds me. I need to visit the bank locker and take out some jewels. Gita, you too can wear my gold jewellery. That’ll go with any ethnic dress.”

Dad shook his head. “I don’t think it is safe to go around wearing gold. We hear so many stories about chain snatchers in this locality.”

Mom argued. “What’s the use of gold jewellery if we cannot wear them?”

Dad turned to grandpa. “How about going for gold monetisation scheme?”

The children looked up with curiosity. “Grandpa, what’s that?”

Grandpa explained.

Gold Monetisation scheme

It is a government scheme intended to mobilise the idle gold lying in households, institutions, corporates and temple trusts of the country and facilitate its use for productive purposes, and in the long run, to reduce country’s reliance on the import of gold.

Gita: “Where should we take our gold jewellery for monetisation?”

Grandpa: “Banks offer this scheme on behalf of central government. Customers can visit the designated branches, fill the application form mentioning the quantity of gold in terms of the number of grams to be deposited.”

“So can we take out the jewellery from locker and give it to the bank? Will they keep the jewellery intact? Can we take it back any time?” Mom asked.

Grandpa shook his head. “The procedure is different. First you cannot do this at all bank branches. Only a few branches in each city will be designated for this scheme. You have to visit that branch.



Secondly, after you submit the form to the bank branch, you'll be asked to visit their **Collection and Purity Testing Centre** for testing the purity and quality of your gold.

The gold that you give will be melted at the centre. You will be given a receipt for the quantity and quality of gold that you have surrendered.

In thirty days, customers will receive a **gold deposit certificate** by courier. Gold deposits are accepted by banks on behalf of the Central Government and deposit receipt and certificates are issued on behalf of the Central Government."

Benefits of gold monetization scheme of a customer

- ▶ Opportunity to earn interest on the idle gold lying in their locker/ house/ trust.
- ▶ Save on locker charges presently used for storing gold.
- ▶ On maturity, option to receive the deposit in the form of gold or cash.

Gita: "How much gold can we deposit grandpa? And when will we get it back?"

Grandpa: "Here are the details of the scheme"

- ▶ **Deposit Quantity:**
 - ▶ Minimum: At any one time shall be 10 grams of raw gold (bars, coins, jewellery excluding stones and other metals)
 - ▶ Maximum: No Limit
- ▶ Purity: 995 fineness
- ▶ **Schemes:**
 - ▶ Medium Term Government Deposit (MTGD)
 - ▶ Long Term Government Deposit (LTGD)
- ▶ **Medium Term Government Deposit (MTGD):**
 - ▶ Period of 5 - 7 years
 - ▶ ROI: 2.25% p.a.
 - ▶ Lock in Period - 3 years
- ▶ **Long Term Government Deposit (LTGD):**
 - ▶ Period of 12 - 15 years
 - ▶ ROI: 2.50% p.a.
 - ▶ Lock in Period: 5 years

"Is there no short-term deposit option?"

Short term deposit scheme of 1 to 3 years can be offered by banks. The interest rate can also be decided by banks. However, many banks don't offer this.

"Do we get interest on the gold deposited?"

"Yes. The interest is paid in INR. It is calculated on the value of gold on the date of deposit.

At the time of maturity, the depositor has the option for repayment as gold coins or bars. If you opt for INR, you will receive money equivalent to the value of deposited gold on the date of redemption."

Shravan exclaimed, "If the price of gold has increased in 12 years, then we'll be able to get a good return and make a profit."

Grandpa nodded. "Yes. So, you get the benefit of appreciation in value of gold, without having to store the gold in your locker."

Mom shook her head. "I don't want my jewels to be melted."

Dad said, "Then don't buy any new gold jewellery for Diwali."

Gita asked grandpa. "What are the other schemes to invest in gold without storing physical gold?"

Grandpa replied, "There are two other options. **Sovereign gold bonds (SGB)** and gold exchange traded funds. Let's discuss sovereign gold bonds now."

Sovereign Gold Bonds

SGBs are government securities denominated in grams of gold. They are substitutes for holding physical gold. Investors have to pay the issue price in cash and the bonds will be redeemed in cash on maturity. The Bond is issued by Reserve Bank of India on behalf of GOI.

The children had lots of questions. Grandpa showed them the details on the RBI website.

"Where can we buy these bonds?"

RBI has authorised banks, post offices and institutions like Stock Holding Corporation of India to offer the bonds to customers.



We can also buy the bonds online from the website of the authorised banks.

“How much can we invest in these bonds?”

The minimum investment value is one gram of gold.

The maximum investment in a year is 4 kg of gold for individuals, 4 kg for Hindu Undivided family and 20 kg for Trusts.

“Can we surrender our gold to get these bonds?”

No. You have to pay Indian rupees to buy these bonds.

What will be the price of 1 gm of gold bond?

The bonds are usually offered for a particular period – the opening date and closing date of the issue are published. The issue price for one gram of gold is fixed based on the average closing price of 1 gm of gold of 999 purity for the three preceding business days.

If an investor pays online for the bond, he will get a discount of fifty rupees per gram of gold.

What is the period of the deposit?

The bond is issued for a period of 8 years.

What is the rate of interest and how will the interest be paid?

The bonds bear interest at the rate of 2.50 % (fixed rate) per annum on the amount of initial investment.



Interest will be credited semi-annually to the bank account of the investor and the last interest will be payable on maturity along with the principal.

