

PRAJYA

MONTHLY NEWS MAGAZINE FOR CHILDREN

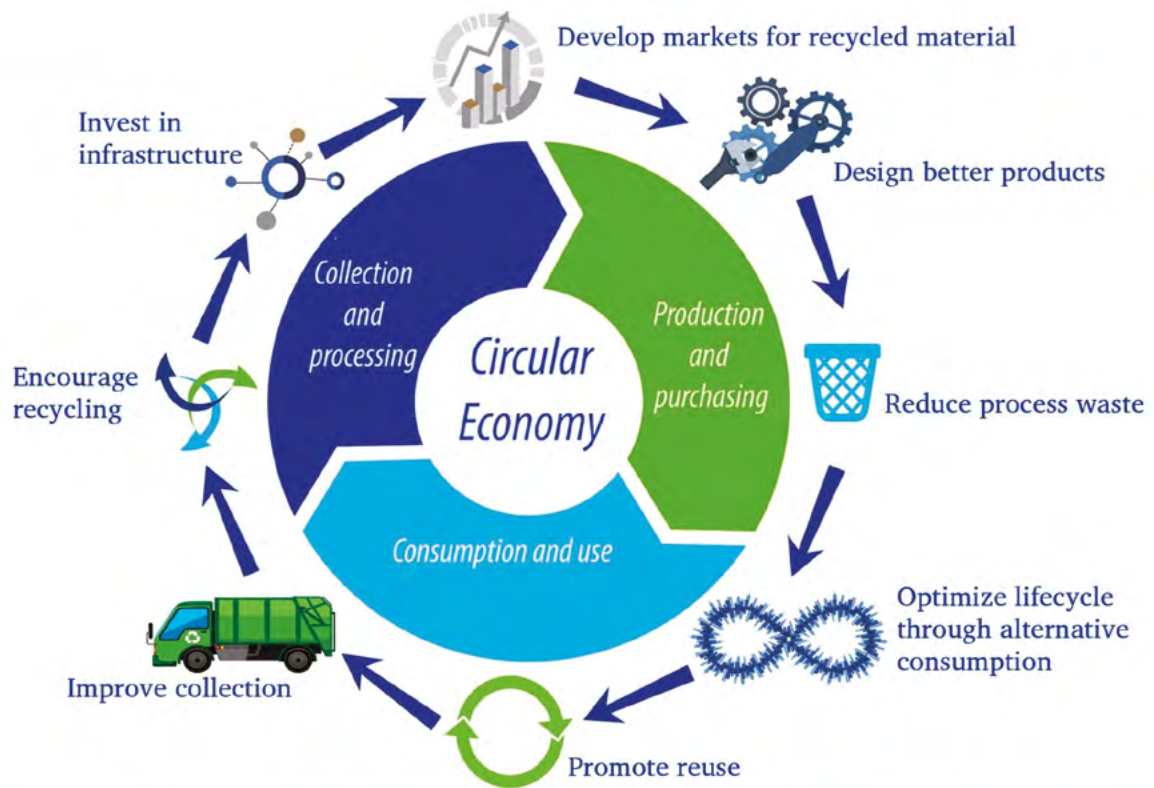
Volume: 03 Issue: 07 March 2024 Rs.85/-



**Ayodhya Ram Mandir
Pran Pratishtha**

National **PRODUCTIVITY** DAY

12th February



Work and productivity gets the job done.





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Indian temples are not mere stone edifices and artistic pieces. They are structures designed to bring human beings and gods together according to Hindu faith. They are a repository of culture, history and traditions. They are an amalgam of art, architecture, devotion and spirituality.

The *pran pratishtha* of Lord Ram's *vigraha* at the Ram Janmabhoomi sthan marked a significant moment in the history of India. It ended the long and patient wait for the faithful Hindus to reestablish their favourite deity in the place where He belongs. It symbolised the reassertion of a civilisational connect. It exemplified their hope for the legal resolution of a longstanding conflict which got increasingly and unnecessarily politicised over decades. Architecturally too, it epitomised the mingling of ancient heritage and modern science. This marvellous structure has no cement, iron or steel and is built to endure for centuries.

ऐक्यं बलं समाजस्या तदभावे स दुर्बलः ।

(English translation: Unity is the strength of any society and it (society) is weak without it.)

The recently consecrated **BAPS Hindu Mandir in Abu Dhabi** embodies interfaith harmony, representing the cordial relationship between India and UAE. It fosters understanding, acceptance, and unity among people of different religious backgrounds. To emphasise the same, the carvings in the temple display stories from the **Ramayana, Shiva Purana, Bhagavatam, Mahabharata** and the **lives of Hindu figures**, as also from **Arabian, Egyptian, Mesopotamian, Native American and other civilizations**.

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:

- We don't want to print more than what is required and
- 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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India aids Afghanistan against locust threat

In a remarkable display of goodwill and humanitarian assistance, the Indian government has stepped forward to aid the Afghan people in confronting the locust menace. The generous support comes in the form of 40,000 litres of Malathion, an environmentally friendly pesticide.

The supplies were sent through Iran's Chabahar port, showcasing a collaborative effort to address a pressing agricultural concern. This strategic move emphasizes regional cooperation in tackling shared challenges, fostering stability and resilience in the agricultural sector.

By providing support to combat the locust menace, India actively contributes to preventing the spread of locusts to neighbouring Central Asian countries playing a pivotal role in ensuring food security in the region.

- ▶ Malathion is a proven crucial tool in locust control, thus making it an ideal choice.

- ▶ Its effectiveness in arid regions aligns with the country's climate; its minimal water usage addresses environmental concerns.



This is not the first instance of India extending a helping hand to Afghanistan. Despite political differences, New Delhi had previously assisted the country with much-needed wheat supplies and collaborated on efforts to combat drug-related issues.

How dangerous is the locust invasion?

- ▶ Locusts forming enormous swarms cause great devastation to natural and cultivated vegetation. They are nicknamed "sleeping giants" that can flare up any time to inflict heavy damage to the crops leading to national emergency of food and fodder.
- ▶ Plagues of desert locusts could threaten the livelihoods and the economy of the nation—once a swarm lands, locusts will eat crops relentlessly until there's nothing left!
- ▶ One adult can eat its own weight in food every day!!



World's largest ship fuelled by Methanol



Planning to use methanol for a total of 25 ships in their fleet, the company will save a remarkable 2.75 million tons of CO₂ emissions annually.

Maritime titan AP Moller – Maersk unveiled its new methanol-powered shipping container, the **Ane Maersk**, the largest vessel capable of running on the green hydrogen derivative.

350 meters long and 53.3 meters wide, the ship can carry eight times more containers than its counterpart pioneering vessel Laura Maersk, which was the planet's first methanol dual-fuel container ship when it was launched in September 2023.

The new vessel can carry 16,000 20ft shipping containers (TEU – Twenty-foot Equivalent Unit), compared to only 2,100 for the Laura Maersk.

The engine is a dual-fuel type, meaning it can run on methanol as well as traditional marine fuels. The same applies to the auxiliary engines.

Maersk said that the vessels in this new series have an industry-first innovative design with the

bridge and accommodation placed at the very front of the vessel, which ensures fuel-efficient operations.

Ane Maersk set on its maiden voyage on 9th February from the Hyundai Heavy Industries shipyard in Ulsan, South Korea, where it was built, to Ningbo, China. It will then continue on to Malaysia, Sri Lanka, Saudi Arabia, Abu Dhabi, Morocco, the UK, France, Belgium and Germany.

Ane Maersk is the first of Maersk's 24 large methanol-enabled vessels that will be delivered between 2024 and 2027.

It has secured sufficient green methanol to cover the vessel's maiden voyage and continues to work diligently on 2024-25 sourcing solutions for its methanol-enabled vessel fleet. This includes methanol derived from both green hydrogen and biogas.

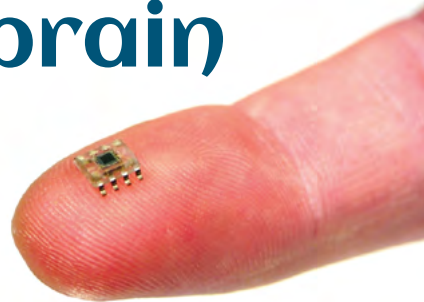
Planning to use methanol for a total of 25 ships in their fleet, the company will save a remarkable 2.75 million tons of CO₂ emissions annually.





Minds meet machine

Neuralink's first chip in human brain



The chip, nicknamed "Link" houses 1,024 threads capable of understanding and interpreting the intentions of individual brain cells.

Imagine a future where you can think of something you don't know, and without having to open your phone and Google it, your mind does it for you. Imagine being able to control your digital devices with just your mind. What would this future look like? Did we just get one step closer to it?

On 29th January 2024, Elon Musk's Neuralink made history by becoming the first company to implant a brain chip in a human. This groundbreaking event with "promising initial results," as stated by Musk, has created a wave of excitement in the scientific community.

The chip, nicknamed "Link" is approximately the size of five stacked coins. It houses 1,024 threads capable of understanding

and interpreting the intentions of individual brain cells. Implanted through a minimally invasive procedure, the chip resides in the head of an anonymous patient battling a neurological disorder. This individual, who participated in the trial after receiving regulatory approval for human testing, has made a full recovery and can now control a computer mouse with their thoughts alone.

This is possible because "Link" acts as a **Brain-Computer interface (BCI)**, a connection between the mind and a computer. BCIs use sensors to pick up electrical signals from the brain's activity and translate them into commands for devices or software.

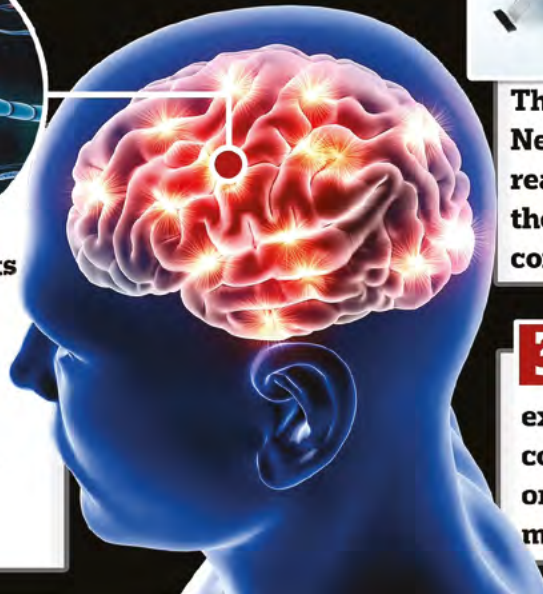
The potential applications for BCIs are vast - from restoring



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.

What is Neuralink?

Neuralink Corp. is an American neurotechnology company that is developing implantable brain-computer interfaces, based in Fremont, California, as of 2024. Founded by Elon Musk and a team of seven scientists and engineers, Neuralink was launched in 2016 and was first publicly reported in March 2017.

communication and movement in individuals with paralysis to enhancing memory and amplifying sensory perception to even interacting with computers and technology solely through thought.

All these possibilities are on the horizon. But with these possibilities come some dangers too. We live in a world where we constantly worry about our safety and privacy online when using our devices. Now imagine a world where our brains are literally online and within the digital world. Data



privacy, security and potential misuse of brain information is a very real possibility.

More importantly, the long-term impacts on brain development, cognitive function and psychology are also unclear. There are dangers to consider. Plenty of rigorous research is needed to ensure responsible development of this, which maximizes benefits to not just the individual but the society as well.

While this initial success marks a major leap for Neuralink and the field of brain-computer interfaces (BCIs), it is just a small step towards truly unlocking their full potential. But what we cannot deny is that we are now gazing upon a new way to navigate the digital frontier.





World record for the longest time in space

Russian cosmonaut Oleg Kononenko, on 4th February 2024 set a world record for being the first human being to spend a total of over 878 days and 12 hours in orbit. He surpassed his compatriot Gennady Padalka who logged more than 878 days and 11 hours in orbit. It is the longest

time in space for any cosmonaut or astronaut in history.


He is currently at the International Space Station (ISS) where he is orbiting about 263 miles (423 km) from Earth.


Kononenko's fascination with space began in childhood, leading him to enrol in an engineering


institute before undergoing cosmonaut training. He embarked on his first space flight in 2008 and is currently on his latest mission to the ISS, which commenced last year aboard a Soyuz MS-24 spacecraft. He has been on a total of 5 space missions.

He started his career in space as an engineer at the Central Design Bureau in Samara. At the age of 34, he began training as part of the group of cosmonauts selected for the International Space Station programme.

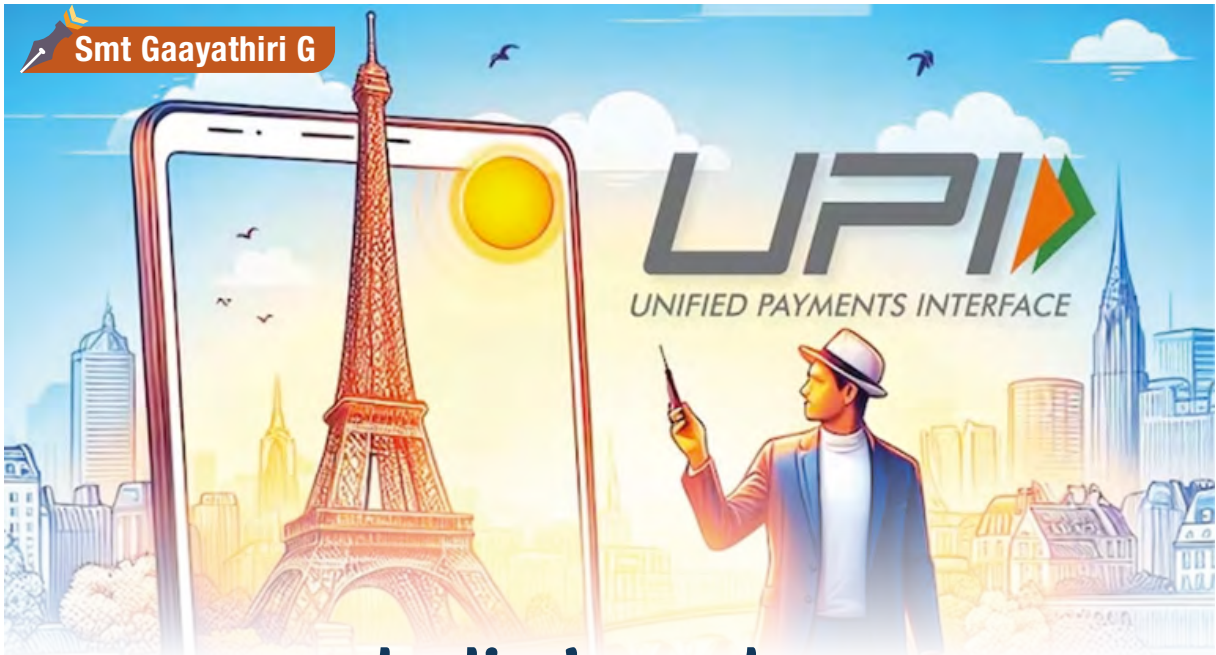
Kononenko performed two spacewalks during his first spaceflight in 2008. He spent more than 12 hours in space to outfit the Station's exterior, including the installation of a docking target on the Zvezda service module.

 **Cosmonauts** are people trained and certified by the Russian Space Agency to work in space.

 **Astronauts** are people trained and certified by agencies - NASA, ESA (European), CSA (Canadian) or JAXA (Japanese) to work in space.

 **Russians** have a long history of human spaceflight. They put the first human into space and hold the records for the longest time in space for an individual, both mission and career cumulative. They also hold the record for a person with the most number of spacewalks. Every cosmonaut who is awarded the title of cosmonaut is taking on a mantle once worn by Yuri Gagarin.





India launches UPI payments in Paris

You can now use UPI to buy tickets to the Eiffel Tower on your next visit to Paris. India officially introduced the **Unified Payments Interface (UPI)** at the Eiffel Tower in Paris at the Indian Republic Day reception, marking a significant step towards PM Modi's vision of globalizing UPI. France has plans to extend this service to other merchants in the tourism and retail sectors across France and Europe.

The UPI, an instant payment system established by the **National Payments Corporation of India (NPCI)** in 2016, integrates multiple bank accounts into a single mobile app, streamlining various banking functions, seamless fund routing and merchant payments.

NPCI International Payments (NIPL), a subsidiary of NPCI, partnered with French e-commerce and proximity payments provider, Lyra to ensure the acceptance of the

UPI payment mechanism in France, starting with the Eiffel Tower.

