

# PRAJYA

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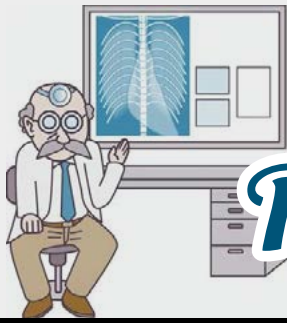


## Kaziranga

India's Second Largest Butterfly Diversity Hub

**446**  
Species





# World Radiography Day



**8<sup>th</sup> Nov**

The theme for World Radiography Day 2024 is "Radiographers: Seeing the Unseen". This theme highlights the importance of radiographers in healthcare and their role in diagnosing and treating medical issues.





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Partnership is not merely a relationship of convenience. The coming together of diverse entities can create a synergy and result in common good.

The governments of **Rajasthan and Madhya Pradesh** have come together to develop a **17,000 sq.km corridor for cheetahs** to roam freely and create their own territories. The states will actively share responsibilities. The corridor includes 10 districts of MP and 7 of Rajasthan. The partnership is a laudable initiative. That it emerged from a tricky problem is a point to note. It indicates collaboration is the best way out.

**Meta is partnering with IndiaAI** to stimulate research and skill development along with promoting open source AI in India. Establishing a **Centre for Generative AI at IIT Jodhpur** and launching AI for **skilling and capacity building with AICTE** are two major initiatives with the aim to empower India's tech sector and fuel economic growth in future.

**India and Mauritania** have come together and **signed several MoUs for mutual cooperation and collaboration**. There are agreements on many issues including diplomat training and visa exemption. This tie up can also be a boon for potential Indian investors in oil exploration, port development, mining, power generation and so on, thereby facilitating mutual economic growth.

ॐ सह नावतु सह नौ भुनक्तु सह वीर्यं करवावहै तेजस्विनावधीतमस्तु मा विद्विषावहै ।

ॐ शान्तिः शान्तिः शान्तिः ।

(**Rough translation:** Let us be together, let's enjoy and partake, with all our strength let us work together; let us progress together. We may not be jealous of each other. May there be peace, contentment and happiness.)

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/>

# Content



## International Current Affairs

6 New World Leaders

9 Europa Clipper's journey to Jupiter's moon

10 India and Mauritania strengthen ties

11 India's aid to PNG & Lebanon

12 Climate initiatives

14 2024 BRICS Summit

16 PM Modi's three-nation visit

17 Leadership roles for India & France at ISA

19 Patent for canine cardiac treatment

## National Current Affairs

20 Making India proud

22 5<sup>th</sup> National Water Awards 2023 announced

23 New CMs of States

25 Indians shine in sports

27 e-Migrate portal v2.0 launched

28 Kaksar Bridge renamed after Kargil hero

29 Kaziranga -A butterfly diversity hub

30 India's new CJI -Justice Sanjiv Khanna

32 First self-powered indoor air quality monitor launched

33 National Para Swimming Championship

34 Airbus's HQ and Training Centre in India

36 Meta partners with IndiaAI



38 Rajasthan village is a climate champion

39 ISRO's analogue space mission in Leh

40 First Asian Buddhist Summit in India

41 MP and Rajasthan unite for Cheetah Project

42 First digital population clock

43 Fire-resilient plant species discovered

44 New snake species in Himalayas

### Defence updates

45 ABHAY - GRSE's 7<sup>th</sup> ASW Ship

47 Indian Military Heritage Festival 2024

49 Antariksha Abhyas - First Space defense exercise

51 Sea Vigil24 - Largest coastal defence exercise

### General Knowledge

53 Law In focus - Employment & Labour Law - 3

55 Living Naturally- Cow milk -a holistic elixir

57 Spot light of the month - Mahadev Mahto

58 Women scientists of India - Dr. Kalaiselvi

61 Curiosity Corner - Chandigarh

62 Padma Awardee- Ghulam Nabi Dar

63 Param Veer Vandana - Nirmal Jit Singh Sekhon

64 Flora of India - Bhojpatra - The Himalayan wonder

65 Nobel series - Physics

# New World Leaders



## **Vietnam elects military leader Luong Cuong as President**

On 21<sup>st</sup> October 2024, Vietnam's parliament elected Army General Luong Cuong (67) as President. He succeeds Lam, who assumes the more powerful communist party chief role and their election brings much-needed political stability. Cuong, who holds a bachelor's degree in party building and state governance has extensive years of experience in both the military and the party. He is also trained in advanced political theory. Cuong joined the army in



1975. Quickly rising through the ranks, he became Major General by 2006. He was Chief of the Army's General Department of Politics. He was a key figure in the Party Central Committee and became a Politburo member by 2021. Cuong is expected to lead the country through an important stage of growth.