How will we get the money back on maturity?

The interest for the last half year and the value of gold in INR will be credited to the customer’s bank account on the maturity date.

The value of gold will be calculated based on the average of the closing price of gold for the preceding three days.

What is the benefit for the customer who invests in sovereign gold bonds?

- ▶ Instead of physical gold which requires safe keeping, the bonds offer opportunity to invest in gold without worrying about safety.
- ▶ Customers can get the benefit of appreciation in value of

gold. On maturity customers will get the market value of gold on the date of redemption.

- ▶ Customers also get 2.5% per annum interest on the gold deposited.
- ▶ The gold bonds can be traded on the stock exchange.
- ▶ Capital gains received on the redemption of bonds is exempt from tax.

Both the schemes offer the advantage of enjoying the appreciation in gold price without having to worry about the safety of the physical gold. In addition, both the schemes offer interest on the investment.

Grandpa: “Have you understood the difference between the two schemes of investment in gold?”

Shravan and Gita tabulated their points.

Scheme particulars	Gold monetization scheme	Sovereign gold bonds
Method of investment	Surrender gold at the designated bank’s purity testing centre. Gold certificate is issued for the value of gold deposited.	Pay cash {upto ₹ 20,000} or pay by cheque or online. The bonds can be held in demat form online.
Minimum investment	10 gm of raw gold	1 gm of gold
Maximum investment	No limit	4 kg per annum for individual investors
Interest rate	2.25 % for medium term 2.5 % for long term	2.5 %
Redemption	Can be redeemed as gold or INR value of gold on the date of redemption.	INR value of gold on the date of redemption {average of closing price of gold for preceding three business days}.



Judicial perspective on Amendments to the Constitution - IV



Facts of the case

This case was in relation to the land reforms introduced in Kerala in the 1950s and 1960s, which were aimed at redistributing land from large landowners to landless and poor people. The Kerala Land Reforms Act, 1963 and the Land Reforms Amendment Act, 1969 were passed, which placed a limit on the amount of land a person could hold. Further, excess land from landowners could be acquired and distributed to landless persons.

In 1970, the Kerala Government imposed restrictions on the ownership of land held by religious institutions. Sri Kesavananda Bharati, the Head of the Edneer Mutt in Kerala, challenged the constitutionality of this Act before the Kerala High Court. In the meantime, the Parliament of India passed the Constitution (Twenty-Fourth Amendment) Act, 1971, which sought to exclude constitutional amendments from the ambit of Article 13 and limit the scope of judicial review. Further, the Constitution (Twenty-Fifth Amendment) Act, 1971 granted wider powers to the government in relation to acquisition of land from land owners, and the Constitution (Twenty-Ninth Amendment) Act, 1972 inserted the Kerala Land

Reforms Act into the Ninth Schedule of the Constitution, which meant that it could not be challenged in a court.

Sri Kesavananda Bharati filed a petition challenging the validity of these amendments.

Legal issues

1. Constitutional validity of the Kerala Land Reforms Act and the constitutional amendments.
2. Extent and limits of the Parliament's power to amend the Constitution.

Contentions of the parties

The petitioner contended that the Kerala Land Reforms Act violated his fundamental right to property and that the Parliament's power to amend the Constitution was not unlimited. The petitioner submitted that certain fundamental features of the Constitution were beyond the scope of amendment.

The State of Kerala, which was the respondent, contended that the Act was a reasonable restriction on the right to property and was aimed at promoting social justice and reducing poverty. There were also certain intervenors in this case, who submitted contentions supporting the petitioner's view or the respondent's view.

Decision of the supreme court

This judgment in the case which saw the longest constitutional hearing and the largest constitutional bench in India, laid down several principles that have become the bedrock of constitutional law in India. These include the principles of the rule of law, separation of powers, and the independence of the judiciary.

The Court, by a 7:6 majority, held that the Constitution has a basic structure that cannot be altered even by a constitutional amendment. The court held that the Parliament's amending power under Article 368 is not unlimited and that the basic structure of the Constitution, including aspects such as democracy, federalism and the rule of law, cannot be taken away by way of constitutional amendments.

This doctrine has created a check on the power of the Parliament to amend the Constitution and has ensured that the Constitution remains dynamic over time, while preserving its fundamental principles. The Kesavananda Bharati case has therefore played a profound role in the constitutional landscape of India, making it one of the most significant in Indian constitutional law.





Asima Chatterjee

(23.09.1917 – 22.11.2006)

The first woman Shanti Swarup Bhatnagar awardee

In 1961, Asima Chatterjee received the Shanti Swarup Bhatnagar Award in chemical science, becoming the first female recipient of this award.

When you want to take an untrodden path, be ready to face criticism. Because many of those nay-sayers did not dare to try that. A few of them may even be our family members, forgive them because they are your well-wishers who are engulfed by fear. Remember your problems will be unusual because your choice is unusual. Be courageous, prepare yourself for those challenges and focus on your path”, was the message that Kamala Devi passed on to her young daughter Asima.

Asima had completed matriculation exam securing Bengal Government scholarship and ISC Examination from Bethune College and was planning to pursue bachelor's degree. At that time nobody was clear on what one can do with a chemistry degree, but one thing her parents could understand was the importance of modern education evolving then and their daughter's interest in higher education.