Indian tourists constitute the second-largest group of international visitors to the Eiffel Tower. They can use their UPI-enabled application to make a payment by scanning a QR code on the Eiffel Tower website. The transaction process is described as quick, easy and hassle-free. This will make it significantly easier for touring Indians to remotely book rooms in hotels, museum visits, etc., during their stay in France.

With over 380 million users, UPI as a payment method has significantly marked its presence in India, evidenced by its recent milestones. In January 2024 alone, UPI recorded over 12.2 billion transactions, emphasizing its widespread adoption. This remarkable achievement solidifies its position as the world's most efficient instant payment system.



DO YOU KNOW ?

- ✓ India is the country with the highest number of digital transactions.
- ✓ India is followed by Brazil, China, Thailand and South Korea.





France first EU nation to offer digital visas



France became the first country in the European Union to hand out digital Schengen visas starting from 1st January 2024.

The Schengen area includes 23 of the 27 EU member countries, along with associated neighbors Switzerland, Norway, Iceland and Liechtenstein.

Applications will be filed and processed via the France-Visas platform completely online, following the EU Schengen visa digitalisation plans adopted by the Parliament last October.

Every individual entering the European Union, regardless of possessing visas or visa waivers,

will go through processing via the automated EU Entry/Exit System (EES), expected to be in operation by the conclusion of 2024.



The EES will record individuals' particulars, biometric data, entry and exit dates, facilitating the monitoring of overstays and instances of refused entries.

A Schengen visa is a visa that allows a person to legally travel to and within the Schengen zone, an area in Europe where the free movement of people is allowed, for a stay of up to 90 days.

Digital Schengen visa features a 2D barcode cryptographically signed by the Country Signing Certificate Authority of the issuing Member State.



New Leaders across nations



1. Tshering Tobgay (Bhutan)

Tshering Tobgay (58) is **Prime Minister** of Bhutan since January 2024. He had earlier served the same office between 2013 and 2018, and as opposition leader of the People's Democratic Party in the National Assembly between 2008 and 2013.

where he completed Masters degree in Public Administration.

As Prime Minister, Tshering Tobgay while fully subscribing to Bhutanese Government's Gross National Happiness ideology, also is focused on issues of youth unemployment, corruption and national debt.

2. Sultan Ibrahim (Malaysia)

Sultan Ibrahim ibni Almarhum Sultan Iskandar (65), as 17th in lineage, ascended to the throne as **King of Malaysia**.



Tobgay was once a civil servant. He is an alumnus of University of Pittsburgh where he obtained UN scholarship for his B.Sc. in Mechanical Engineering, and also of Harvard University,



The King is also Sultan of modern Johor. He will rule for the next 5 years starting from 31st January 2024.

The King has vision for active monarchy and good understanding with Anwar Ibrahim, PM of Malaysia. He intends to put this to good use, for unity and economic development of Malaysia. The King, one of the wealthiest in Asia, has the hobby of collecting Ferrari cars and motorcycles and owns a fleet of private jets.

3. Michelle O'Neill (Northern Ireland)

Michelle O'Neill (47) assumed office on 3rd February 2024, to serve as **First Minister** of Northern Ireland. She is supported by her Deputy, 2 junior ministers and 8 other government ministers.

O'Neill joined Sinn Fein (Irish meaning for "We Ourselves") political party in 1998 and was elected as MLA in 2007. In 2011, she was Minister for Agriculture and Rural Development.

After the 2016 election, O'Neill held the post of Minister of Health and in 2018 as Vice



President of Sinn Fein. In January 2020, was the Deputy First Minister and jointly with First Minister held overall responsibility for running the government. O'Neill has had a meteoric rise from the ranks of a political worker.

4. Nayib Bukele (El Salvador)

El Salvador is the smallest of the Spanish speaking countries in Central America. It is densely populated with 6.8 million people.



The country's main exports are apparel and textiles. Nayib Bukele (42) is a politician and businessman who became **President** of El Salvador. He is the 43rd president serving since 2019, is also the first President since Napoleon Duarte (1984-1989), not to have been elected as candidate of one of the two major political parties: the left wing Farabundo Marti National Liberation Front (FMNLF) and the right wing Nationalist Republican Alliance (ARENA).

Nayib Bukele in 2022 led a crackdown on criminals and gangsters. Around 75,000 were arrested. This crippled the criminal gangs, resulting in a 60% decrease in

homicides. This further improved to 70% in 2023. The President though accused of human rights violations, was able to create and maintain approval among Salvadorans, as high as 90% during his tenure. As a result, the President was able to win the elections and get re-elected with 85% vote.

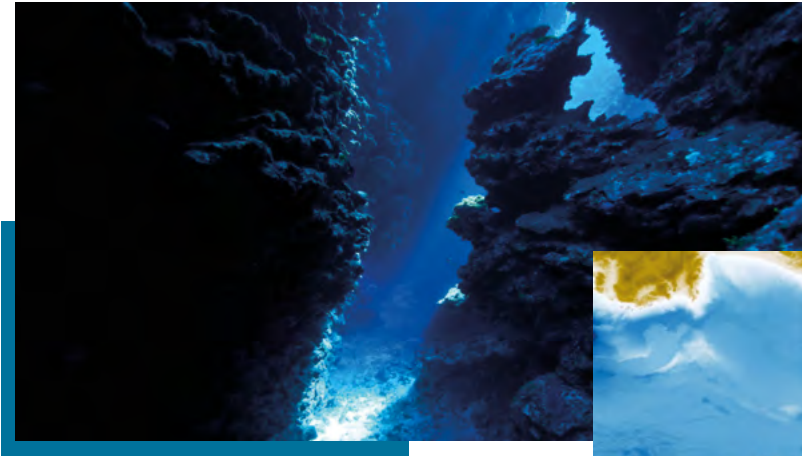
5. Alexander Stubb (Finland)

Alexander Stubb (55) has been elected to become the **President**. Stubb was one of the outstanding students at London School of Economics. Stubb was elected to the European Parliament in 2004 as a member of the National Coalition Party. In 2011 he was elected to Finland parliament whilst he occupied ministerial posts in Foreign Affairs, European Affairs and Trade & Finance.



In 2024, Stubb contested and emerged victorious in the Finnish Presidential election with 51.6% votes against Pekka Haavisto. Stubb is set to take over the reins from Sauli Niinistö from 1st March 2024.





Underwater canyon discovered

The Geological Institute of Israel has recently made a groundbreaking discovery near Cyprus, uncovering an underwater canyon of unprecedented proportions. Named **Eratosthenes** after the nearby underwater mountain, this 33,000-foot-wide (10 kms) underwater canyon sheds new light on the geological history of the Mediterranean region.

This underwater canyon in the eastern Mediterranean Sea formed just before the sea transformed

to a mile-high salt field. The Eratosthenes Canyon is a relic of the past, dating back (approximately 5.5 million years) to the Messinian Event. This pivotal period in Earth's history marked a significant geological transformation, known as the **Messinian salinity crisis**.

This was when the Gibraltar gateway between the Atlantic Ocean and Mediterranean Sea narrowed and eventually pinched shut due to shifts in tectonic plates. Since the connection with the Atlantic Ocean (source of water) was cut off, a large part of the waters of the Mediterranean Sea evaporated and a large underground canyon formed with gullies incised in the base.

The Mediterranean Sea became isolated and dried up for roughly 700,000 years, leaving behind a vast expanse of salt up to 3 kilometers thick in some places. The increase in the salt concentration in the

waters of the Mediterranean made it deadly to all marine life. The event concluded with the **Zanclean flood** when waters from the Atlantic Ocean reclaimed the basin.

The discovery of Eratosthenes Canyon offers invaluable insights into the environmental conditions prevailing at the onset of the Messinian salinity crisis. **High salinity levels and a lower sea level in the deep Mediterranean basin characterized this tumultuous period, reshaping the landscape in profound ways.**

Beyond its sheer geological significance, Eratosthenes Canyon holds broader implications for our understanding of Earth's past and present. By unravelling the mysteries of the Messinian Event, researchers gain deeper insights into the complex interplay of geological processes and environmental changes shaping our planet over millions of years.

A **canyon** is a landform that is characterized by steep step-like side slopes and may be as deep as a gorge. It is generally wider at its top than at its bottom. It is considered to be a variant of a gorge.





Swaminarayan Mandir

in Abu Dhabi inaugurated

DO YOU KNOW?

- ♥ The **Swaminarayan Sampradaya**, also known as Swaminarayan Hinduism and Swaminarayan movement, is a Hindu Vaishnava sampradaya rooted in Ramanuja's **Vishishtadvaita**, characterized by the worship of its charismatic founder Sahajanand Swami, better known as Swaminarayan (1781–1830). According to the tradition's lore, both the religious group and Sahajanand Swami became known as Swaminarayan after the Swaminarayan mantra, which is a compound of two Sanskrit words, swami ("master, lord") and Narayan (supreme God, Vishnu).
- ♥ Today there are **over a thousand Swaminarayan temples**, spread across five continents, which come under the above two **Gadis (seats)** of the Swaminarayan Sampraday.

Prime Minister Narendra Modi inaugurated the BAPS Swaminarayan Mandir on Basant Panchami day (14th February 2024) in Abu Dhabi, UAE. On that day the city witnessed the auspicious *pran pratishtha* ceremony, wherein the Mandir's sacred images were ritually infused with divine presence amid Vedic chanting.

The PM along with the Mukhya Mahant of **Bochasanwasi Akshar Purushottam Swaminarayan Sanstha (BAPS)** Mandir performed the rituals. The PM termed the Swaminarayan Mandir in Abu Dhabi as a symbol of shared heritage of humanity. India had announced its construction during PM Modi's visit to UAE in 2018.





The temple in Abu Dhabi is run by the BAPS Swaminarayan Sanstha, a spiritual, volunteer-driven fellowship aimed at fostering Hindu values of faith, service and global harmony. Made from pink sandstone from Rajasthan and white Italian marble, the temple was carved in India and assembled in Dubai. The temple in Abu Dhabi is built on a 27-acre (11-hectare) plot donated by the UAE government. With a height of 32.9m, length of 79.8m and width of 54.8m, it was reportedly built on a budget of INR

7bn (USD 84 million).

Equipped with advanced technology, including 300 sensors, the temple showcases an engineering marvel. Its pink sandstone columns topped by seven spires represent each of the Emirates. The temple's significance extends beyond its architectural grandeur embodying a message of harmony and collaboration between India and UAE.

The gathering which witnessed the occasion included devotees and well-wishers from all over the

world, people of diverse faiths and backgrounds, reiterating the spirit of inclusivity and harmony that the temple embodies. It is a symbol of spiritual devotion, architectural brilliance and cultural unity.

The pan-Indian representation of the diverse forms of Hindu spirituality is a further manifestation of the temple's all-inclusive ethos. PM Modi also addressed a gathering of the Indian community in Abu Dhabi where he thanked the UAE president for allotting land for the temple.



Smt Silpa Nandakumar



Praggnanandhaa

overtakes

Viswanathan Anand



In an exciting turn of events, making India proud, the chess prodigy Rameshbabu Praggnanandhaa, has overtaken his idol Viswanathan Anand in the live classical chess rankings. India's first chess grandmaster Viswanathan Anand had won the coveted title in 1988 and had earned a spot in history by becoming the first Indian to win the chess grandmaster title. He was then called the "lightning kid of India" because of his quick calculation skills.

Praggnanandhaa continues to set records as he has become the No. 1-ranked Indian player for the first time in his career.

This Chennai born champion beat World Champion Ding Liren at the 2024 Tata Steel Chess Tournament. He jumped 2 spots to 11th overall with 2748.3 rating points, 0.3 more than Viswanathan Anand. "That feels good!" said the elated teenager after the grand win.

Praggnanandhaa shone in

2023 FIDE World Cup, finishing runner-up, having lost to legendary Magnus Carlsen in the final. But he caught the attention of the world with his heroics in Baku.

Praggnanandhaa was not yet even 14 years old when he won the Under-18 age group at the World Youth Championships in 2019. He also shares a world record with his sister R Vaishali for being the only brother-sister duo to achieve the grandmaster title. Vaishali is the third Indian woman to achieve the grandmaster title.

Praggnanandhaa's inspiring participation in international tournaments from a young age has motivated many budding chess enthusiasts to race forward.





Prana pratishtha of Bharathiya renaissance

The *prana pratishtha* of Ram Lalla at the Grand Mandir at Ayodhya was performed on 22nd January 2024. It was a grand event in all respects. The Mandir, the conception of the event, the arrangements, the religious, cultural and the nationalist fervour that was in display, were all grand. The entire nation was jubilant. Common people of all faiths were happy that such an event has happened in their lifetime.

Lord Ram is an inseparable part of Indian civilization – intimately woven into the tapestry of Indian cultural heritage – art , music, literature and history - a part

of Indian consciousness ranging from that of the illiterate folk to the highly erudite scholar.

The Mandir and the Prana Pratishtha

The Hindus believe that God resides in the temples. *Prana pratishtha* is the process of inducing Divine Energy into the *Archa Murthy* (Idol) of the Lord at the *Garbhagriham* (*sanctum sanctorum*) of the temples.

The *Bhoomi Puja* for the temple was performed on 5th August 2020 and the *prana pratishtha* on 22nd January 2024. The temple is built in the traditional *Nagara* style

architecture and is made entirely of stone. It has been engineered to withstand the strongest earthquakes and intense flooding and endure for a millennium. It is a modern engineering marvel.

It was a truly international event with people across the globe witnessing it – physically and virtually. Mysuru-based **Arun Yogiraj** was the blessed sculptor as it was the idol sculpted by him that was chosen to be installed at the *sanctum sanctorum*. Right from the ground breaking to the consecration, it was the **Shri Ram Janmabhoomi Teerth Kshethra Trust** that was responsible.

In order to participate in the *prana pratishtha*, PM Modi observed *vrath* for 11 days leading to the sacred occasion, taking only fruits and coconut water and sleeping on the floor. During this period he visited various temples connected with Lord Ram and the Ramayana. He visited the temples at Srirangam, Rameswaram and Dhanushkodi in Tamil Nadu, apart from temples in Kerala and Andhra Pradesh. The jubilation and the participation witnessed on the day of consecration proved beyond doubt

that the Maryada Purushotham Ram was indeed a great uniting factor.

The struggle and what it implies

That there has to be a 500-year struggle for building a mandir for Ram Lalla at a place where millions and millions of this land, believed he was born; that a significant civilisational issue was treated as mere issue of title and that it has to come only through an order of the highest court of the land speaks volumes about the deracinated

polity that we are. This is the extent of distortion that the vote bank peddling political leadership has landed the nation in. This was after all not a dispute between two communities but an issue of national and cultural pride. Soon after attaining independence, any self-respecting nation would have resurrected the symbols that are part of its civilisational identity.

World over, major symbols that were installed to insult the native people and demonstrate oppression have been erased. In Poland, after the communist rule ended and in Ukraine renaming of streets and removing statues are happening currently. Estonia, Latvia, Lithuania and Moldova have all pulled down monuments that were symbols of Soviet occupation. The US had removed 160 racist monuments from public spaces following mass protests in 2020. It is normal all over the world, for any free society to erase symbols of oppression and insults and retrieve public spaces.

Sadly the political leadership in the formative years of India as an independent nation had not promoted nor nurtured a sense of pride in the youth and old alike about the Bharatiya civilization which goes back millennia. On the contrary, an alignment with the values of the colonizer was promoted.

January 22nd marked not only the *prana pratishtha* of a temple but also that of the cultural renaissance of Bharath. We must pay obeisance to all those who laid their lives for the resurrection of the Mandir at Ayodhya for Ram Lalla. Let this mark a new beginning of Bharathiya civilisational, cultural and national assertion.

Jai Shri Ram!

Bharat Mata Ki Jai!

DO YOU KNOW?

- The foundation of the Mandir has been constructed with a 14-meter-thick layer of roller-compacted concrete (RCC), giving it the appearance of artificial rock.
- The mandir has been constructed entirely using Bharat's traditional and indigenous technology. It is being constructed with particular emphasis on environmental-water conservation with 70% of the 70-acre area being left green.
- No iron is used anywhere in the Mandir.





All-women Tri-Services contingents at RD Parade



Women have been serving in the Indian Army in various roles with dedication and professionalism. India celebrated its 75th Republic Day with a spectacular parade, shining a spotlight on the incredible strength of women and the impressive strides made in defence technology. As an inspiration to the younger generation, particularly girls, for the first time, the parade witnessed the participation of all-women Tri-Service contingents on the ground, along with women pilots up in the sky enthralled the audience during the Fly-past, representing women's empowerment and gender inclusivity in Indian armed forces.