## **Duma Boko new President of Botswana**

Botswana, a diamond-rich and landlocked country in Southern Africa, achieved independence from British Rule in 1966. The country has elected Duma Gideon Boko (54) as its 6<sup>th</sup> President. His father is a lecturer. Boko was a human rights lawyer with a master's degree from Harvard Law School but largely unknown outside his country.

As leader of an alliance of political parties called Umbrella for Political Change, Boko earlier contested unsuccessfully in the 2014 and 2019 elections and has now led his alliance to victory in the 2024 elections. Youth making



up a third of the registered voters contributed to the stunning defeat of Botswana Democratic Party, which had earlier enjoyed continuous rule for 6 decades but was accused of extreme corruption.

Poverty, unemployment and a fall in revenues owing to plummeting demand for mined diamonds are the main challenges facing Boko's government.

## **Kemi Badenoch Conservative Party Leader and UK Opposition Chief**

Kemi Badenoch (44) first-generation immigrant MP from

Country (s)	Area (km <sup>2</sup> ) and ranking	Population (millions)	Language	Capital	Currency (For 1 USD)	Economy (Global Ranking)
<b>Socialist Republic of Vietnam</b>	331,000 (67)	98.90	Vietnamese	Hanoi	Dong (25,419)	Leading producer of footwear, smartphones and textiles. 2 <sup>nd</sup> largest coffee exporter. (GR-33)
<b>Republic of Botswana</b>	581,730 (47)	2.68	French	Gaborone	Pula (13.66)	Upper middle class. Diamond mining and Export (>80%). (GR-122).
<b>UK</b>	2,41,930 (78)	66.97	English	London	Pound Sterling (1.29)	Advanced/High Income Social Market Economy. (GR-6)
<b>Republic of Moldova</b>	33,846 (135)	2.49	Romanian	Chisinau (pronounced kee-shee-now)	Leu (18.22)	Upper middle income (GR-111)
<b>Mauritius</b>	2,040 (170)	1.27	Creole, French and English	Port Louis	Mauritian Rupee (46.82)	Upper middle income. Tourism, Fin. Services. (GR-133)
<b>USA</b>	9834,000 (4)	346.2	English	Washington D.C.	US Dollar (1)	Coastline – 95,000 kms, Freshwater – 40% and Farmland – 10% of world reserves for 4% world population. Petroleum reserves that can last 50 years. (GR – 1).

Nigeria is the first person of African descent to be the Leader of both the UK Opposition and of the



Conservative Party. She had served Cabinet under Liz Truss and Rishi Sunak between 2022 and 2024. The right-wing leader has strong views on racism, immigration and transgender issues and is pro-Israel in foreign policy. Badenoch studied Computer Systems and in 2003 received her master's degree in engineering. Working part-time she again studied Law and graduated as LLB in 2009. After working in various jobs she finally entered politics in 2012.

Kemi Badenoch's parents are medical doctors; her father is a General Physician and her mother is

a Professor in Physiology in USA. She is married to banker Hamish Badenoch and has two daughters and a son. In 2018, with her computer knowledge she hacked into Labour Party leader Harman's website but later apologized for her prank. Badenoch is known for public criticism of leaders under whom she served. There were also complaints of ill-treatment by staff who were in her ministry. An agnostic with cultural Christian values, she is likely to bring in a distinct African than British style of working, if and when she comes to power.



## Moldova's President Maia Sandu wins second term



Moldova, a landlocked East European country bordering Romania and Ukraine conducted its Presidential elections in October. The two contenders for the stiffly contested election were incumbent pro-EU President Maia Sandu (52) and opponent pro-Russian Alexandr Stoianoglo. The Moldovan diaspora fully supported Sandu and she won by a comfortable 10% margin. This came as a big relief for the EU who were trying to wean away Moldova from their influence. There were accusations of electoral manipulation, but authorities are afraid that in the 2025 parliamentary elections, more such malpractices may take place.

The pro-western President has a future goal of integrating Moldova into the European Union. Sandu has special powers on Defence and Foreign policies and has a four-year term.

## Ramgoolam set to become new PM of Mauritius

Mauritius, an Indian Ocean Island nation, is 1500 km east of Africa and 3900 km southwest of India. Their parliamentary elections were held recently. The Opposition led by Dr. Navin Ramgoolam (77) won 60 out of 62 Assembly seats,

the clean sweep gave him his 3<sup>rd</sup> term as PM. His earlier terms were from 1995-2000 and 2005-2010.

Son of Seewoosagur Ramgoolam, Mauritius' first Prime Minister, Navin Ramgoolam is a prominent political figure with a history of leadership in Mauritius. The new incumbent faces economic and social challenges, aiming for national reforms and international partnerships.



Prime Minister Modi congratulated Ramgoolam on his electoral success, highlighting the "special and unique partnership" between the two nations.