With their encouragement, Asima Mukerjee joined as the only

woman student out of three admitted in the Chemistry department of Scottish Church College, Calcutta, obtained Bengal Government Scholarship, Nawab Latiff and Father LaFont Scholarships of the University of Calcutta, Hemprova Bose Memorial Medal and graduated with honours in chemistry in 1936 with Basanti Das Gold Medal.

Her father Indiranarayan Mukherjee, a doctor by profession and mother Kamala encouraged both their children in their scholastic pursuits. Asima probably imbibed interest in medicinal plants from her father, which led her to be a pioneer in the natural products chemistry and medicinal chemistry of our country.

Her younger brother Sarashi Ranjan Mookerjee, later became a renowned surgeon. They both were also successful collaborators on their research on medicinal plants of India. Both later became the recipients of Shanti Swarup Bhatnagar award, probably the only siblings who got this most

prestigious award of our country for scientific research.

During her post-graduate studies, she was inspired by the doyens of Indian Science like Acharya Prafulla Chandra Ray (father of Indian chemistry), Prafulla Chandra Mitter (the first Sir Kashbehari Ghosh Professor of Chemistry), Pulin Behari Sarkar (who set up book banks in Ramakrishna Mission institutions), Jagendra Chandra Bardhan (the first Sir PC Ray Fellow) and Dr. Prafulla Kumar Bose. Here, her interest in understanding the chemistry of natural products from Indian medicinal plants grew immensely.

She obtained her M.Sc degree in 1938 with organic chemistry as a special paper and received the University of Calcutta silver medal and Jogrnaya Devi Gold Medal. Soon Asima started her research work under the guidance of Dr. Prafulla Kumar Bose, one of the pioneer natural product chemists of our land. To help her sustain research, Acharya P.C. Ray created a fellowship for her (amounting to ₹ 75 then) out of his salary which he used to donate to the University of Calcutta every month. Mukherjee received the Nagarjuna Prize and gold medal of the University of Calcutta (1940) for the best piece of research work carried out in the Department of Chemistry. Soon she joined Lady Brabourne College as the founder head of the Chemistry Department. She continued her research, despite the difficult situation that World war created especially for scientists. In 1944, University of Calcutta awarded her D.Sc. degree on the merit of her research contributions on naturally occurring indole alkaloids and coumarins.

She is the first woman to obtain D.Sc. degree from our country's University and soon was appointed as an honorary lecturer. In 1945, Asima married Dr. Baradananda Chatterjee, a well-known physical chemist who was an authority on soil science and corrosion.

His constant inspiration, encouragement and co-operation helped her to dedicate herself to the cause of science. Especially when Asima was awarded the coveted Watumull fellowship to do her research in the USA, the support and belief he showed about her work is exemplary. This helped her to pursue research in foreign land, taking her eleven-month-old daughter along with her. Ramakrishna-Vivekananda Centres in the USA gave her the necessary support system to raise her child while pursuing research there.

She worked with Prof. LM Parks, University of Wisconsin on naturally occurring glycosides during 1947-1948, later with Prof. L. Zechmeister, California Institute of Technology on carotenoids and provitamin A. Dr. Chatterjee worked with Prof. P. Karrer, at University of Zurich during 1949-1950 on biologically active indole alkaloids, which became her life-long interest.

After her return to India in 1950, Dr. Asima continued her research on alkaloids and coumarins in Indian medicinal plants. She had rejoined her service at Lady Brabourne College and Honorary Lecturer at University of Calcutta. In those days scholarships were rare and financial assistance most inadequate. Those were indeed hard days for any teacher and frustrating for students who pursued

research. She kept up the morale of her students through her own dedication. She gained reputation as a teacher of rare distinction and a unique research guide. **She was the first woman scientist to adorn a chair of any University in India by becoming the Khaira Professor of Chemistry in 1962.**

She became the Head of the Department of Chemistry, University of Calcutta in 1969. Under her dynamic leadership and foresight, the department earned an international reputation as a leading centre for teaching and research in Chemistry. In her entire career spanning six decades, she supervised 59 Ph.D. and 3 D.Sc. students and published 328 research papers and a number of review articles.

The use of medicinal plants and herbs to treat diseases under Ayurvedic system is prevalent in India. Her research activity was to identify the 'active principles' in the herbs that are responsible for the molecule's biological activities. In those days when sophisticated instrumentation facilities were sparse, isolation and purification of such active components from herbs was an onerous task because they are present in minute amounts.

It required sound chemical knowledge combined with extraordinary experimentation skills. Her pioneering work on the alkaloids of *Rauwolfia*, *Vinca*, *Alstonia*, *Rhazya* and *Kopsia* made an immense impact on the research that followed in the field of indole alkaloids both in India and abroad. Along with her scores of research students and research associates, she made significant contributions in diverse classes of natural products, on structural and mechanistic organic chemistry.



Her studies have opened up a new chapter in indole chemistry.

Besides her keen interest in fundamental research, Prof. Chatterjee always stressed on the application of phytochemicals from indigenous plants as drugs and drug-intermediates. She investigated the chemical and pharmacological properties of betel leaves, brahmi herb used in folk medicine for memory enhancement and cognitive improvement.