Additionally, the Delhi Police contingent proudly featured women personnel, echoing the theme of '*Nari Shakti*' – the power of women.

The first contingent was led by **Captain Sandhya** of Military Police while an all-women Armed Forces Medical Services contingent, headed by **Major Srishti Khullar** with **Captain Amba Samant** of Army Dental Corps, **Surgeon**

Lieutenant Kanchana of Indian Navy and **Flight Lieutenant Dhivya Priya** of Indian Air Force.

Contingents led by women

- Central Armed Police Forces (CAPF)
- Indian Coast Guard (ICG)
- Border Security Force (BSF)
- Central Industrial Security Force (CISF),
- Central Reserve Police Force (CRPF)
- Indo-Tibetan Border Police (ITBP)

Highlights

- ▶▶ French President Emmanuel Macron was the chief guest for the R-Day parade, 2024.
- ▶▶ The display from the DRDO was led by scientist **Sunita Jena** showcasing the essential role of **women power** in strengthening the nation's security through advanced defence technologies.
- ▶▶ The parade displayed global camaraderie, with French participation and vibrant tableaux showcasing cultural richness.

DO YOU KNOW ?

Around 320 BCE, Chandragupta Maurya employed **armed women as bodyguards** who even took part in military campaigns.





Gallantry Awards 2024

On the eve of the nation's 75th Republic Day, honourable President Droupadi Murmu approved 277 Gallantry awards for distinguished and meritorious service. She also announced **Kirti Chakra** and **Shaurya Chakra awards** for peacekeeping efforts.

As per the announcement from the Ministry of Home Affairs (MHA), 16 Gallantry/Service Medals (for Police, Fire Service, Home Guard & Civil Defence, and Correctional Service) have been rationalised and merged into the following four medals-

- President's Medal for Gallantry (PMG),
- Medal for Gallantry (GM)
- President's Medal for Distinguished Service (PSM)
- Medal for Meritorious Service (MSM).

President's Medal for Gallantry was posthumously awarded to two Border Security Force (BSF) personnel who were killed in the line of duty in Congo in 2022.

They were awarded for their



outstanding contribution to the prestigious task of peacekeeping as part of the United Nations Organisation Stabilisation Mission in the Democratic Republic of Congo (MONUSCO).

Kirti Chakra, India's second-highest peacetime gallantry award after Ashok Chakra, was conferred to 6 members of the Indian Armed Forces of which 3 were conferred posthumously. Major Digvijay Singh Rawat of the 21st Battalion, the Parachute Regiment (Special Forces), was given this esteemed award for establishing an innovative intelligence network in Manipur that enabled him to map all valley-based insurgent groups accurately.

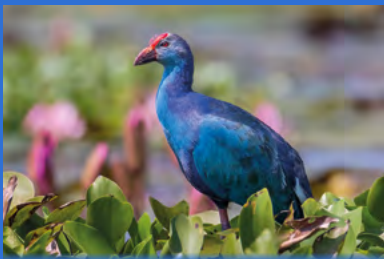
Shaurya Chakra, the third-highest peacetime award, was conferred to 16 personnel of which 2 were conferred posthumously. Aside from members of the Indian Armed Forces, J&K Police personnel Mohan Lal, Amit Raina, Faroz Ahmad Dar and Varun Singh have also been awarded the Shaurya Chakra.

J&K Police	72
Maharashtra	18
Chhattisgarh	26
Jharkhand	23
Odisha	15
Delhi	8
Central Reserve Police Force (CRPF)	65
Sashastra Seema Bal (SSB) predominantly from J&K and areas affected by left wing extremism	21





4th National CHILIKA Bird Festival



DO YOU KNOW ?

- ✦ **Chilika Lake**, a brackish water lagoon, is an estuarine lake.
- ✦ It is the largest saltwater lagoon in India and Asia and the second largest in the world.
- ✦ Chilika Lake hosts a rich diversity of threatened plant and animal species and many migratory birds each year from Russia, Central and South East Asia, Ladakh and the Himalayas.

Colourful winged guests mesmerised the spectators during the **4th National Chilika Birds Festival**, a hallmark event in Odisha's calendar, from 26th – 29th January 2024. Hosted against the backdrop of Chilika Lake, this festival brings together birders and enthusiasts from across India. **Chief Minister Naveen Patnaik** inaugurated the festival, coordinated by the Department of Tourism, Department of Forest and Chilika Development Authority.

A captivating **photo exhibition** showcased the vibrant avian life, setting the stage for an immersive experience. Participants embarked on birding excursions to **Mangalajodi** and **Nalabana** sanctuaries nestled within Chilika's environs. **Mangalajodi**, also known as the "**Birds Paradise of Asia**," offered a glimpse into the diverse avian species that call this region home.

During a visit to **Nalabana Bird Sanctuary**, a beautiful island

in the heart of Chilika, one can witness nesting colonies of many varieties of colourful birds and also raptors. Chilika takes pride in its '**Hira Pakhi**' as locals call the Flamingos and is one of the largest breeding ground for Greater Flamingos.

Tourism Minister Aswini Kumar Patra said, "This year, we have engaged local communities of boatmen in the festival ensuring their active involvement in conservation efforts that fosters a sense of responsibility towards sustainable tourism practices."

Odisha Tourism Development Corporation (OTDC) Chairman Dr. Lenin Mohanty said, "From initiatives like removing encroachments to recent extensive census activities and promotional campaigns like the National Chilika Bird Festival, our collective goal is positioning Odisha as the most sought-after birding hub in the **Asia-Pacific region**."





SADAK SURAKHIYA FORCE

The **Sadak Surakhya Force (SSF)** represents a revolutionary leap forward in safeguarding lives on Punjab's 5,500km expanse of national and state highways. With a budgetary allocation of ₹30 crore, SSF, armed with a fleet of 129 cutting-edge vehicles, including advanced Toyota Hilux units, is poised to proactively administer swift assistance.

Emphasizing the critical "platinum minutes", there is a commitment to reaching accident sites within a 15-minute window,

which will significantly curtail fatalities and ensure expeditious medical attention. SSF has also employed 90 women into the initiative, integrating gender inclusivity.

SSF embodies a comprehensive approach, blending a data-driven strategy, transparent accident reporting and seamless technological integration. CM Bhagwant Mann envisions the force as a transformative agent, alleviating the burden on state police and emerging as a vanguard

for saving numerous lives annually.

Measures will also be taken to combat drunk driving by providing charged alternative transportation for intoxicated drivers.

A facilitation centre at the Indira Gandhi International Airport, catering to NRIs, and the incorporation of Artificial Intelligence underscores Punjab's commitment to progressive, technologically-driven solutions for the betterment of the people.

Drawing inspiration from global best practices, Punjab government is planning to introduce a points system akin to those in the US, New Zealand, and Canada, aimed at penalizing repeat traffic offenders.

This reform is likely to instil a culture of responsible driving and adherence to traffic regulations.

On an average, our country witnesses 1264 road accidents and 462 deaths every day, i.e. 53 crashes and 19 deaths per hour!

Hence safety should be a priority for everyone!





New Kangaroo Lizard species discovered

As a testament to its rich biodiversity, a new species of lizard has been discovered in the Western Ghats of India. This has been named *Agastyagama edge*, with just one other species in the same genus *Agastyagama beddomii*. The species has been named so to honour the programme that facilitated several researchers including the lead of this discovery, to carry out their work in the zoological domain – the **Evolutionary Distinct and Globally Endangered (EDGE)**

programme of the Zoological Society of London. The programme encourages scientists working on endangered species around the world.

The lead researcher of the group **Dr. Sandeep Das** said that the lizard was initially confused with the other species (*A. beddomii*), which is actually a resident of the Sivagiri hills of Tamil Nadu, but the discovery was made in the Idukki region of Kerala. However, many years later, the group encountered several other fellow lizards. This is when they noticed that these lizards were, in fact, different from their counterparts of the neighbouring state.

Upon further analysis of the structural and genetic features, the research group was able to confirm the existence of a new species. This

was endorsed by the fact that the members of the two species were separated by a physical distance of at least 80 kilometers.

What sets *A. edge* apart from *A. beddomii* is the reduced fifth toe, which prevents it from climbing trees. So, this diurnal lizard spends its time on the forest floor and utilizes leaf litter to protect itself from predators. Additionally, while the formerly discovered species is found in various habitats such as swamps and western tropical evergreen forests, **the new species has so far only been found in tropical evergreen forests.**

The findings were published in the scientific journal *Vertebrate Zoology*, where the research team has called the lizard a ‘diminutive dragon’ or a miniature dragon-like lizard.

These lizards are called ‘Kangaroo lizards’ since they run on their hind legs while keeping their body upright, resembling kangaroos when they move.



Tamil Nadu has the highest number of Ramsar sites



DO YOU KNOW ?

- ♥ **Sunderbans** is the largest wetland in India. It is also a part of the largest mangrove forest in the world with hundreds of islands, a maze of rivers, creeks in the delta of the Ganga and Brahmaputra on the Bay of Bengal in India and Bangladesh.
- ♥ The surface area covered by Ramsar Sites in Tamil Nadu is 1,083,322 hectares approximately.

Tamil Nadu is in the news for a spectacular reason. It has the highest number of Ramsar sites, totalling 16 out of 75 in the country.

What is a Ramsar site?

Ramsar sites are wetlands of international significance and importance, designated as one under the Ramsar convention, an international treaty for the conservation of wetlands. These designated sites are recognised for their ecological significance and biodiversity. Ramsar is a place in Iran and this convention came into force in 1975.

Continued addition of Ramsar sites in India: Till 2014 there were 26 Ramsar sites in India. Post 2014 54 new sites have been added. With the addition of **Longwood shola forest reserve** in Nilgiris and **Karaivetti Bird Sanctuary** in Ariyalur as newly designated Ramsar sites Tamil Nadu boasts of 16 such sites. Longwood shola covers an area of 116.07 hectares and is home to 700 species of flora and fauna, out of which 177 bird species 14 are endemic to that region.

Longwood shola Ramsar site plays a crucial role in retention and conservation of water, and is a major source of water for Kothagiri, supplying water to 18 villages.

Karaivetti Bird Sanctuary, a new Ramsar designated site covers an area of 453.7 hectares. It has over 500 species of flora and fauna and plays pivotal role in the central Asian flyway, acting as a vital nesting and breeding biosphere for migratory water birds.

Importance of wetlands as a biosphere: Wetlands are areas of land either covered by water or saturated with water. The water often seeps up from underground aquifers or springs. Water to sustain a wetland can also come from a lake or river. Wetlands water can often be brackish. Wetlands are crucial biospheres often transition zones, not totally dry nor totally under water. Wetlands perform important functions like water conservation, purification, flood control, stabilization of shorelines and are reservoirs of biodiversity. Wetlands are crucial areas for spawning of marine creatures, providing timber and recycling nutrients.



Interim Union Budget

2024

at a glance



Fiscal deficit is the difference between the government's revenues and expenditure. It is financed by money from various sources like market borrowings, small savings, dated securities and others.

Finance Minister Nirmala Sitharaman presented her sixth budget on 1st February 2024. The announcements covered the sectors - railways, tourism, healthcare, technology, aviation, green energy, aquaculture, housing and more. As regards taxation, no changes were made to the tax structure of direct and indirect taxes and import duties. Meanwhile, startups and investments made by sovereign wealth or pension funds were given an extended tax exemption till 31st March 2025.

The finance minister said that the Revised Estimate of the total receipts other than borrowings is ₹27.56 lakh crore. The Revised Estimate of the total expenditure is ₹44.90 lakh crore. The revenue receipts at ₹30.03 lakh crore are expected to be higher than the Budget Estimate, reflecting

strong growth momentum and formalization in the economy.

The Budget for FY25 assumed the nominal GDP growth at 10.5% for FY25. Nominal GDP growth represents the country's GDP without adjusting for inflation and plays a crucial role in determining various aspects of a budget. She said that the budget was seeking fiscal consolidation and set the fiscal deficit at 5.1% of GDP for FY25 which is lower than last year's fiscal deficit at 5.8% of GDP. The government has set a target of 4.5% fiscal deficit by 2025-26.

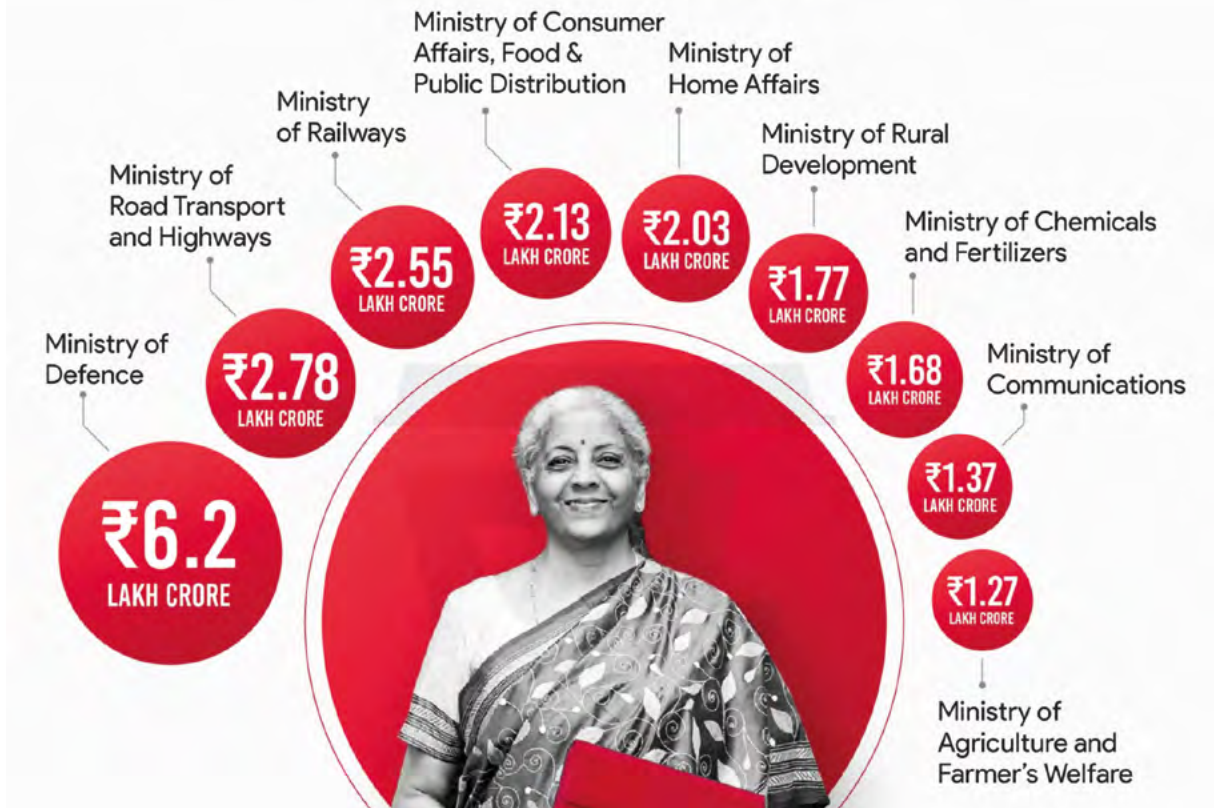
The proportion of capital expenditure (excluding grant in aid) to total expenditure stands at 23.31%. This is in line with the trend of increasing capital expenditure in the past few years.

The budget set the capex outlay at 3.4% of GDP for FY25 with



INTERIM UNION BUDGET 2024

Here is how funds were allocated to different ministries in the Interim Union Budget 2024.



Capital expenditure refers to the government's spending on durable assets like the construction of infrastructure.

capital spending outlay of ₹11.11 lakh crore for FY25, against the budgeted ₹9.5 lakh crore for FY24.

FY24 saw reduced Gross Market Borrowing at ₹14.1 lakh crore from estimated ₹15.43 lakh crore for 2023-24. Borrowings decide the funds available for other companies and had shot up post-pandemic. The finance minister had earlier stated plans to lower the borrowings over next few years.

FM Sitharaman noted in her budget speech that *PM Awas Yojana (Rural)* saw successful implementation despite COVID 19 and the government plans to build 2 crore houses in the next five years.

Railway projects have been

identified under the *PM Gati Shakti Yojana* for enabling multi-modal connectivity. These will improve logistics efficiency and reduce costs. In order to expand India's railway infrastructure, three major railway economic corridors were announced. These include an energy, mineral and cement corridor, a port connectivity corridor and a high traffic density corridor. These corridors, along with dedicated freight corridors, will accelerate GDP and reduce logistic costs.