## US President-elect Donald Trump

Donald Trump (78) of the Republican Party braving assassination attempts, has won a landslide victory in the 2024 US



Presidential elections. Earlier 45<sup>th</sup>, he again takes over as 47<sup>th</sup> President from January 2025.

In Trump's first term between 2016 and 2020, people became doubtful whether his policies deviating from familiar agenda (free trade, market access, climate change etc.) were short term and may disappear after his tenure. Added to that, thousands lost their lives to pandemic and the agitation on Black Lives Matter during 2020 made him lose the elections.

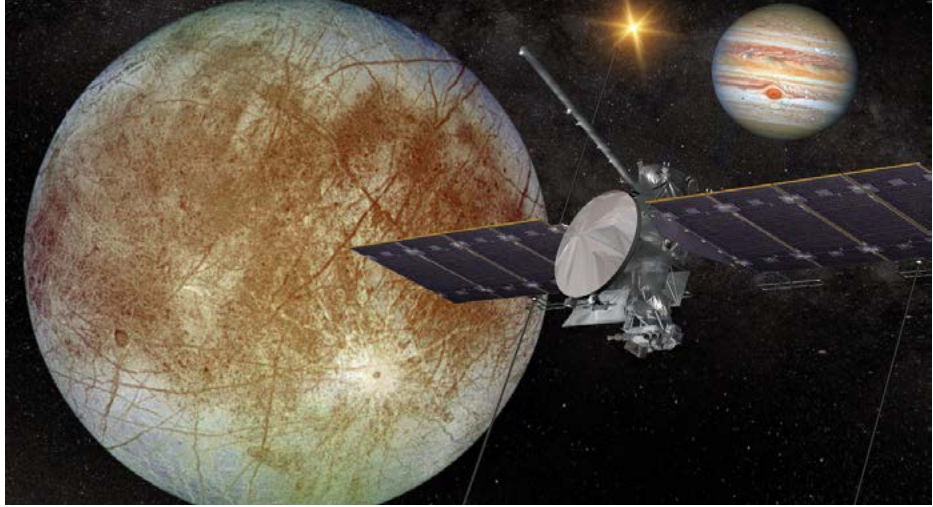
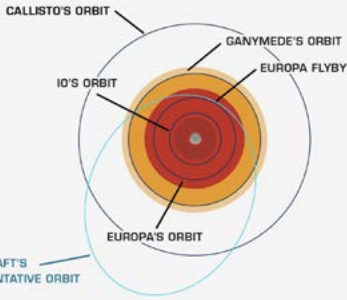
President Joe Biden who took over followed the beaten track on commitment to multilateralism, the transatlantic partnership and Ukraine. However, import tariffs, exit from Afghanistan though hasty and protectionism were continuation of Trump reign. But Democrats lost owing to setback in Biden's health forcing last minute change of candidate to Kamala Harris. Rising inequality, voter dissatisfaction and society wanting a new kind of political leadership led to their loss.

During the first 100 days, Trump may act strongly on undocumented migrants and if neighbours do not cooperate, impose tariffs on them. He also intends to protect the domestic manufacturing industry. On Taiwan and North Korea, Trump's policies will be known only with time.

Regarding Europe, Trump wants to reduce the US trade deficit, demanding reciprocal market access and financial compensation for providing security to NATO countries. On Ukraine, his preference would be talks with Russia to end the war than its continuation at US expense. On all his policies, Trump has the support of far-right groups in Europe but will have backlash from both traditional allies and developing countries.







## EUROPA CLIPPER'S journey to Jupiter's moon

**A** frozen moon circling a glowing giant planet. Deep underneath the endless expanse of its frozen surface lies a vast, turbulent ocean created because of the planet's relentless gravitational pull on the tiny moon. In those deep oceans, unseen by any human, lies the tantalizing possibility of extraterrestrial life.

While these may sound like the beginning of a science-fiction story, the moon being described is a very real place.

Circling the largest planet in the solar system, Europa or Jupiter II, is the smallest of the four Galilean moons orbiting Jupiter, and the sixth-closest to the planet of all the 95 known moons. Europa exists within a very harsh radioactive field that surrounds Jupiter.

This field is caused by the very gravity of the planet as it tugs on the surface of its biggest moon Io. Because of the influence of Jupiter's gravitational pull, Io's surface is constantly drawn towards the planet and keeps exploding in the form of extremely large volcanoes. This makes it the most volcanically active planet in the solar system.

These volcanoes shoot particles so far up that they too get captured

in Jupiter's magnetic field and spun incredibly fast, resulting in the radiation field around Jupiter. This field also covers many of its other moons.