She successfully developed the anti-epileptic drug from *Marsilia minuta* (a water fern). It is now being used as a highly successful rehabilitation drug in combination with *Nardostachys jatamansi* under the code-name Ayush 56. The anti-malarial drug, Ayush 64, which is a combination of different parts of four herbs, *Alstonia scholaris*, *Swrtria chirata*, *Picrorhiza kurroa* and *Ceasalpinna crista* is yet another successful drug. Know-how for the manufacture of both these drugs has been handed over to the National Development Council, Government of India.

She was passionately devoted to the ideals of Shri Ramakrishna and Holy Mother Sarada and had ardent faith in the philosophy of Swami Vivekananda. It was possibly this selfless devotion which convinced her to not accept any royalties for the development of drugs, and books written or for accepting fees from BPCL, Kolkata for the still "well-known legal battle" of 1968 in the Calcutta High Court. She toiled to establish the Regional Research Institute for carrying out research on Indian medicinal plants for the development of Ayurvedic drugs for systematic clinical trials.

On the request of Prof.S.N.Bose, she wrote *Saral Madhyamic Rasayan*, a book on



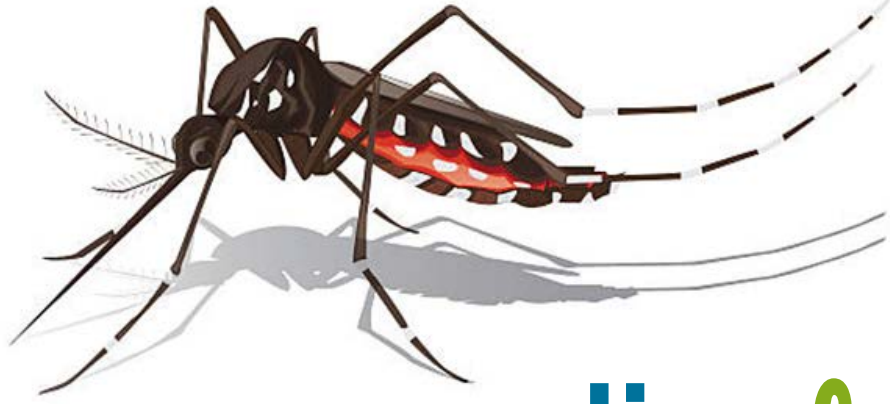
chemistry for secondary school students in Bengali. She edited *Bharater Bonousadhi*, a treatise in Bengali on Indian medicinal plants in six volumes. She authored and edited six volumes of The Treatise on Indian Medicinal Plants published by CSIR. Our government honoured her with **Padma Bhushan** in 1975. Though awards came recognising her untiring work, a true *karma yogi* as she was and she believed in carrying out her duties and her responsibilities without aspiring for the results and rewards.

Prof. Asima was steeped in Indian culture. She received training in classical music *Dhrupad* and *Khayal* and continued her interest in music.

She was well-versed in Sanskrit which enabled her to understand the original texts on Ayurveda for her research. Her students reverentially called her 'Master' and her younger contemporaries affectionately addressed her as 'Didi' and many others called her 'Ma'.

She was elected Fellow of the Indian National Science Academy and the Indian Academy of Sciences. She was a nominated member of the Upper House of Parliament (Rajya Sabha) and served as General President of the Indian Science Congress. She had made herself adorable to all her students and acquaintances. "I wish to work as long as I live" was her philosophy ; a work culture that she followed in letter and spirit!





Home remedies for Dengue



There is no specific medicine to treat dengue infection. Treatment is symptomatic. One should also consult the doctor, get lots of rest and drink a lot of water.

Dengue (Pronounced as DENG-gey) fever is a mosquito-borne illness occurring in tropical and subtropical areas of the world.

Symptoms

- ▶ Sudden, high fever
- ▶ Severe headaches
- ▶ Pain behind the eyes
- ▶ Severe joint and muscle pain
- ▶ Fatigue
- ▶ Nausea
- ▶ Vomiting
- ▶ Skin rash, which appears two to five days after the onset of fever

At times, minor symptoms may be misdiagnosed as the flu or another viral infection. Compared to older children and adults, younger children and those who have never had the virus previously

typically have milder cases. Rare complications include dengue hemorrhagic fever with symptoms like high temperature, bleeding from the mouth and nostrils, enlargement of the liver and circulatory system failure. If the symptoms worsen, there might be severe bleeding, shock and even death termed as **Dengue shock syndrome (DSS)**. Persons who have already contracted dengue or who have had a second or subsequent illness are more susceptible to dengue hemorrhagic fever.

Treatment

There is no specific medicine to treat dengue infection. Treatment is symptomatic. One should also consult the doctor, get lots of rest and drink a lot of water. If one starts feeling worse in the first 24 hours after fever goes down, they should get to a hospital immediately to be checked for complications.



Symptoms of Dengue Fever



Natural mosquito repellants

1. Garlic Water

Crush a few cloves of garlic and boil them in water. Spray the solution around your room.

2. Lemongrass

Use lemongrass oil or crush the leaves and apply the oily mixture directly to the skin.

3. Lemon and cloves

Take a lemon slice, insert some cloves in it and place it in a room.

4. Camphor

Burn some camphor in the room and close all doors and windows and leave it burning for about 20 minutes.

5. Coconut oil and neem oil

A combination of coconut oil and neem oil works as a natural repellent. You just need to mix coconut oil and neem oil together well with water and spray it on your skin.

raising the platelet count. Two short stems of giloy plant can be boiled in a glass of water. Drink this water while it is still warm.