As regards Health, the expenditure for the Dept. of Health & Family Welfare for FY25 is ₹10,000 crores more than the revised estimates of the current FY.





Bharath Rang Mahotsav 2024

The stage beckons

India is a land of many artistic expressions. One of the world's oldest and most vibrant of the performing art forms, theatre, was celebrated as part of the **Bharat Rang Mahotsav (BRM)**, across 15

cities with over 150 performances from 1st to 21st February 2024.

Since 1999, the **National School of Drama (NSD)**, in collaboration with the Government, has hosted

the annual event popularly known as the **National Theatre Festival**. Initially showcasing the works of Indian theatre practitioners, the festival has evolved now to include international performers.

This edition of BRM held special significance, as it is the 25th anniversary of the pan Indian event. With the theme of 2024 being "**Vasudhaiva Kutumbakam, Vande Bharangam**" the festival and all the performances emphasized global unity and social harmony through the medium of theatre.

The inauguration was at Mumbai's National Centre for the Performing Arts (NCPA), attended





Beyond the plays, workshops, discussions and master classes were made available for attendees who wanted to delve deeper into the world of theatre.

by dignitaries like Governor of Maharashtra Ramesh Bais, NSD Chairperson Paresh Rawal and veteran actor Raghubir Yadav, setting the stage, literally, for a month-long celebration.

Following that, a showcase of diverse plays in multiple languages began with the award-winning *Tajmahal Ka Tender* followed by *Gajab Tichi Ada* (A Marathi Comedy), *Babuji* (A Hindi Play), *The Zoo Story* (an American play), *Todi Mill Fantasy* (a Hindi musical) and *Swaha* (a Hindi play).

After a successful launch in Mumbai, the festivities commenced in parallel venues across India - Kutch district of Gujarat, Pune, Vijayawada, Jodhpur, Dibrugarh, Bhubaneswar, Patna, Ramnagar and Srinagar.

Beyond the plays, workshops, discussions and master classes were made available for attendees who wanted to delve deeper into the world of theatre. These served to celebrate both Indian and global theatre traditions.

An innovative addition to the 25th year was *Rang Haat*, Asia's first global theatre market that was set up to foster international collaborations. It served as a platform to bring together artists, programmers and supporters to showcase their projects and help facilitate future partnerships.

BRM showcases the transformative power of theatre fostering cultural exchange, appreciating artistic expression and instilling deeper appreciation for diverse traditions.



Southern Railways' first transgender TTE



Southern Railway

Transgender is a broad term that can be used to describe people whose gender identity is different from the gender they were thought to be when they were born. "Trans" is often used as shorthand for transgender.

This groundbreaking development marks a significant stride towards breaking gender barriers and fostering a more diverse and inclusive work environment.

The newly appointed TTE **Sindhu Ganapathy** who took charge at Dindigul Railway station, is hopeful that education and perseverance will be helpful to herald a brighter future for members of her community.

A native of Kanyakumari district of Tamil Nadu, she had joined the Southern Railways in 2003 as G. Sindhan, a male employee, at Ernakulam and was later transferred to Dindigul. But, hormonal changes in his physique turned his life upside down. Working in the electrical department, she received unconditional support from the Southern Mazdoor Union and its



office bearers. She had to overcome many personal and social challenges to reach the position where she is now.

As she injured her hands, she was offered an opportunity to work in the non-technical sector. She is elated at the support she receives from the public.



Gupteswar Forest

new biodiversity heritage site



India's diversity is its strength, so too is its biodiversity. Odisha endowed with large rivers and dense forest is home to rich biodiversity. Government of Odisha has recently designated the Gupteswar Forest as its 4th **Biodiversity Heritage site (BHS)**.

Adjacent to the revered Gupteswar Shiva temple (where Lord Rama visited Sita during his exile) in Koraput district, this pristine forest spreads over 350 hectares.

Apart from the sacred groves worshipped by the local communities this site harbours a remarkable diversity of flora and fauna.

According to the survey conducted by Odisha Biodiversity board, the forest encompasses 608 species of animals, 182 species of trees, 76 species of shrubs, 69 species of climbers, 177 species of herbs and 14 species of orchids.

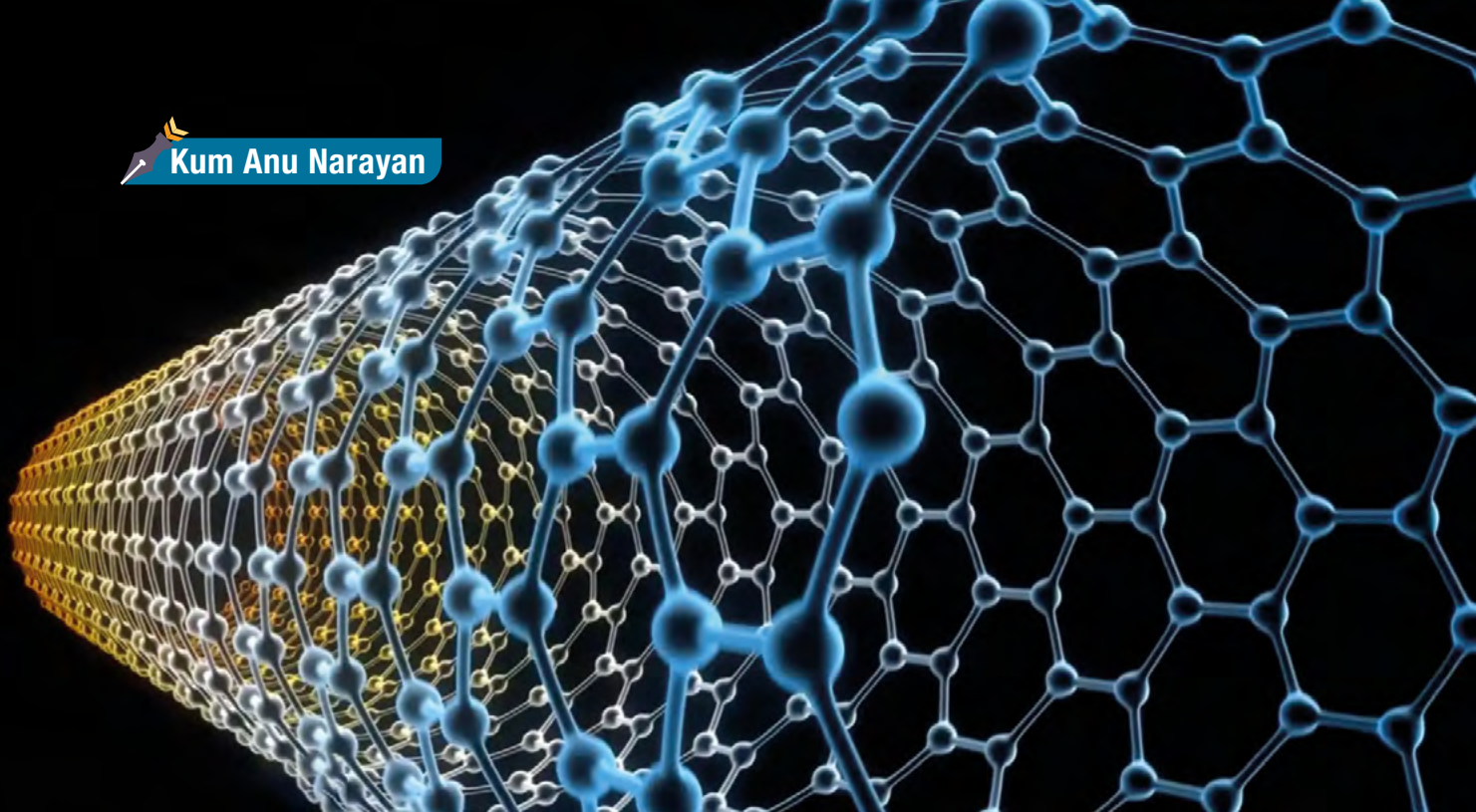
Notable bird species include **black baza, Jerdon's Baza, Malabar trogon, common hill Myna, white bellied woodpecker, banded bay cuckoo, the mugger crocodile, Kanger valley rock gecko, sacred grove bush frog** etc.

The limestone caves of Gupteswar forest are home for eight bat species, two of which are listed as near threatened by IUCN. Its plant diversity includes threatened medicinal plants like **Indian trumpet tree, Indian snake root, Cumbigum tree, Garlic pear tree, Chinese fever vine** etc.

State fund of ₹35 lakhs is allocated for action plan and awareness activities among the locals. This initiative is crucial to safeguard the ethnic communities and the critical ecosystem.

DO YOU KNOW?

- ♥ **Biodiversity heritage site (BHS)** is a unique conservation approach, under Section 37 of the Biological Diversity Act, 2002 to recognize well defined areas with a state that are unique, ecologically fragile ecosystems, presence of rare and threatened species, keystone species etc., as heritage sites.
- ♥ **Nallur Tamarind Grove** in Bengaluru, Karnataka, was the first Biodiversity Heritage Site of India in 2007.
- ♥ Almost one-third of Odisha is covered by forests which make up about 37.34% of the total land area of the state. The other Bio Diversity Heritage sites in Odisha include – **Mandasari** (Kandhamala district), **Mahendragiri** (Gajapati district), **Gandhamardan** (Baragarh and Bolangir district).



New carbon nanotubes synthesis and applications

A group of scientists in India has developed a groundbreaking method for synthesising **carbon nanotubes (CNTs)** using sodium as a catalyst. The researchers, based at the **Institute of Advanced Study in Science and Technology (IASST)** in Guwahati, have pioneered a technique that directly synthesises CNTs on glass substrates, offering potential applications in energy

A Carbon Nanotube is a tube-shaped material made of carbon, with a diameter on the nano scale

The graphite layer appears somewhat like a rolled up chicken wire with a continuous unbroken hexagonal mesh and carbon molecules at the apexes of the hexagon.

Their name is derived from the long hollow structure with walls formed by one atom thick sheets of carbon called **graphene.**

research, **biomedicine** and **optoelectronics**.

Carbon nanotubes play a crucial role in advancing modern technology due to their extraordinary properties. **They find applications in various fields, including rechargeable batteries, flexible electronics, aerospace, transparent electrodes, touch screens, supercapacitors and medicine.**

Traditional methods of synthesising CNTs typically involve high temperatures (1,000 degrees Celsius) and the use of metal catalysts, which can be expensive and environmentally challenging. The novel method, detailed in a study published in the *Journal of Nanotechnology*, utilises **Plasma Enhanced Chemical Vapour Deposition (PECVD)** technology.

Operating at a lower temperature of 750 degrees Celsius this technique provides a more cost-

effective and sustainable approach to CNT synthesis. The key factors influencing CNT growth include plasma characteristics, substrate composition, temperature and pre-treatment.

The researchers discovered that sodium (Na) present in the glass substrate acts as a catalyst for initiating CNT growth. Notably, sodium can be easily removed from the resulting CNTs through a simple washing process with deionized water, making the overall process more environmentally friendly.

This innovative approach opens up new possibilities for the synthesis of CNT offering a potential avenue for advancements in various scientific and technological fields. The scientists believe that their method could contribute to more sustainable and accessible production of CNTs, unlocking new opportunities for their use in different applications.



One Nation One Student ID card launched



Introduction of technology in various systems has simplified complex processes and arrested corruption to a large extent. The digital payment mode stands testimony to this. Toeing this line of digital revolution and to simplify the movement of students across the country, the Ministry of Education in conjunction with the Government of India has introduced the **Automated Permanent Academic Account Registry (APAAR ID program)**, which stands for “One Nation One Student ID Card.”

This initiative is set to greatly benefit students by digitally consolidating their complete academic records, including

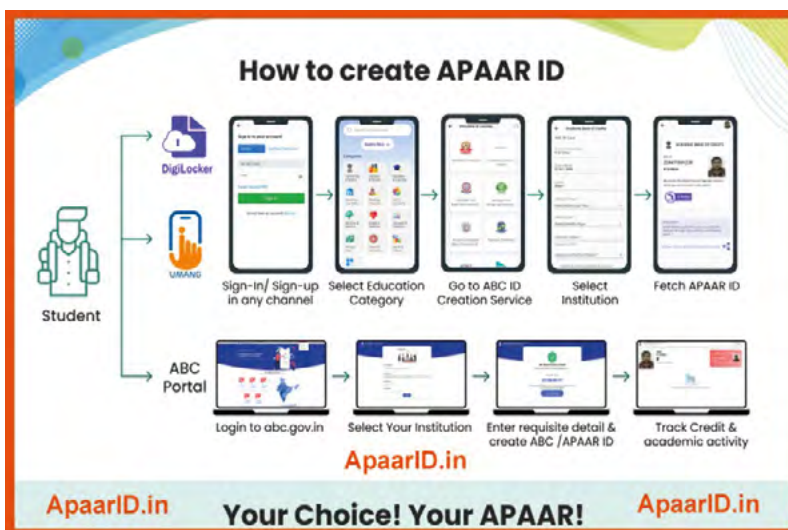
degrees, scholarships, rewards and other credits into a unified APAAR ID. If a student has enrolled in a school or college, he/she will need to complete the One Nation One ID Registration at www.abc.gov.in and then access the APAAR ID. This programme is open to all students, allowing them to participate and complete their ABC Bank Registration on the official website.

ABC or the **Academic Bank of Credit** is a digital collection of academic records. As per NEP 2020 all college or university students have to register on the ABC. Possessing an ABC ID has become compulsory for college or university admission.

The universities or school Boards can access student data instantly and enable students to move from one institution to another with ease. This simplifies the administrative process. Students are freed from the hassle of carrying physical certificates. **The programme will issue provisional APAAR IDs to students, verify them with Aadhaar and link them to Digi Locker and ensure efficient maintenance of all the records.**

The initiative also presents a profitable opportunity for village-level entrepreneurs to engage in providing essential educational services. **This model seeks to enhance transparency and accessibility in both school and higher education, fostering a more inclusive learning environment.** K Sanjay Murthy, Secretary of Higher Education, Ministry of Education, highlighted the government's commitment to leveraging technology platforms like **Samarth, Swayam and Diksha** to benefit students.

The focus is on expanding the coverage of these platforms to more number of institutions and ensure widespread reach.





Kaji Nemu

STATE FRUIT OF ASSAM



Kaji Nemu, also known as Assam Lemon, a variety of indigenous lemon, has been declared the state fruit of Assam.

In Assamese, “kaji” means “citrus” or “lemon,” and “nemu” means “lime.”

It is an elongated citrus fruit that grows abundantly in Assam. Its unique flavour, aromatic fragrance and sweet and sour juice make it a beloved ingredient in Assamese cuisine and culture.

Medicinal properties

Kaji Nemu typically is of medium size with smooth, bright yellow skin; when ripe it

It is rich in vitamin C and antioxidants; is used in traditional remedies to reduce common ailments and is believed to boost

immunity and promote overall health.

Cultural significance

An integral part of festivals, rituals and celebrations, it symbolizes prosperity, vitality and purity.

Geographical conditions

Kaji Nemu grows well in the tropical climate of Assam and requires well-drained soil and ample sunlight.

The cultivation of Kaji Nemu supports local agriculture and provides livelihoods to farmers across the region. The harvest season is a time of abundance and festivity in Assam. A symbol of Assamese heritage, it has been commercially grown in the state, and exported to other countries including the Middle East.

DO YOU KNOW ?

- ♥ **Botanical name:**
Citrus limon
- ♥ In 2019, the Assam government gave Kaji Nemu a geographical indication (GI) tag.
- ♥ Only eleven products have the official GI tag in Assam.





Services trade surplus hits record high

Number of people employed across the service sector in India from financial year 2017 to 2023, by service type (in millions)



India: Distribution of gross domestic product (GDP) across economic sectors from 2012 to 2022



India has doubled its share of services exports from 2% in 2005 to 4.4% in 2022, according to a World Bank and World Trade Organization report. Services as a whole called **tertiary sector**, has grown from about 37% in 1990, to 48.44% of the GDP, as of 2022. GDP is the total value of all the goods and services produced in a country in one year.

Services include banking and finance, IT and Technology, energy, education, logistics, export and import, media, healthcare, telecom, storage and communication, hotel industries, legal and law industry, business services etc. India's services exports range from information technology to services provided by doctors and nurses abroad.

Services Trade basically refers to export and import of services between two countries and is

measured in Million USD and percentage of GDP.

Services Export Promotion Council (SEPC) was established by the Ministry of Commerce and Industries in 2006 to give proper direction, guidance and encouragement. SEPC mission is to reach USD 1 trillion by 2030.

In addition to Software, **Global Capability Centres (GCCs)** accounted for 26.4% of the total services exports in the first half (Apr-Sep) of FY24. These are centres of excellence staffed by experts. GCCs account for more than 1% of India's GDP. Currently there are approximately 1600 GCCs employing more than 1.6 million talented workforce.

Through GCC and other business services, India also exports professional business services composed of research and development, management consulting and public relations, and engineering services among others.

Value of Service Exports (Billion USD)	21-22	22-23	23-24 (estimate)
	255	323	400





Vishisht Seva Medal for developing Multipurpose octocopter



The Vishisht Seva Medal (VSM) is a prestigious decoration in the Indian Armed Forces, awarded to personnel at various levels for distinguished service of a high order. The medal, crafted from bronze, features a golden ribbon with three dark blue stripes. Instituted in 1960, as VSM Class-III, it was later renamed in 1967, as VSM and holds the provision for posthumous conferral.

Havildar **Varinder Singh** of the Sikh Regiment in the Indian Army has been awarded the Vishisht Seva Medal by President Droupadi Murmu for his remarkable contribution to developing a '**multipurpose octocopter.**' This versatile drone goes beyond conventional surveillance capabilities, showcasing the ability to perform many weapon handling tasks and logistics operations.

Singh's innovative creation is expected to be a valuable asset for the Indian Army, providing a wide range of capabilities. He highlighted the weaponized aspect of the drone, stating, "With the help of a four-hand grenade MGM rifle, the enemy can be killed with pinpoint accuracy."

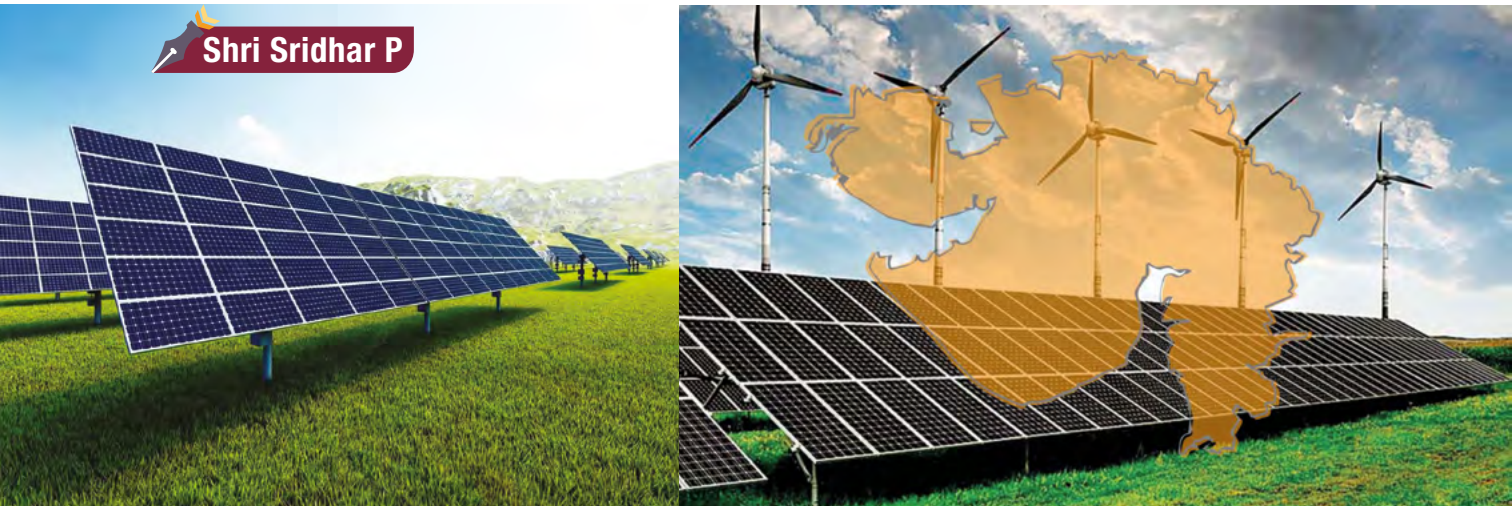
This recognition underscores the significant impact of Havildar Varinder Singh's work in advancing military capabilities through innovative technology.

HIGHLIGHTS

- ▶ Can undertake surveillance operations by providing live-camera feed to the operator and used to drop essential supplies to forward posts, including in high-altitude areas.
- ▶ Has a platform for firing assault rifles and dropping grenades onto enemy targets.
- ▶ Can become a force multiplier in operational areas and situations where last-mile connectivity for the delivery of operational logistics is a challenge.
- ▶ Can deliver essential supplies to troops at remote posts in high-altitude areas and mountainous terrain.
- ▶ Will enable surveillance and enemy engagements from a remote platform.

Trials of this in-house developed cutting-edge drone have already been successfully carried out in the plains and high-altitude areas.





World's largest Renewable Energy project in Gujarat

Harnessing energy from its source for agriculture, production of goods, construction etc., defines the way how human societies evolved and will do so in future. The dominance of one source of energy at some period and another during some other time makes fascinating story. The dominance of hydrocarbons as source of energy heralded the onset of industrial revolution and continues its dominance even today. However the transition to renewables is on, which is both challenging and capital intensive.

World's largest renewable energy project in Gujarat: India is powering away in renewables by constructing the world's largest renewable energy project at **Khavda Park**. Located in the Rann of Kutch, conceived by **Adani Green Energy**, this project, spread over 726sq km is a hybrid with solar panels and windmills. **It is likely to produce 30GW of electricity, powering 16 million homes in another 5 years when it becomes fully operational.** The project is so huge that it can be viewed from space. The location of this mega project is impeccable - a huge wasteland with abundant solar radiation influx and wind resources. Plans are ready to evacuate the electricity generated, with sufficient battery storage capacity to supply uninterrupted power.

International commitments on emissions: It is now firmly established that emissions of green house gases like carbon di oxide from human activities is driving climate change. Countries are required to control emissions and achieve "Net Zero" by 2050. That

is possible only if large part of their energy generation comes from renewables. India has committed to achieve net zero emissions by 2070. Further India is to achieve 500GW of electricity generation from renewables by 2030. Just 6 years away, which will ensure half of electricity generation from non-fossil sources.

Where do we stand now: India gets close to 75% of its energy needs from fossil fuels - coal, oil and gas. The total installed capacity of renewables like solar, wind and biomass is 160 GW as of now. This has to move up to 500GW as of 2030.

The intermittency of renewable energy has to be factored in to be considered as a reliable source. Artificial intelligence is used now as a predictive tool to address this problem. With technological innovations, better adoption of small and mega renewable installations and conservation, India is well on its way to keeping up with its international commitments.





SADA TANSEEQ

Indo ~ Saudi military exercise

Overview

The first joint military exercise Sada Tanseeq between Indian and Saudi Arabian troops concluded at Mahajan Field Firing Ranges (MFFR) in Rajasthan. A twelve day joint exercise (29th January - 9th February) it facilitated synergy in conduct of joint tactical operations and strengthened interoperability besides acquainting each other with operational procedures and combat drills under Chapter VII of the United Nations Charter.

What does Sada Tanseeq mean?

The name '*Sada Tanseeq*' was given by both nations jointly with '*Sada*' given by the Indian Army meaning FOREVER and '*Tanseeq*' an Arabian word for COORDINATION given by the Saudi contingent.

Aim

The exercise aimed at better coordination between the

armed forces of both countries in maintaining global peace and stability.

It focused training on weapon & equipment handling, marksmanship, team integration, physical fitness and slowly graduating to battle hardening which included reflex shooting and executing joint counter-insurgency operations.

Conduct of exercise

Sada Tanseeq was conducted in two phases. The first phase focused on combat conditioning and tactical training and the second phase culminated in physical exercises and validation. Both the contingents jointly took part in the validation phase to include

- ▶ Creation of a temporary operating base
- ▶ Establishing an intelligence, surveillance & reconnaissance (ISR) grid
- ▶ Establishing Mobile Vehicle Check Post.

- ▶ Carrying out Cordon and Search Operations in a hostile village.
- ▶ Heliborne operations
- ▶ Conduct of House Intervention Drills
- ▶ Counter Terrorism operations in semi-desert terrain.

Every exercise was performed in 'buddy pairs', which meant all teams consisted of 50 % Indian and 50 % Saudi personnel.

Showcasing of weapons and artillery was also conducted. An indigenous product a four-wheeler multi-role carrier known as the **Rhino**, designed and manufactured by an Indian start-up was used during combat.

A light weight and compact machine, it can carry up to 600 kg at a time and is remote controlled. **The purpose of this product is to help in reducing the load carrying requirement of a soldier and to keep him fresh and ready for combat operations.**





INS SANDHAYAK

for naval mapping and surveillance

Rewind

On 4th December 2023, Garden Reach Shipbuilders and Engineers (GRSE) Limited, achieved yet another milestone by delivering the INS Sandhayak the largest survey vessel ever built in India and the first in the series of four Survey Vessels (Large) being built for the Navy.

Being the lead vessel in a series of four Survey Vessels (Large) or SVLs, it is a reincarnation of another ship by that name. That ship, also a survey vessel, was commissioned into the Indian Navy in 1981 before being decommissioned in 2021. The ship had played a significant role in laying the foundation of complete hydrographic coverage of the peninsular waters.

The new INS Sandhayak and the remaining ships of the series



are far more advanced than their predecessors.

Its role and capabilities include:

- ▶ Full-scale coastal and deep-water hydrographic survey of port and harbour approaches as well as the determination of navigation channels and routes.
- ▶ Undertaking surveys of maritime limits and collection of oceanographic and geographical data for defence applications.
- ▶ Carrying a helicopter each, participating in low-intensity combat and function as hospital ships.
- ▶ Deployment for humanitarian assistance and disaster relief operations.

Salient Features

- ▶ 110-metre ship displacing about 3800 tons ; has over 80% indigenous content thus re-affirming India's expertise in design and warship construction.

- ▶ Propelled by two marine diesel engines combined with fixed-pitch propellers and fitted with bow and stern thrusters to help manoeuvre at low speeds during surveys.
- ▶ Equipped with state of the art Hydrographic and Oceanographic equipment including **Autonomous Underwater Vehicle (AUV)**, **Remotely Operated Vehicle (ROV)**, and **Multibeam Echosounder (MBES)**.
- ▶ The vessel is equipped with sophisticated sonar systems and represents the pinnacle of modern naval engineering.

Conclusion

INS Sandhayak means the one who carries out a special search. The crest depicts the sixteen points of a mariner's compass, enclosing a 'divider' and an 'anchor' riding the sea, symbolising the charting of oceans, which is the basic role of the survey ship. **The commissioning is an affirmation of India's expertise in warship designing and construction.**



AI and National Security



CHIEF OF DEFENCE STAFF
GEN. ANIL CHAUHAN

On 3rd February 2024, Chief of Defence Staff (CDS) Gen. Anil Chauhan revealed a book named, *Artificial Intelligence and National Security*, at Pune's Defence Literature Festival, *Kalam and Kavach* - blending India's heritage with contemporary security strategies.

This book analyses the implications of various challenges - technical, legal, ethical and matters relating to privacy, human rights and civil liberties regarding Artificial Intelligence (AI) and National Security. It also attempts to provide solutions to lessen or eradicate these challenges wherever possible.

The festival was held at RSAMI Institute and was organised by HQ Southern Command and Pentagon Press.

Both the Army Training Command and College of Defence Management had recently brought

out a few booklets on age old Indian stratagems used by our ancient empires. Even Army has launched a project *UDBHAV* along with United Services Institution to research on indigenous military systems with age old battlecraft and wisdom in order to integrate it with modern warfare.

Relevance of ancient Indian stratagems

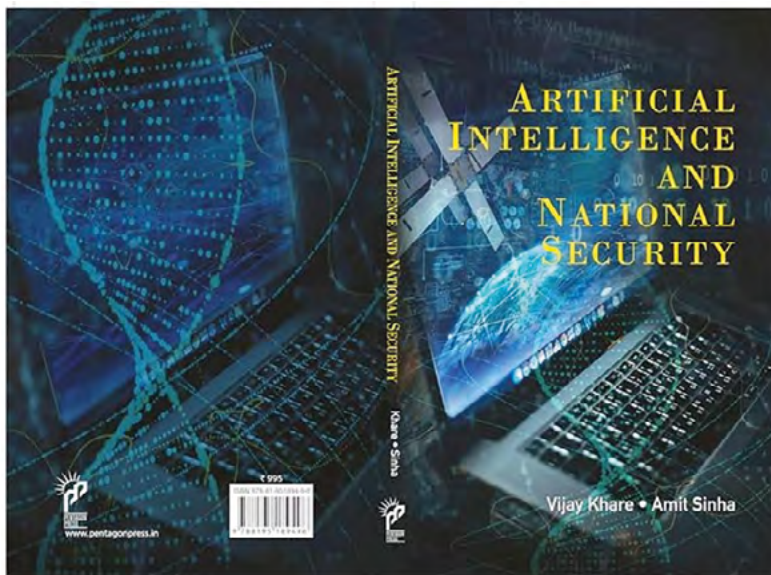
In his address, CDS Chauhan delved into the relevance of ancient stratagems such as **Sun Tzu's *Art of War*** and **Kautilya's *Arthashastra*** in the context of modern warfare. Despite debates surrounding their applicability in an era dominated by artificial intelligence and nuclear warfare, CDS Chauhan advocated for a balanced approach. Although military weapon systems supporting tactics and various organizations have all undergone a revolution, there still is scope for application



Dr. Vijay K. Khare is former Professor & Head, Department of Defence and Strategic Studies (DSSS), National Defence Force University (NFU), Dhaka who awarded the Fulbright-Nehru Fellowship by USA and Erasmus Fellowship by the European Commission. He was also awarded World Fellowship by the United Nations University, Tokyo, Japan. Dr. Khare was selected for the United Nations Short Course on "Building Security, Resilience" United Nations, Dhaka. He received first doctoral fellowship from the University Grants Commission (UGC), and Social Scientist award for the research work under the Indo-French Social Scientist Exchange Programme of the Foundation Maison des Sciences de l'Homme Paris.

His areas of expertise are national security, non-traditional security, terrorism and counter-terrorism, peace and conflict resolution, human rights, institutionalization of higher education and Sustainable Values.

Colonel Amit Sinha is a retired military officer with over 17 years of service in the Indian Army. He joined the Indian Military Academy in 1984 and was commissioned into the Corps of Signals in 1985. With a B.Tech. in Telecommunications from Jawahar Nalaya University and an M.Tech. in Law and Electronics from the Defence Institute of Advanced Studies, he possesses extensive knowledge. Colonel Sinha has commanded an Electronic Warfare Company in the Western Sector and a Corps Engineering Signal Regiment in the Eastern Sector providing communications during those counter-insurgency operations in Nagaland and Manipur. He has also served as Head of Communications at the Research Centre and contributed to the development of the Army's integrated communications network. Colonel Sinha's research interests lie in Artificial Intelligence and its application to national security, which he explored during his one-year research scholar program at Heritage India University. His findings are published in the book *Artificial Intelligence and National Security: Can India be a Contending & Dominant Power in East Asia*.



The book is a collaborative endeavor of an esteemed academician and a dedicated uniformed soldier, shedding light on India's current position in the dynamic landscape of artificial intelligence (AI). It delves into the nexus of the global "AI boom", a transformative phenomenon reshaping industries across the globe. It meticulously examines the progress made in AI in India over the past few years, examining the role played by the Government through the NITI Aayog, in setting the tone for AI initiatives within the country. Furthermore, it examines the collective efforts of government bodies, industry players, academic institutions, and defence organizations in harnessing AI's potential to fortify national security.

One of the book's distinctive features is its comparative analysis of India's progress with that of the P3 nations, including the USA and China, who are currently engaged in fierce competition for AI dominance. In just half a decade since its initial steps into the AI arena, India has managed to ascend to the ranks of the top 10 nations, a remarkable achievement that underscores its growing prominence in the AI landscape. Backed by a wealth of meticulously researched facts and figures, this book provides readers with invaluable insights into how India is leveraging this disruptive technology to significantly impact military operations and bolster national security. An issue marked by the emergence of the Fifth Generation of Warfare (5GW) and another change in the character of conflict, this book explores AI's role as a game-changer in global geopolitics.