2. Papaya leaf juice

Papaya leaf juice is an excellent treatment to raise platelet count. For optimal effects, one can drink a tiny amount of papaya leaf juice twice a day.

3. Fenugreek seeds

Soak fenugreek seeds in a cup of hot water. Allow the water to cool down and drink it twice a day.

4. Tulsi -ginger decoction

Take 3-4 tulsi leaves. Wash it and then boil it in a saucepan by adding a glass of water. Once it boils, add a little piece of ginger. Drink this juice a number of times through the recovery period to regain energy.

5. Turmeric-black pepper milk

It being an antiseptic and a metabolism booster, many doctors also recommend the consumption of turmeric and a pinch of powdered black pepper with milk. This helps in faster recovery.

6. Tender coconut water

Drinking tender coconut water at least twice a day during dengue can replenish the body's water, help the body cool down, detoxify and stop bleeding.

Prevention

The best way to prevent the disease is to prevent bites by infected mosquitoes. This involves protecting oneself and making efforts to keep the mosquito population down.

Home remedies for dengue

1. Giloy juice

One well-known treatment for dengue fever is giloy juice. Giloy juice increases immunity and speeds your metabolism. It relieves the patient's symptoms and aids in



Logic and Reasoning

1. Look at this series: 12, 11, 13, 12, 14, 13, ...
What number should come next?

10	16	13	15
----	----	----	----

2. Which word does not belong with the others?

WING	FIN	BEAK	RUDDER
------	-----	------	--------

3. Melt : Liquid : Freeze :

ICE	SOLID	CONDENSE	PUSH
-----	-------	----------	------

4. A river flows west to east and on the way turns left and goes in a semi-circle round a hillock, and then turns left at right angles. In which direction is the river finally flowing?

WEST	EAST	NORTH	SOUTH
------	------	-------	-------

5. A man fell in a 50m deep pit. He climbs 4 metres up and slips 3 metres down in one hour. How many hours would it take for him to come out of the pit?

47	50	24	20
----	----	----	----



Story Puzzle 1 :

There are 4 persons (A, B, C and D) who want to cross a bridge in the night.

- ◆ A takes 1 minute to cross the bridge.
- ◆ B takes 2 minutes to cross the bridge.
- ◆ C takes 5 minutes to cross the bridge.
- ◆ D takes 8 minutes to cross the bridge.

There is only one torch with them and the bridge cannot be crossed without the torch. There cannot be more than two persons on the bridge at any time, and when two people cross the bridge together, they must move at the slower person's pace. How can they cross the bridge in the shortest duration?



Story Puzzle 2:

A lady bought an item of ₹100 from the Shopkeeper (A). She paid him through a ₹500 note. Realizing that he did not have change, the shopkeeper (C) got change for that note from another shopkeeper (B) and paid ₹ 400 to the lady.

After a few days, shopkeeper (B) realized that the note is fake, and he railed at the shopkeeper (A) and took ₹500 note back from him. In this whole process how much money did (A) lose in the end?

ANSWERS ON PAGE 61





PARAM VEER VANDANA

an introduction

Param Veer Chakra is a prestigious Indian military award given to a person who has shown extraordinary bravery, self-sacrifice or valour in the face of the enemy, on land, sea or air.

About the award

If a recipient of the Chakra performs an act of bravery that would have warranted a Bar to be attached to the ribbon and by which the Chakra is suspended, then an additional Bar will be awarded for every such act. These Bars may also be awarded posthumously.

A replica of the '*Indra's Vajra*' will be added to the ribbon for every Bar awarded. The design of the award has been carefully made. The thunderbolt or Vajra, is the motif for the Param Veer Chakra, and it was chosen for its mythological significance.

It is said that the great Indra used it as the *Amogha Astra* (unfailing weapon) to kill *Vitra*, the demon of drought and to release life-giving waters for the benefit of humankind. The Puranic literature says that this Vajra was made out of the *Asthis* (bones) of *Dadhici*, a sage of high attainments, for the benefit of the world.

Who would be awarded?

Officers, men and women of all Army, Navy and Air Force ranks, as well as any of the Reserve Forces, Territorial Army Militia and any other lawfully constituted Armed Forces.

Matrons, sisters, nurses and the staff of the Nursing Services and other Services pertaining to hospitals and nursing, and civilians serving regularly or temporarily under the orders, directions or supervision of any of the above-mentioned Forces.

An honorarium of Rs. 10,000/- per month is given to all recipients. So far, the award has been given to many brave individuals posthumously, who had laid down their lives for the cause of the motherland, Bharat. They were mostly young and middle-aged men, belonging to all communities and religions.