"Artificial Intelligence and National Security" is an indispensable read for think tanks, strategists, and policymakers. It not only addresses the potential benefits of AI for national security but also addresses the ethical concerns surrounding it. Moreover, the book outlines a roadmap for the development and implementation of critical AI strategies aimed at ensuring the security and well-being of the nation in a rapidly changing global scenario.



of the ancient stratagems as the evolving landscape of national security seeks inspiration from our timeless scriptures he remarked.

To study and understand from our ancient scriptures like *Mahabharata* and *Bhagavad Gita* is very much relevant even to modern strategic needs as the principle of *Dharma* underscores the principles of duty, righteousness and moral balance which is the essence of any warfare.

The festival celebrated the launch of several significant books, including 'AI and National Security' by Colonel Amit Sinha and Vijay

Khare shedding light on the intersection of artificial intelligence and national defence. *Russia, Gaza, Taiwan... A World at War* by Ajay Singh provided insights into global geopolitics.

The festival in its culmination brought together experts from various fields and industry leaders to discuss wide ranging topics from global conflicts to the role of heritage in security besides self-reliance in defence manufacturing and production. It stands as a beacon for the future events that aims at a deeper understanding of the intricate connection between history, culture, defence and security.



Underwater Harbour Defence and Surveillance System inaugurated



The IUHDSS system is equipped to detect, identify, and track both surface and underwater targets.

Indian Chief of Naval Staff (CNS), Admiral R. Hari Kumar inaugurated two new state-of-the-art naval facilities in the Andaman & Nicobar Islands during his 3-day visit to the strategic Tri-Services Command in February. The first one is a Precision Approach Radar (PAR) located at INS Utkrosh on South Andaman Island. The next is an Integrated Underwater Harbour Defence and Surveillance System

(IUHDSS) at the Naval Jetty in Port Blair.

The Precision Approach Radar is designed to provide precise guidance for aircraft landing in challenging weather conditions like heavy rain and fog. This domestically manufactured radar will provide highly accurate horizontal and vertical guidance during low visibility scenarios.

The IUHDSS system is equipped to detect, identify, and track both surface and underwater targets near the naval jetty in Port Blair, enhancing their security apparatus.

During this visit, Admiral Kumar also laid the foundation stones for the sailor's accommodation at Vijay Baugh. He inaugurated Naval Communication Network (NCN) Centres at INS Kohassa, INS Baaz, and INS Kardip as well. These centres will serve a critical role in improving communication and operational abilities, bringing real-time situational awareness and joint communication efforts.



Credit Records - CIBIL score

The Government of India has announced a scheme for enabling the middle class to buy/build their own home.

Gita and **Shravan** sat in the living room for their weekly financial awareness discussion with grandpa. They flipped through the notes that they had jotted down for the discussion.

Grandpa sat in his easy chair, reading a newspaper. Mom brought in coffee, handed over a cup to grandpa and sat on the sofa sipping hers.

“I love Saturday mornings”, mom relaxed on the sofa with a weekly magazine.

Grandpa smiled. “I too love Saturday mornings. That’s when I get to chat with the children and share stories, experiences and knowledge.”

Grandpa turned to the children. “What did we discuss in our last session?”

Gita: “We learnt about the parameters of financial health and how it’s important to do a review at regular intervals.”

Shravan added. “We also talked about why buying a home

is a dream for many and for others who already live in their own house, buying another house could be an investment.”

Grandpa nodded. “There was something in the budget about housing. Did you read that?”

Mom: “Today, are you going to discuss about the budget?”

Grandpa: “Since this is an interim budget, there are no major changes in taxation. So, we will not discuss the budget in detail now.”

Gita: “We read in the highlights of budget 2024-25, the government has announced a scheme for enabling the middle class to buy/build their own home.”

Grandpa nodded. “Yes. Housing is very important for improving the economy and the standard of living of people.”

Mom: “That reminds me. Before I start searching for houses, I have to check with my bank how much home loan I’ll get and what the terms are.”

Grandpa: “Have you checked

your CIBIL Score? It's important to have a good score especially when you are applying for a loan."

Mom shook her head. "I have no idea. I haven't thought of it at all since I didn't need a loan till today."

The children asked. "What is a CIBIL score?"

Grandpa explained.

A CIBIL score is a three-digit numeric summary that determines your credit worthiness. Ranging from 300 to 900, the CIBIL score is provided by the Credit Information Bureau (India) Ltd., a credit rating agency which is authorized by the Reserve Bank of India (RBI).

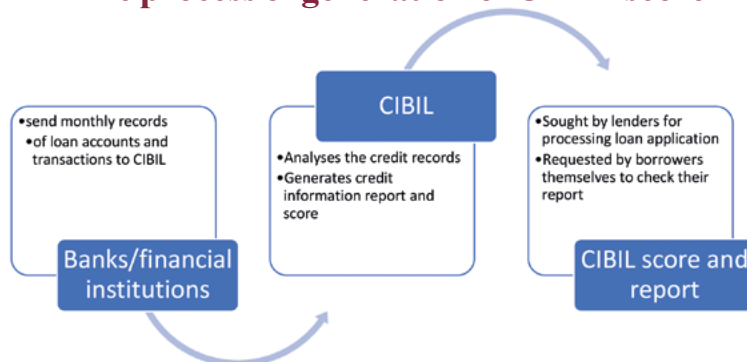
Shravan: "How does the credit information bureau get information about everyone to give a score?"

Grandpa explained.

1. Banks and financial institutions send monthly records of all loan and credit card accounts and transactions in the accounts.
2. CIBIL analyses the data and generates credit information report and credit score for each borrower.
3. The credit information report and credit score can be obtained from CIBIL by the borrower for checking his/her own details.



The process of generation of CIBIL score



4. Whenever lenders/banks/ financial institutions receive a loan application, they request for credit score and report from CIBIL about the prospective borrower.
5. If the CIBIL score is not satisfactory, the application will be rejected.

The CIBIL report is therefore useful for both borrowers and lenders. Borrowers with a good score can easily get their loans approved while lenders are also able to quickly check the credit worthiness of a loan applicant based on past records.

Gita: "What is a satisfactory score and what is an unsatisfactory score?"

Grandpa: "A score below 650 is unsatisfactory. It shows that there is a high probability of the borrower defaulting in repayment.

A score above 750 is considered satisfactory by lenders for determining eligibility of a borrower. The nearer the score is to 900, the greater the credibility of the borrower."

Shravan: "Does this mean that if one has a credit score of 750 and above, the loan will be automatically sanctioned?"

Grandpa: "Checking CIBIL score is the first step in deciding whether a loan application can

be processed or rejected. **CIBIL score defines the credibility of the borrower."**

He continued: "We have learnt about financial discipline and financial health earlier.

What else do you think is important for getting a loan sanctioned?"

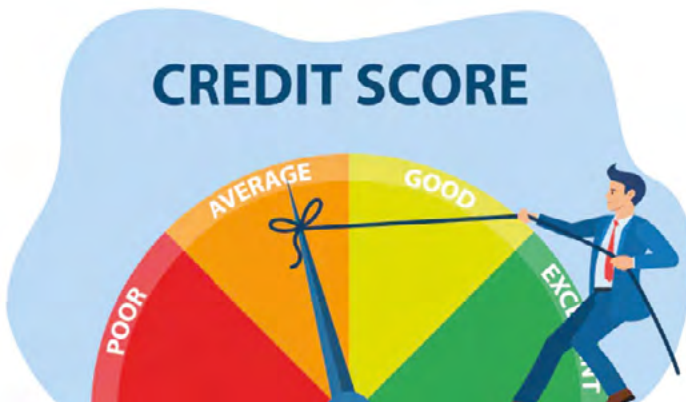
Gita: "Debt to income ratio. We saw that lenders prefer a ratio of 20 to 36 % for sanctioning a fresh loan."

Shravan asked. "Can lenders get this information from the CIBIL report?"

Grandpa nodded. "Yes. The CIBIL report shows the following information about the borrower."

1. CIBIL score
2. **Personal information** – Name, date of birth, PAN number, contact details.
3. **Employment information.** Monthly/annual income is reported here.
4. **Account information:** The loan accounts, credit cards and other borrowings are listed here along with the outstanding balances.
5. **Payment information:** The repayment schedule of each loan, the due dates and the date of actual payment is reflected in this part of the report.





6. Enquiry information: Whenever a lender makes an enquiry about a borrower from CIBIL it is reflected in this part of the report.

Grandpa continued, “From the CIBIL report, the lenders can know the credit history of the borrower, the repayment pattern and the existing loans outstanding. Banks can calculate the debt-to-income ratio from the available information. The maximum it can go after sanction of fresh loan is 50%.

Let’s look at an example to understand how this works.

Suppose there are two brothers Ram and Shyam who want to take a home loan for buying a house.

Their details are given below. Can you see who will be eligible for a home loan?

The children wrote down.

Particulars	Ram	Shyam
CIBIL score	820	700
Monthly income	80,000	1,20,000
Existing EMI	16,000	60,000

EMI to income ratio of Ram = $16000/80000 \times 100 = 20\%$

EMI to income ratio of Shyam = $60000/120000 \times 100 = 50\%$

They answered. “Ram is eligible for home loan whereas Shyam is not eligible as he has already reached the maximum repayment of 50% of income.”

Grandpa nodded. “Right. The first check in considering a loan is CIBIL score. If the score is not good, the application will be rejected. If the score is satisfactory, then banks go to check the income and repayment parameters.”

Mom: “I think my CIBIL score should be fine. I only have a credit card which I pay in full on due date.”

Grandpa shook his head. “It’s better to check your CIBIL score so that there are no surprises.”

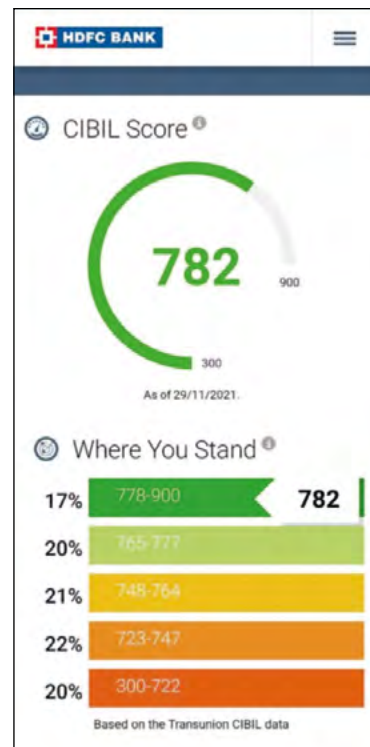
Grandpa continued. “Your CIBIL score should be reflected in your mobile banking/internet banking.”

Mom: “I haven’t noticed this till date because I was not interested in any loan so far.” She checked the mobile app of her bank. She exclaimed. “My score is 791.”

She continued. “I am not able to see my CIBIL report. There is some technical error.”

Grandpa replied. “You can go to the website of CIBIL and request for your CIBIL report.”

Mom shook her head. “I’m very busy. I have a lot of chores to complete today. And, I may not



even apply for a loan immediately. Anyway, I am wondering why my score is not higher since I have always repaid by credit card bills in time.”

Grandpa replied. “Do request for your CIBIL report and check it whenever you find time. You need to check whether the details are reflected correctly in the report.”

Shravan asked. “Grandpa, why do you insist that Mom should check her CIBIL report?”

Gita added. “What factors impact the CIBIL score? If the score is low, will one never get any bank loan, or is there a way to improve the score if one puts in genuine efforts?”

Grandpa smiled. “In our next discussion, I will tell you why it is important for us to check our CIBIL score even if we don’t need a loan immediately. We will also see the factors that affect our CIBIL score and what we can do to improve our CIBIL score.”





Introduction to Corporate Law



Corporate law, as the name suggests, refers to the legislations and legal framework applying to corporations or companies.

CONTEXT

This series has delved into the basics of several branches and functions of law, and a considerable portion of it has been looked at from the perspective of either an individual or the society at large. However, it is important to know that there are many areas of law which apply to organisations, such as companies, partnership firms, trusts, societies, etc. In this edition, we will be looking at one such field of law – **corporate law**.

Corporate law, as the name suggests, refers to the legislations and legal framework applying to corporations or companies. **There exist law and rules governing every stage of the life cycle of a company, from incorporation (starting-up) until liquidation/dissolution (winding up).**

WHAT IS A 'COMPANY'?

From a commercial or business perspective, some of the features characterising a company are:

- ▶▶ Corporate identity/entity
- ▶▶ A business/profit objective
- ▶▶ Operation under a common seal
- ▶▶ Members or shareholders who have contributed to the capital of the company and have limited liability (to the extent of capital contributed/shares held)
- ▶▶ Shares or stock of the company which can be transferred from one person to another
- ▶▶ Perpetual succession, irrespective of change in persons involved in the company's ownership or management



In the eyes of law, a striking factor is that a ‘company’ is an independent entity, an artificial person which has its own rights, obligations and liabilities. It has an identity that is different from the identity of its owners, directors or managers, unlike a different kind of business organisation like a sole proprietorship, wherein the identity of the proprietorship entity and the owner (proprietor) are one and the same.

THE ‘CORPORATE VEIL’

The fact that a company is considered to have a separate identity, means that the company itself is held responsible for violations, etc., though it is not a natural person. This theory has been highlighted in cases including *Salomon v. Salomon & Co. Ltd.* [1897], a landmark judgment of the House of Lords in the UK.

SALOMON V. SALOMON & CO. LTD. [1897]

FACTS Salomon was a leather merchant who incorporated the

company *Salomon & Co. Ltd.* He held almost all the shares of the company, with the remaining shares being split amongst his spouse and children. The company bought Salomon’s leather business and by incurring debt, it was ultimately owed to Salomon and his family (the shareholders). As a result of such debt, the company had to be wound up and could not repay its creditors.

ISSUES

1. Whether the company was a mere agent or alias of Salomon
2. Whether Salomon may be held liable for the debts/obligations of the company.

DECISION

While the lower courts held that Salomon was liable to indemnify (pay) the Company for its liabilities, the House of Lords unanimously upheld the separate legal entity theory. It was thus decided that the company’s identity was separate from that of Solomon and he could not be held personally liable.





CHM Piru Singh

Company Havildar Major (CHM) Piru Singh was born on 20th May 1918 in the village of Rampura Beri village, Rajasthan. He joined the Indian Army the age of 18. He had initially served in Punjab and later participated in World War II. Shortly, he passed the Indian Army First Class Certificate of Education and got promoted to the rank of Lance Naik in 1940. In September



DO YOU KNOW?

- ♥ **Darapari** is a hill feature in Tithwal Valley over 1100 feet high.
- ♥ **Rajputana Rifles** is the senior rifle regiment of the Indian Army. Its first battalion was raised in January 1775. The Rajputana Rifles fought gallantly in the 1965 and 1971 India-Pakistan wars.
- ♥ First-day cover on Company Havildar Major Piru Singh was issued by the Army Postal Service dated 18th July 1977.
- ♥ The Shipping Corporation of India Ltd (SCI), named **fifteen of her Crude Oil Tankers in honour of the Param Vir Chakra recipients**. The crude oil tanker MT “Company Havildar Major Piru Singh, PVC” was delivered to SCI on 12th October 1984.

1941, he was posted as an instructor at the Punjab Regimental Centre and appointed as Company Havildar Major in May 1945. Later when he returned from the war in September 1947, he was assigned to the 6 RAJPUTANA RIFLES. During the Indo-Pak War of 1947-1948, CHM Piru Singh participated in the Battle at Darapari in



Tithwal in J&K, where he fought gallantly and displayed exemplary leadership.

India and Pakistan have long been at odds over Pakistan's attempts to annex Jammu and Kashmir. The state was important because of its strategic location. 6 RAJPUTANA RIFLES was tasked to capture Tithwal Valley. The battalion was informed that the

enemy did not have enough time to dig in extensively and therefore could be easily dislodged. However, the information received was inaccurate and the battalion did not have enough time to conduct a proper survey of the enemy position.