The list of the Param Veer Awardees is as under:

1. Major Somnath Sharma (Posthumous) (1947)
2. Naik Jadunath Singh (Posthumous) (1948)
3. Second Lt. Rama Raghoba Rane (1948)
4. CHM Piru Singh (Posthumous) (1948)
5. L/Naik Karam Singh (1948)





- | | | |
|-----------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------|
| 6. Capt Gurbachan Singh Salaria (Posthumous) (1961) | 11. Lt Col AB Tarapore (posthumous) (1965) | 17. Major R Parameswaran (Posthumous) (1987) |
| 7. Major Dhan Singh Thapa (1962) | 12. Naik Albert Ekka (posthumous) (1971) | 18. Lt Manoj Kumar Pandey (Posthumous) (1999) |
| 8. Subedar Joginder Singh (Posthumous) (1962) | 13. Nirmal Jit Singh Sekhon (1971) | 19. Grenadier Yogender Singh Yadav (1999) |
| 9. Major Shaitan Singh (Posthumous) (1962) | 14. 2 nd Lt Arun Khetrapal (Posthumous) (1971) | 20. Rifleman Sanjeev Kumar (1999) |
| 10. CQMH Abdul Hameed (Posthumous) (1965) | 15. Major Hoshiar Singh (1971) | 21. Capt Vikram Batra (Posthumous) (1999) |
| | 16. Bana Singh (1987) | |

ANSWERS

OF PAGE 59

15. This is an alternating number of subtraction series. First, 1 is subtracted, then 2 is added.
- Beak. Rest are parts of an aeroplane.
- Solid
- 47 hours. In the first hour, he climbs 4m up and slips 3m down, therefore he only climbs 1m up totally. In the second hour, again he climbs 1m up, so the total distance climbed is 2m till the second hour. Therefore, the man climbs 1m every hour. As per the pattern, in the 46th hour, he must have climbed 46m. So, in the 47th

hour, he climbs full (46 + 4) 50m and after that, he will not slip as he is already out of the pit. Hence the answer is 47 hours.

5. East

Story Puzzle 1: Quickest solution

- ◆ A and B cross the bridge first. It will take them 2 minutes, as A is the faster one.
- ◆ A goes back with the torch (it will take him 1 minute).
- ◆ C and D cross the bridge together. As D is the slowest, it will take them 8 minutes.
- ◆ B goes back with the torch (it will take him 2 minutes).

◆ A and B cross the bridge again, and it will take them 2 minutes (as B is the faster one).

◆ In total, they will spend 2 + 1 + 8 + 2 + 2 = 15 minutes to cross the bridge.

Story Puzzle 2 : ₹ 500

The lady came with a counterfeit ₹ 500 note which has no value. The lady took the item worth ₹ 100 and received the change ₹ 400 from shopkeeper (A). Thus shopkeeper(A) lost ₹500. Another shopkeeper(B) gave ₹500 to shopkeeper (A) and took back the same amount, hence no loss for him.





MS SWAMINATHAN

a tribute

The Green Revolution spearheaded by him significantly boosted food grain production, especially wheat and rice, in developing nations by introducing new, high-yielding variety seeds.

Mankombu Sambasivan Swaminathan, who passed away on 28th September 2023, was a prominent figure in India's agricultural sector. Dr. Swaminathan was born in Kumbakonam, Tamilnadu in 1925. Throughout his distinguished career, Swaminathan held various key roles across different departments.

Eminent positions held by MSS

- ▶ Director of the Indian Agricultural Research Institute (1961-72)
- ▶ Director General of ICAR and Secretary to the Government of India Department of Agricultural Research and Education (1972-79)
- ▶ Principal Secretary, Ministry of Agriculture (1979-80)

- ▶ Acting Deputy Chairman and later Member (Science and Agriculture), Planning Commission (1980-82)
- ▶ Director General, International Rice Research Institute, the Philippines (1982-88)

In 2004, he became the chairman of the National Commission for Farmers, established to address the issues of the farmers. He established the **MS Swaminathan Research Foundation (MSSRF)** in Taramani, Chennai.

The Green Revolution spearheaded by him significantly boosted food grain production, especially wheat and rice, in developing nations by introducing new, high-yielding variety seeds. Dr Swaminathan also enhanced crop productivity by transferring



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Developing countries can leapfrog several stages in the development process through the application of biotechnology in agriculture"

On the 1999 'Time 20' list of most influential Asian people of the 20th century

Wants to promote a culture of sustainability, which would result in an "evergreen revolution"

Renowned scientist **M S Swaminathan** was born on August 7, 1925

FATHER OF THE GREEN REVOLUTION

NOTABLE AWARDS

- Ramon Magsaysay (1971)
- Albert Einstein World Award of Science (1986)
- Padma Vibhushan (1989)
- World Food Prize (1987)



Has **published 254 scientific papers** in the fields of crop improvement, cytogenetics and genetics, and phylogenetics



genes for fertilizer response and collaborating with Norman Borlaug (American Agronomist) to develop high-yielding dwarf wheat varieties suited for Indian conditions. He also raised awareness about the significance of sustainable agriculture, genetics and initiated programmes like "lab to land," promoting the practical application of research in agricultural practices.

Dr Swaminathan advocated fair minimum support prices of crops, supporting the agricultural community and emphasising nutrition, biofortification, increased funding for agriculture, precision

farming and the active participation of women in agriculture. He also led the **International Rice Research Institute (IRRI)** with visionary leadership, contributing to advancements in rice cultivation, including innovations in C4 carbon fixation and the development of high-yielding Basmati rice varieties.

MSS played a central role in India's Green Revolution, which made the country self-sufficient in food production and a major player in global agriculture. His vision and leadership were instrumental in the widespread adoption of Mexican wheat varieties by smallholder

farmers. The success of the Green Revolution wasn't limited to wheat alone; scientists like G.S. Khush and V. Rama Chandra Rao also developed rice varieties such as IR36, IR64, Swarna, and Samba Mahsuri. This is a story of how one man's leadership transformed the agricultural landscape of a country and made a lasting impact on the world.

Accolades

- ▶▶ First World Food Prize in 1987
- ▶▶ Padma Shri, Padma Bhushan, Padma Vibhushan
- ▶▶ HK Firodia Award
- ▶▶ Lal Bahadur Shastri National Award
- ▶▶ The Indira Gandhi Prize
- ▶▶ Ramon Magsaysay Award (1971)
- ▶▶ Albert Einstein World Science Award (1986).



If agriculture fails, everything else will fail!

- M S Swaminathan
Father of India's Green Revolution



Risingbor Kurkalang

A journey of craftsmanship and cultural preservation



Hailing from Laitkyrhong, Meghalaya, Risingbor Kurkalang, born in 1978, rose to prominence as a master craftsman and folk musician. His path, which began in a farming family, ultimately led to the esteemed Padma Shri award. Guided by his grandfather, he mastered the art of creating traditional musical instruments, thus contributing to the preservation of Meghalaya's rich heritage.

In 2001, Risingbor embarked on a pioneering venture, commencing commercial production of these traditional instruments. He achieved the distinction of being the first person in his village to do so, thus making a significant contribution to the preservation and sharing of the Khasi cultural heritage.

In 1990, Risingbor's pivotal moment arrived when local traditional musicians invited him to record at All India Radio and Doordarshan Kendra. This experience catalyzed his dual career as a musician and instrument maker. He tirelessly preserved Khasi folk traditions and showcased his musical talent and handcrafted instruments across India.

Participation in exhibitions and workshops, including the Government of Meghalaya's traditional music and instrument-making workshop, further honed his skills. He was featured at the

prestigious Vadya Darshan event organized by the Sangeet Natak Akademi in 2002 and participated in the 2nd Thoh Shun International Art Camp in 2006 in Cherrapunjee.

In 2010, Risingbor took part in the International Festival on Inter-Cultural Dialogue between North East India & South East Asia, expanding his influence. A crowning achievement was his composition and performance of the song 'Mei Mariang,' featured in the album 'Sai-thainki Sur' by the Khasi-Cymru collective, released in 2021 on Naxos World.

Risingbor's reputation transcended borders when he received an invitation from Welsh musician Gareth Bonello to perform at the Rajasthan International Folk Festival (RIFF) in Jodhpur in 2022, a testament to the universal appeal of his music.

His dedication did not go unnoticed. In 2008, he was recognized with a Certificate of Appreciation for his active participation in the Meghalaya government's workshop on traditional musical instrument-making. The pinnacle of recognition arrived in 2021 when he was honoured with INTACH's Martand Singh Memorial Award, a cash prize of ₹ 1 lakh in the Handicraft Category, presented by the Indian National Trust for Art and Cultural Heritage (INTACH) in New Delhi.



"promoting Khasi folk music by crafting & playing Duitara"



MIRJAN FORT

The next time you find yourself in Gokarna in Karnataka, wanting to immerse yourself in a different historical experience, visiting the Mirjan Fort is an unmissable recommendation. Just a short drive from Gokarna or the town of Kumta, this place is steeped in marvels of architecture and history.

Mirjan Fort sits on the banks of the river Aghnashini in Northern Karnataka. The fort boasts of wide bastions, high ceilings, canals, secret passages and much more. Truly an architect's dream and also practical, it has been built using laterite, which was supposed to have been the most abundant locally available construction material, back in the days when it was built in the 16th century.

The high towers and balconies offer excellent points to enjoy the lush scenery around the fort. The fort used to have four entrances, out of which only one is functional now. There are also many moats for defence and wells to sustain the population inside and around the fort.

The story of the origins of the fort is truly marvellous and inspiring – starting with one brave and clever queen. The personality in question is Rani Chenna Bhairadevi, of the Saluva Dynasty who ruled Uttara Kannada in the 16th century for over 50 years. She was a sharp-witted and able ruler. The commercial sector of her kingdom flourished, and so did the cultural, art and religious aspects.

Her forte was the spice business, for which she earned the name “*Raina-da-Pimenta*” or “Pepper Queen” by the Portuguese.

The fort was strategic not only for military purposes but also served as a refuge for artisans and refugees. The fort, owing to its wells and settlement like construction, functioned as an ideal place to house these refugees, and helped during attacks from enemy lines as well.

The reign of Rani Chenna Bhairadevi ended due to deceit from her neighbouring chieftains, and she died a military prisoner. **But stories of her prosperous empire, shrewdness and bravery are still alive, thanks to this fort in Karnataka, which tells history to those of us unaware of such a persona.**



Sabita Mahato

Scaling the pinnacle

In the heart of Ladakh's challenging terrain, Sabita Mahato, a native of Bihar, has etched her name in the annals of adventure sports. Sabita, a seasoned mountaineer and cyclist, achieved an incredible feat by conquering **Umling La Pass**, the world's highest motorable road, perched at an astonishing 19,300 feet above sea level.

Umling La Pass, nestled in Ladakh's breathtaking landscapes, has always been a magnet for adventurers. Sabita Mahato's remarkable journey stands as a testament to her unwavering determination, making her an inspiration for thrill-seekers and mountaineers worldwide.

Sabita Mahato's pursuit of Umling La Pass was a result of years of dedication and training. Her passion for adventure and the mountains began at a young age, and over time, she honed her skills as a mountaineer and cyclist. Her physical and mental strength, combined with her love for the outdoors, made her the perfect candidate for this formidable challenge.