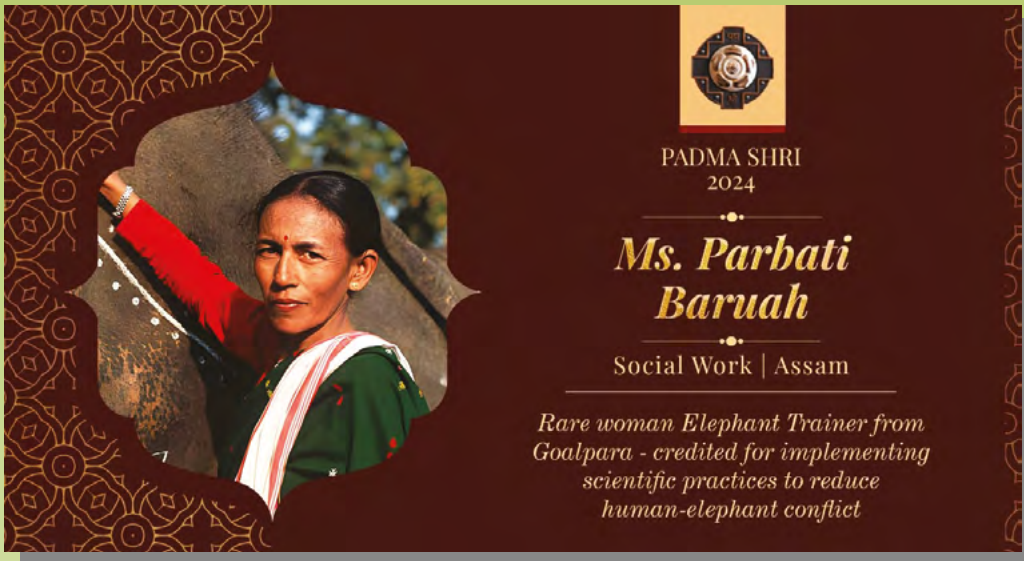
The attack for the capture of Darapari was to take place at 0130 hrs on the night of 17/18 July 1948. CHM Piru Singh's platoon was at the forefront of an attack. CHM Singh took command after the platoon commander, Subedar Bhika Singh was injured and led the platoon against the enemy's fire. D Company, which included CHM Piru Singh, had the task of capturing an enemy-held hill feature south of Tithwal.

The enemy was well dug in and had Medium Machine Guns (MMG) covering likely approaches. They attacked Singh's platoon with grenades and heavy fire from their bunkers. Piru Singh was assigned to the forward-most section. He remained committed despite seeing more than half of the section wounded.

He encouraged the remaining men with battle cries and moved forward with tremendous purpose to the nearest enemy MMG position. He disregarded his safety and continued to advance. Singh realised that he was the sole survivor of the section and the rest were either dead or wounded. Shortly, another grenade was thrown at him, which wounded his face. With blood dripping from the wounds on his face, he crawled out of the trench, hurling grenades at the next enemy position. As he came from the second trench to charge the third enemy bunker, he was shot in the head by a bullet and was last seen falling into the enemy trench. An explosion in the trench indicated that his grenades had done their job.

Company Havildar Major Piru Singh laid down his life in the highest tradition of the Indian Army. He left behind a legacy of exemplary leadership, conspicuous courage and undeterred determination. He was awarded Param Vir Chakra posthumously.





Parbati Baruah



Parbati Baruah was born in Gauripur, Assam, and comes from a family of elephant experts. Her father, Prakritesh Barua, is an internationally acclaimed elephant expert. Parbati began playing with elephants as a child, and at the age of 14, she captured her first tusker in the Kachugaon forests in Kokrajhar district. She defied gender stereotypes and became a mahout in 1972. Since then, she has carried out several tasks towards elephant conservation, gaining prominence and even becoming the subject of a BBC documentary called "**Queen of the Elephants.**"

As an elephant mahout, Barua has committed herself to mitigating human-elephant conflict. She has also assisted three state governments in tackling and capturing wild tuskers. In one instance, she helped a herd of over 50 elephants that had lost their way and were causing destruction in West Bengal's Midnapore district.

When the state authorities were unable to capture them, Barua was invited. With her four elephants and team comprised of other mahouts and fodder collectors, Barua was able to guide the tuskers back to their way, and after a great effort for a fortnight, the elephants were brought back on their normal migratory trail.

Barua's work has not been without challenges. In March 2003, she had to kill an elephant who had gone on a rampage in Chhattisgarh. She once said, "My work is to rescue man from the elephants and to keep the elephants safe from man. All the elephant wants is peace and safety."

Despite her accomplishments and recognition, Barua continues to live a life of simplicity in Jalpaiguri. She lives in a simple tent with a threadbare mattress, surrounded by the tools of her trade such as ropes, chains and khukris. **Her love and dedication towards elephants are truly inspiring and remind us of the importance of following our passions and dedicating ourselves to causes that matter.**



Dr. Renu Swarup

First woman secretary of DST

Dr. Renu's initiatives for COVID-19 vaccine development and streamlining resources towards a warpath for accelerated vaccine development are exemplary and will be emulated for years to come.

To ensure that our country kept abreast of global developments in the field of biotechnology, the **Department of Biotechnology (DBT)** was set up by our government in 1986. It was around this period, Dr. Renu Swarup, a post-doc from John Innes Centre, England, returned to keep up the commitment and promise she had made to herself and to her parents, that she would serve our country. Dr. S. Ramachandran, Secretary of this department and a great visionary was looking for the right kind of people who have the strength to help our country leap forward and catch-up with the rest of the world! He spotted the fire in her and appointed her

as science manager in 1989. Three decades later, when the world was hit by the pandemic, she led our country's scientists to battle this virus successfully.

Her initiatives for COVID-19 vaccine development and streamlining resources towards a warpath for accelerated vaccine development are exemplary and will be emulated for years to come.

In today's global-village, international partnerships are necessary to strengthen both research and translation. In her career spanning over 32 years, Dr. Renu served in various capacities as chairperson of BIRAC, as a member of the empowered group set up by



Dr Renu was responsible for bringing out various policy documents as well for setting up the frameworks on research, technology and product development.

the prime minister on management and emergency response to COVID 19, till she retired as the Secretary of DBT. She also served as the first woman secretary of the Department of Science and Technology (DST) of our country. She was responsible for bringing out various policy documents as well for setting up the frameworks on research, technology and product development. She implemented many schemes for imparting necessary education and skills in the field of biotech for forthcoming generations.

Dr Renu credits her parents on how she learnt to handle new environments and responsibilities at every stage. Her father was an officer in defence forces.

He was frequently transferred to different parts of our country and she had to change schools almost ten times. She recalls, “Shifting schools in middle of academic year with hardly three months for final exam, we had to face new set of teachers, classmates and neighbourhood, along with study material to catch up. All these taught me adaptability. Making friends, adjusting to the new environment made me more open-minded. We had challenges set in front of us, we had to adjust

to a new system, cope in the given time target and I wanted to do my best. This has helped me till now, to handle surprises that life would throw unexpectedly.”

When she was about to start her research work at NDRI lab at Lucknow, her father was posted to Dehradun suddenly. Having used to facing challenges right from the childhood, she looked for new avenues.

So she did her Ph.D. in forest genetics and plant biotechnology in the new place in a new direction that was never heard-of before. This open-mindedness and boldness to face the reality helped her seek new avenues and solutions throughout her career.

Later, with the most prestigious Commonwealth Scholarship, she completed her post-doctorate in applied biology in England. Infrastructure and other facilities one get to see in foreign labs need not intimidate a researcher, she says. “Self-conviction is important. Do not let failures stop you.

I always had the best teachers throughout to guide me. As a student, I used every opportunity to update myself on the research developments worldwide.



There is no substitute for hard work”.

As a member of Special Empowered Group on vaccine development and administration, she was at the helm of the government's efforts to boost vaccine development in the country. Mission COVID Suraksha, a ₹900-crore mission helped us develop a number of vaccines in a short time, launched under the **Atmanirbhar Bharat**. “India was one of the first countries which got its roadmap to fight the disease ready along with developed nations such as the US, the UK in the WHO meeting in February 2020.

We identified vaccines as our biggest strength. The government supported this high-risk innovation funding for new vaccine development platforms and that's how the industry got the confidence to work on mRNA and DNA vaccines.

I also strongly believe that we could achieve it because we have been investing in the basic science ecosystem for some years now,” says Dr.Renu. **In a short span of time, our country delivered world's first DNA vaccine, first vaccine for children 12 years**

above, mRNA vaccine, and the first protein based indigenous vaccine Corbevax. She led the largest National Genomic Surveillance for SARS-COV-2 established by DBT. The largest start-up network was supported for indigenous development of COVID diagnostics, having more than 100 lakhs tests/day production capacity. **To achieve this, she set up the largest bio-pharma ecosystem of clinical trial sites, many immunoassay labs, new animal challenge facilities and National biorepositories were created.**

UNATI Mission Clean Technologies for Swachh Bharat, GARBH-ini and Fortified Wheat Nutritional Improvement through NAMI, Mohali are a few unique programmes that she spearheaded which our future generation would be thankful to her. India is today recognized for more vibrant biotech start-up ecosystem. Dr.Renu Swarup was responsible for creating that kind of supportive system by setting **Biotechnology Industry Research Assistance Council (BIRAC)** in 2012, which now helps bring innovation excellence to the biotech firms and make them globally competitive.

She has been instrumental

in the launch of major National Missions like **Genome India** (the first Human Genome cataloguing initiative covering Indians), a special mission on rare and genetic disorders and **IndCEPI** (for developing new vaccines for chikungunya, dengue and pneumococcal disease). Under her leadership, a surveillance system of 30 network labs in the country has been established to generate quality data on antimicrobial resistance for pathogens of public health importance. These efforts have ensured development of high quality affordable products through global partnerships that saves billions of lives and livelihoods of families.

She has not left any stone unturned in this mission to take the benefits of S&T to every possible corner to her best. Dr. Renu Swarup has been actively engaged in providing direction to biotechnology activities in India, through major programmes such as

- ▶▶ World Bank funded National Biopharma Mission
- ▶▶ largest 2G ethanol technology network
- ▶▶ mission innovation on clean energy
- ▶▶ Swachh Bharat – waste to energy network
- ▶▶ Biodiversity characterization of our country's forest cover using Spatial technology
- ▶▶ largest microbial diversity collection
- ▶▶ certification system for tissue culture plants
- ▶▶ BioCARE programme, where more than 500 women scientists have been given re-entry research grants
- ▶▶ Bioeconomy Road Map
- ▶▶ The National Biotech Strategy 2021-2025



▶▶ National Biotechnology Development Strategy.

“Self-discipline, setting and following fixed routines, planning meticulously helped me to move on in my research and career. Nothing can deter you from your goals, if you are grounded by your principles and values, which one has to set for oneself. Believe you can handle any hurdle you face as a student or in your career. Consider every day as a learning experience and to make

it better, go back, analyse different factors as you do in a science lab.”

Dr. Renu Swarup is

- ▶▶ a fellow of National Academy of Science India (NASI),
- ▶▶ member, TWAS, The World Academy of sciences,
- ▶▶ member, Organization for Women in Science for the Developing World (OWSD),
- ▶▶ life member of Trust for Advancement of Agricultural

Sciences (TAAS), Indian Science Congress Association
▶▶ member of British Association of Scholars and Genetical Society, UK.

To acknowledge her support in microbial diversity research in India a newly discovered microbial species *Natrialba swarupiae* has been named in her honour.

Her humanitarian work through S&T initiatives and Mission COVID Suraksha shall keep her name etched in history forever.



All about Mumbai!



What, where and when?

1. When was Mumbai's name officially changed from Bombay?
2. What event does Mumbai's Gateway of India commemorate?
3. What is the name of the sea bridge that connects Mumbai with Navi Mumbai and is the largest in India?
4. When did the Mumbai terror attack take place?
5. Which famous political party was founded here in 1885?
6. When did Mumbai become the capital of the newly created state of Maharashtra?
7. What is the name of Mumbai's largest park?
8. What is the nickname of Mumbai's local train system?
9. Which two places in Mumbai does the Rajiv Gandhi sea link connect?
10. What is the Mahalaxmi Dhobi Ghat known for?




UNESCO World Heritage Sites in Mumbai

The amazing city of Mumbai is home to three UNESCO World Heritage Sites. Can you find them with the clues given below?

1. Formerly known as the Victoria Terminus station, this is an outstanding blend of Victorian, Gothic and Indian architecture. This was the first terminus station in the subcontinent.
2. A spectacular 66.34 hectare ensemble of buildings from two very distinct and contrasting styles of architecture - 19th century Victorian neo-Gothic public buildings and 20th century Art Deco structures in Mumbai's Fort area.
3. A collection of cave temples also known as Gharapuri. This site contains rock cut stone sculptures that depict Hindu and Buddhist ideas and iconography.



Trivia !!!

 Mumbai is the financial, commercial and entertainment capital of India.

 Mumbai is an amalgamation of seven islands.

Originally, Bombay comprised seven islands - Isle of Bombay, Colaba, Old Woman's Island (Little Colaba), Mahim, Mazagaon, Parel and Worli. They were united to form the metropolitan city we know today by the Hornby Vellard project, undertaken in the mid-18th century transforming Mumbai into a major seaport on the Arabian Sea.



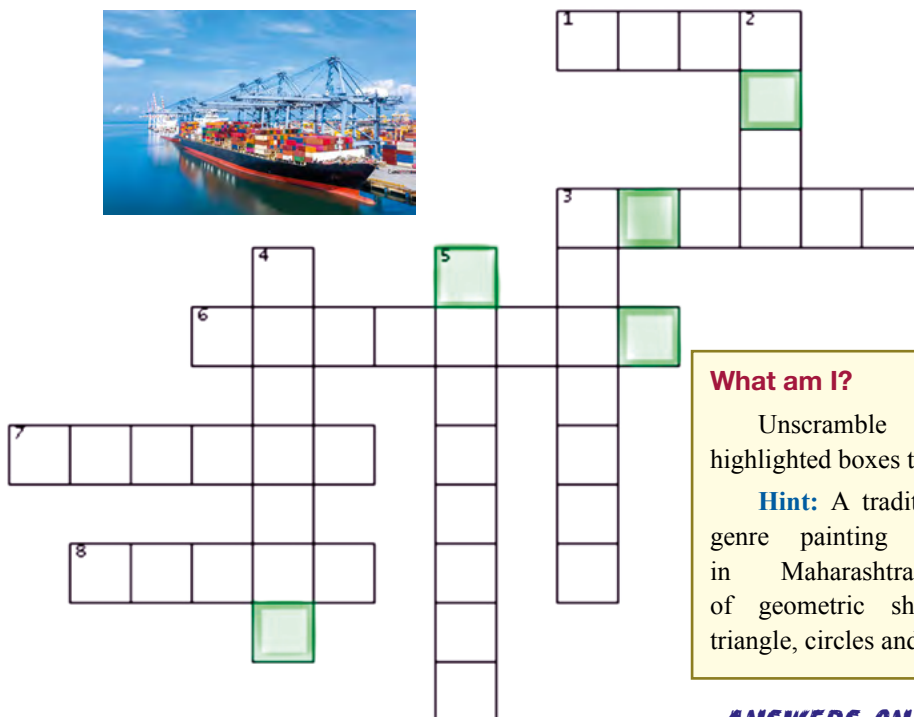
Mumbai!

Across

1. Famously known by this name, this was the first bus transport services started here in India.
3. Mumbai is also known as the 'City of _____'.
6. _____ Palace is India's first five star hotel opened during the British Raj.
7. Mumbai lies on this coast.
8. River that flows through Mumbai.

Down

2. _____ Mumbai Marathon takes places annually and is the largest in Asia.
3. Asia's largest slum.
4. Most commonly spoken language in Mumbai.
5. Mumbai's famous cricket stadium.



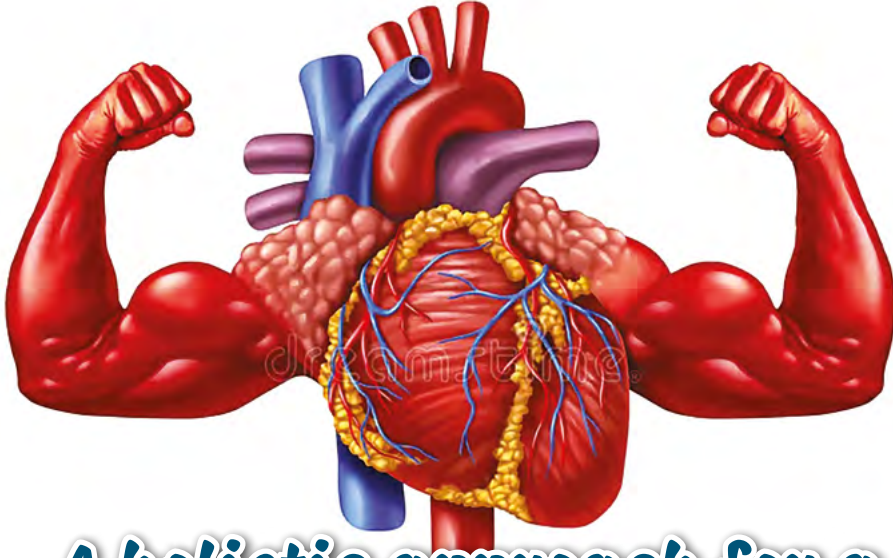
What am I?

Unscramble the highlighted boxes to find me.

Hint: A traditional folk genre painting developed in Maharashtra, made of geometric shapes like triangle, circles and squares.

ANSWERS ON PAGE 66





A holistic approach for a healthy heart



We often hear about young people experiencing heart attacks these days. What could be the reason? Is there a holistic approach to preventing heart attacks?

What is a heart attack and what are heart diseases?

A heart attack typically happens when a blood clot obstructs blood circulation to the heart, leading to the death of tissue due to lack of oxygen. Symptoms may include chest tightness or pain, discomfort in the neck, back or arms, as well as fatigue, dizziness, irregular heartbeat and anxiety. Women are more prone to experiencing unusual or atypical symptoms compared to men.

Heart disease encompasses a variety of conditions such as **coronary artery disease (CAD)**,



high blood pressure, heart failure and arrhythmia or irregular heart rhythm. In this discussion, we'll concentrate on CAD, which is the most prevalent and is often synonymous with "heart disease."

Heart disease is characterized by narrowing of the blood vessels that supply blood to the heart muscle. Arteries are responsible for delivering oxygen-rich blood to all organs, including the heart.



When the coronary arteries become obstructed, the heart muscle does not receive enough oxygen, resulting in symptoms such as **angina** (heart pain). In extreme cases, severe blockages can lead to heart attacks and even death.

Why the increase in heart diseases recently?

In the past three decades, the global death and disability rates due to cardiovascular disease have been consistently increasing. In 2019, this health issue, which encompasses heart disease and stroke, accounted for approximately one-third of all deaths globally. Then, the COVID-19 pandemic occurred. During the coronavirus pandemic, cardiovascular disease emerged as a significant risk factor for severe cases of COVID-19, often leading to hospitalization and death.

Researchers suggest that the

rise in cases of heart diseases is expected to be significant due to population growth and aging. With more people, we can anticipate more instances of heart attacks, strokes and hospitalizations due to heart failure. Moreover, aging is a complex process. In certain countries, individuals have a shorter life expectancy due to various diseases and socioeconomic conditions.

What is the holistic way to maintain the heart health and prevent heart diseases?

Traditionally, heart disease has been linked to metabolic diseases like diabetes and high cholesterol levels. However, recent research suggests that constant inflammation in the body may also play a significant role in the development of heart disease. According to Ayurveda, inflammation is a sign of an imbalance in the body's fiery

energy (known as *pitta*). This imbalance can lead to problems like heartburn and ulcers, as well as blockages in the arteries.

To prevent and treat heart disease, it is essential to take a holistic approach that addresses both the body and the mind. This includes eating a healthy diet, getting regular exercise and managing stress. Eating whole foods like fruits, vegetables, whole grains, nuts and seeds can help keep the heart healthy. It is also important to avoid processed foods and unhealthy fats and balance the intake of omega-3 and omega-6 fatty acids.

Exercise is another crucial component of heart health. Aerobic exercise, like walking or cycling, can help improve blood flow and reduce the risk of heart disease. Yoga can also be extremely beneficial, as it can help reduce stress and promote relaxation.

Finally, it is important to take care of emotional health. Stress, fear and other negative emotions can have a significant impact on the health of the heart. Practices like meditation, journaling, spending time with loved ones and proper sleep habits can help promote emotional well-being and reduce the risk of heart disease.

In conclusion, though heart disease is a serious health issue affecting millions of people worldwide, by taking a holistic approach to heart health, including eating a healthy diet, getting regular exercise, and managing stress, it is possible to prevent and even reverse heart disease.

By taking care of our bodies and minds, we can ensure that our hearts stay healthy all our lives.





Preeti Rajak

first woman Subedar



The Pipping Ceremony is held soon after the Passing Out Parade when family members formally put the stars on a cadet's uniform marking their transition from cadet to officer.

Champion trap shooter Preeti Rajak has etched her name in history as the first woman to ascend to the rank of Subedar in the Indian Army. Her journey, marked by exceptional skill and determination, serves as an inspiration to aspiring female soldiers across the nation.

Preeti Rajak's remarkable odyssey began on 22nd December 2022, when she joined the Army's **Corps of Military Police (CMP)**, her entry facilitated by her stellar performance in trap shooting. Hailing from Itarsi in Madhya Pradesh, her background as the daughter of a dry cleaner hardly

hinted at the heights she would soon achieve.

Her prowess in the shooting discipline quickly garnered attention, and **during the 19th Asian Games held in Hangzhou, China, in 2023, she clinched a silver medal in the women's trap team event.** This feat not only showcased her talent but also paved the way for her unprecedented promotion to the rank of Subedar, bypassing the traditional trajectory that soldiers typically undergo to attain such a position.

The Army's decision to recognize her exceptional abilities underscores a shift in its approach





towards embracing talent from diverse fields. Subedar Rajak's elevation serves as a beacon of hope for aspiring female soldiers, particularly in the realm of sports.

Training diligently at the **Army Marksmanship Unit (AMU)**, she is now focused on preparing for the upcoming Paris Olympic Games in 2024.

Her dedication and commitment to both her sport and her service exemplify the values upheld by the Indian Army.

The significance of her achievement reverberated during the pipping ceremony, where Lieutenant General Gajendra Joshi, Commandant of the Infantry School, presided over the event.

The Army's statement emphasized that Subedar Rajak's accomplishments would not only inspire future generations of women to join the military but also encourage them to excel in professional shooting.

In a parallel recognition of excellence, Padmashri and Arjuna awardee Subedar Major and Honorary Lieutenant Jitu Rai were



also promoted for their meritorious services.

Subedar Preeti Rajak's journey from a small town in Madhya Pradesh to becoming a trailblazer in the Indian Army serves as a testament to the limitless potential that lies within every individual, waiting to be unleashed through dedication and hard work.





Murud-Janjira Fort

Have you ever heard of a fort that stands strong in the middle of the sea, like a guardian of history? Let's dive into the intriguing world of Murud-Janjira Fort, a fascinating structure that has captivated the hearts of many.

Murud-Janjira Fort, situated on an island near the village of Murud in Maharashtra, is like a time machine taking us back to the 15th century. It was built by the Ahmednagar Sultanate and later ruled by the Siddis of Abyssinia. Despite various attempts to conquer it, this fort remained unconquered, standing proudly against the tests of time.

What makes this fort so special? It's not just a fort; it's a masterpiece of architecture. Picture this: dark basalt rocks sourced locally were skilfully crafted to build high walls, strong bastions and towering structures. The fort is like a puzzle, each piece perfectly placed to withstand the mighty waves of the Arabian Sea. Imagine being surrounded by 19 rounded bastions, each offering a

breath-taking view of the sea. These were not just watchtowers; they were the fort's protectors. Despite numerous attacks by the Portuguese, Marathas and the British, the fort stood tall, a symbol of strength and resilience.

Stepping into this fort is like stepping into a history book. Inside, there are palaces, mosques and freshwater tanks, each telling a story of the people who once lived there. To reach this fort, take a boat from the coastal village of Murud. The boat ride itself is an adventure,

with the fort slowly revealing its grandeur against the backdrop of the sparkling sea.

Managed by the Archaeological Survey of India, it welcomes visitors to explore its architectural beauty and learn about the tales it holds. The fort had a unique and advanced water supply system; has three large freshwater tanks that were built to store rainwater. These tanks provided a sustainable source of freshwater for the residents of the fort, even during times of siege or scarcity.





Captain Rambhau Lad

In Satara, Maharashtra, Ramchandra Sripati Lad (aka) Captain Rambhau Lad emerged as a formidable leader, wielding the "*Toofan Sena*" (Typhoon Army) the armed wing of a defiant parallel government known as the "*Prati Sarkar*" – to challenge British rule from 1943 to 1946.



His battlegrounds were not the grand arenas of conventional warfare, but the intricate tapestry of rural villages. As Chief of Operations, Lad masterminded audacious raids on British targets, his strategic brilliance exemplified by the legendary 1943 attack on a train carrying British officials' salaries. Instead of keeping the money, he used it to help villagers suffering from famine, showing his dedication to both freedom and justice.

Lad's influence, however, extended far beyond the battlefield. He established a training ground where young patriots were instilled with courage, discipline and unwavering sacrifice. His charisma resonated deeply with the local population, transforming him into a beacon of hope and resistance against the oppressive British Raj.

The fight for social justice found a powerful champion in Lad, who mobilized the public to join the struggle for a free and equitable India.

Though the *Prati Sarkar's* flames eventually dimmed, Lad's spirit remained resolute. He continued to champion the causes of social welfare and education, shunning recognition for his pivotal role in the freedom struggle. His passing in 2022 marked the departure of a remarkable individual whose life embodied the very essence of courage, resilience and unwavering dedication to his nation.

Captain Rambhau Lad's story serves as a potent reminder that the fight for freedom is rarely confined to the pages of history books or etched solely in the names of celebrated leaders.

His legacy is a testament to the countless ordinary individuals who dared to challenge the status quo, their valour and sacrifice paving the way for a brighter future. Lad's life continues to inspire generations, reminding us that the fight for justice and freedom is an ongoing pursuit, fueled by the unwavering spirit of those who dare to dream of a better tomorrow.



History of the FIGHTER JET Part 2

Scientific and technological advancements expanded the performance envelope of fighter aircraft by the outbreak of WWII.

In Part 1, we saw how fighter planes arose from the need to interdict surveillance aircraft that were used to map enemy positions for artillery barrages and infantry charges in WWI. Scientific and technological advancements expanded the performance envelope of fighter aircraft by the outbreak of WWII. And by this time many fighters had variants to perform surface attack missions also.

For the other major role of their fighters, which is aerial interception of adversary aircraft ingressing into defended airspace, fighters needed to reach the intruders as soon as possible. Unlike nations at war in Western Europe and North America which had natural barriers such as the English Channel and

rapidly advancing applications of technology in the war effort such as Radar, countries in North Asia and to a lesser extent in the Far East, had to have the military capability to intercept attacking aircraft with very short notice as by the time such threats are detected, the attackers are already at or near the border of defended airspace. Air patrols were not a preferred approach to air defence as aviation fuel was a scarce resource, particularly for these nations which depended on limited domestic production and imports from allies.

The solution was to have small, lightweight fighters stationed on bases near the front. The aircraft were rugged in requiring short

distances to take off and land and could operate in the unpaved airstrips that were drawn up as the battle front advanced and retreated over the course of several battles. **Being light weight, the aircraft had exceptional climb rates despite having less powerful engines than western counterparts and could turn tighter than almost all other aircraft.**

This meant that such interceptors took off on the first sign of an impending attack and climbed rapidly to the altitude of the attacking formation making its way deeper inland. With limited fuel and rounds of ammunition, the interceptors had short engagement time and narrow weapons discharge windows to exact a toll on the attackers. Such fighters leveraged the high turn rate, agility and superior climb rate/acceleration to both get adversary escort fighters in the cross hairs of their smaller cannons and also evade cannon fire from their larger adversaries which their unarmored airframe is vulnerable to. Strategies and tactics emerged in which the light fighters strafed on attacking formations while rising rapidly from underneath. This would be followed by the interceptors

shooting through the formation vertically at high speed catching the escorting fighters off guard. As the escorts power up, start ascending to merge and engage with the interceptors, the interceptor pilots would aim their aircraft directly down to make another pass at the formation, this time from above and so on as the interceptors swing around the adversary formation in an oscillatory motion, mostly in the vertical plane.

To increase the damage on attackers, the interceptor groups will typically consist of a large number of aircraft, each with narrow engagement windows but acting in coordination in either simultaneous or in rapid succession, to overwhelm the heavy, powerful escorts. A clear takeaway from these clashes in WW II was the importance of tactics, the significance of which was not completely internalized by many Air Forces which were combatants in such duels.

The fighters of European powers were in the middle, with more performance and sophistication than Eastern designs and with superior tactical effectiveness than many Western designs.

As the war drew to a close, the larger resource base, ingenuity, coordinated efforts, technological edge and resolve to survive of the Allies prevailed, with air combat outcomes driven as much if not more by resource availability (and aircraft, pilot, armament replenishment) as by aircraft, crew, maintenance and logistics functions' performance and effectiveness. Despite this argument, all combatants on both sides had produced successful fighter designs by the end of the war. The fighter had also evolved, to have families with member variants that can perform surface attack, reconnaissance and special operations.

Closely following the end of the war, was the birth of the jet age. By 1950, several fighter jet designs were already in serial production. Another development was the introduction of the guided missile in air-to-air warfare. These technological developments, coupled with the immense learnings from the war (at great costs that perhaps shall never be forgotten) and the yawning gap in combat capability between the victors and the rest of the world led to the school of planned warfare. Never wanting a repeat of Pearl Harbour and Operation Barbarossa, both superpowers built extensive intelligence networks worldwide. These among other things, were meant to determine the intentions, capabilities and plans of all countries of significance, particularly potential adversaries. The planned war is meant to be one in which the enemy's order of battle is reasonably known and such foreknowledge enables the formulation of effective counter offensives. Buttressing this would be purpose designed weapons that allow for swift and





decisive conclusion of hostilities with minimal losses to the more informed, better prepared military.

There was a period of more than a decade immediately following WWII. During this the Western superpower had a larger stockpile, higher production rate of nuclear weapons, as well as greater means of delivering them (Aircraft, Ships, Artillery (tactical), Submarines). Yet, an unprovoked unilaterally initiated armed conflict without heed to established conflict resolution protocols and frameworks between the superpowers became increasingly unlikely. That's because such a clash however limited would quickly escalate to a nuclear exchange decimating both powers. That the two superpowers of the post war world did not share a land border helped greatly in alleviating the threat of such direct conflict.

Armed conflict was much more likely however, between one superpower, sometimes accompanied by key partners in its bloc in a coalition arrangement, with smaller nation states that were either not aligned with the interests of the coalition or leaning towards

the other bloc. The general trend during the decade following WWII was armed conflict between powers that had capitalist economic systems with developing countries which had domestic political inclinations towards socialist governance models. Covert support and influence from the Socialist bloc were suspected by the Capitalist bloc which concluded that such covert re-engineering of regions in the guise of domestic political movements would lead to a loss of balance in global security.

The Capitalist bloc felt compelled to pursue military actions when political and economic support failed to arrest progression towards what it saw as totalitarian systems. Such military actions were guided by the principle of supporting entities in the local political landscape that ostensibly stood for multi-party democracy and in turn the values of liberty and free markets, the pivots of capitalism. In contrast, the Socialist bloc saw its single party system as achieving what democratic processes ultimately strive towards – the final goal of representing people's long-term interests.

This diversion into political ideology and geopolitics is

necessary to understand the typical mission profile and run up to the combat environment of fighter aircraft deployed by each of the two blocs. Western fighter jets, and combat aircraft in general, were typically required to fly deep into adversary territory to attack targets of strategic value.

This is in keeping with the principle of weakening only legitimate military targets relevant to clearly defined military objectives. These objectives were derived from well-articulated political rationale that was acceptable to the bloc's governance framework. There was also an implicit belief in the power of superior technology that was seen as the trump card to quickly end conflicts with almost no loss of life.

Unparalleled air power (including that from carrier based aircraft of the Navy) was deemed as sufficient to accomplish strategic objectives. Tactical missions that required aircraft to meet priorities of smaller frames of time and scale, such as defending local airspace over infantry on ground along a section of the constantly evolving battlefield were deemed less likely in this regime as ground action was generally not a major element in the military intervention plan.





WORLD
PULSES
DAY 10th February



Pulses: A powerhouse of protein

“As we celebrate World Pulses Day, let’s remember that these small seeds hold the power to transform lives, one nutritious meal at a time.”

Pulses are not just seeds; they are seeds of hope, health and sustainability.



SAFER INTERNET DAY

6th February



Here are some simple ways you can

connect. reflect. protect.



Connect safely

- **Keep your personal information private** on apps and games
- Only **share passwords with trusted adults**
- **Be kind and caring to others online** like you are in person

Reflect before you act

- **Think of others' feelings** before you post, like or share content
- **Ask someone if it's OK** before you take or share a photo or video of them
- **Be curious and ask questions** about what you read or watch online



Protect yourself and others by taking action

- **Be a supportive friend** if you see someone who needs help online
- **Ask a trusted adult for help** if something doesn't feel right