The expedition was arduous, with extreme weather conditions and unforgiving terrain. Sabita encountered freezing temperatures, strong winds and low oxygen levels during her ascent. She displayed remarkable resilience



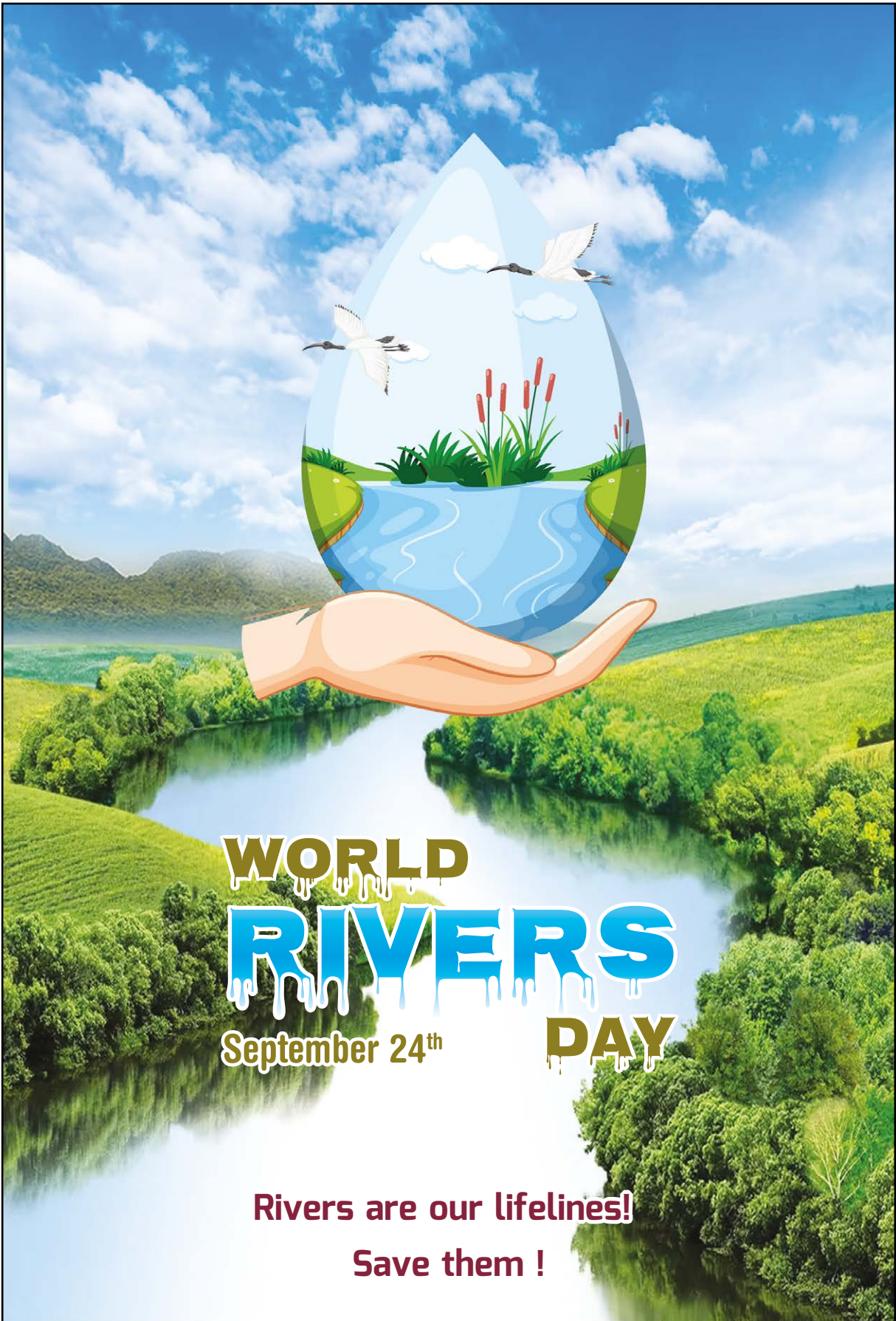
and determination, pushing herself pedal by pedal towards her goal.

Sabita's accomplishment is not just a personal victory; it is a symbol of adventurous spirit and the boundless potential of individuals to overcome adversity. Her journey is an inspiration, especially to women, proving that with dedication and determination, no peak is insurmountable.

Sabita Mahato's triumph in conquering Umling La Pass is a source of pride for her home state, Bihar. Her achievement is a testament to the courage and determination that can drive

individuals to accomplish the extraordinary. Her story serves as a reminder that in adventure sports, no goal is too audacious and no obstacle is intractable. Her legacy as a mountaineer and cyclist continues to inspire others to push their limits and reach for their dreams, just as she did when conquering the highest motorable road in the world.

As Sabita returns from her extraordinary journey, she leaves behind a message that resonates far beyond the mountains of Ladakh: **with unwavering focus and grit, any challenge can be overcome and any dream can become a reality.**



WORLD
RIVERS
September 24th **DAY**

Rivers are our lifelines!
Save them !

International Day of **Rural Women**

October 15th

The day was established to acknowledge the vital contributions of rural women to their communities and the global economy and celebrate the critical role that they play in agriculture, food production and rural development.