Europa however is unique. Scientists first learned of this fact when Voyager 1, Voyager 2 and Pioneer 10 probes passed the moon in the 1970s. Despite being affected by the radiation these probes captured data that suggested that beneath the surface of Europa lie oceans that are unaffected by Jupiter's Radiation belt.

### Oceans with the possibility of extraterrestrial life

NASA's Europa Clipper, launched in October, 2024, is en route Europa to confirm these theories. Designed to conduct a detailed study of Europa the spacecraft will travel 2.9 billion kilometers to reach Jupiter in April 2030. Once it does, it will orbit Jupiter, and conduct 49 close flybys of Europa, dipping in and out of the radiation field to reduce damage to its instruments.

It is this swift flying in and out of the radiation field that gives the satellite its name. **Clipper was a term used to refer to ships that**

**were small and nimble enough to quickly move in and out of several ports in a short time.**

According to NASA, "The spacecraft carries nine science instruments and a gravity experiment that uses the telecommunications system. All science instruments will operate simultaneously on every pass." These systems are all expected to come together to provide scientists with incredibly high resolution data about Europa.

So, what should we expect to find in the oceans of Europa? Aliens waving at the passing satellite? Scientists say no.

What we can expect, however, are signs or evidence of life that is similar to the one we find in Earth's deepest oceans, near the hydrothermal vents which draw heat from the earth's core to the bottom of the ocean. They will most probably be something like microorganisms and really small sea creatures. But we will never know for certain and that is why we must take a look.

As Europa Clipper continues its six year long journey into the vast unknown we can only speculate on the wonders it will reveal to us.



President Droupadi Murmu visited Mauritania in October, as part of the second leg of her state visits to Algeria, Mauritania and Malawi.

President Murmu, first Indian Head of State to visit the Western African Nation, was warmly received by the President of the Islamic Republic of Mauritania **Mohamed Ould Ghazouani** and accorded a ceremonial welcome.

She was accompanied by Sukanta Majumdar, Union Minister of State for Development of North Eastern Region and Members of Parliament, Mukeshkumar Dalal and Atul Garg.

### Shared values and co-operation

President Murmu's visit is seen as a landmark moment in India-Mauritania relations. It opens up new avenues for collaboration and sets the stage for deeper cooperation in areas of mutual interest.

During the delegation-level talks, both leaders engaged in wide-ranging discussions aimed at strengthening cooperation in economic collaboration, human resource development and cultural exchange.



## India and Mauritania strengthen ties

Four Memorandums of Understanding (MoUs) were signed and exchanged, including Training of Diplomats, Cultural exchange, Visa exemption and Foreign office consultations.

President Murmu highlighted the immense potential for cooperation between the two nations in various sectors. Mauritania has significant deposits of iron ore, copper and other minerals, which hold strategic importance for India's growing industries. **India, is one of Mauritania's key trading partners, with exports of pharmaceuticals, electrical machinery, and iron and steel products.**

President Murmu also underscored the cultural similarities between India and Mauritania,

citing the strong family ties, respect for elders and the value placed on social traditions in both countries. President praised the vibrant members of the Indian Community in Mauritania and expressed her gratitude to the government and people of Mauritania for their support to the Indian community.

This visit reaffirms the continued commitment of both countries to strengthening their bilateral relationship and deepening their ties.



### DO YOU KNOW ?

- Both countries have a democratic form of governance and enjoy cordial and friendly relations. India opened its Embassy in Nouakchott in June 2021.
- India extended a Line of Credit (LOC) of value aggregating USD21.8 million to Mauritania towards agro-industries (milk processing plant) and drinking water projects in October 2023.





# INDIA's aid to PAPUA NEW GUINEA and LEBANON

On 18<sup>th</sup> October 2024 India fulfilled a significant commitment made during the third **Forum for India-Pacific Islands Cooperation (FIPIC III)** Summit by sending its first consignment of 12 Haemo-Dialysis machines to Papua New Guinea (PNG). The consignment included portable Reverse Osmosis (RO) units essential for purifying water for dialysis procedures. This medical assistance is intended to help strengthen PNG's healthcare system, addressing the country's

growing need for advanced medical equipment. During the FIPIC III Summit, Prime Minister Modi highlighted India's solidarity with Pacific Island nations regarding climate change, poverty and healthcare issues.

In the same week, India's Ambassador to Lebanon, **Noor Rahman Sheikh** dispatched the first tranche of a 33-ton consignment of medical supplies as part of a humanitarian effort to support Lebanon. Lebanon's Health Minister Firas Abiad received the

consignment which also included a wide range of pharmaceutical products, including cardiovascular medications, NSAIDs (non-steroidal anti-inflammatory drugs), anti-inflammatory agents, antibiotics and anaesthetics. Indian Embassy in Lebanon expressed India's commitment to strengthening close ties with Lebanon. India's medical support comes at a critical time, as Lebanon faces escalating violence in its southern region. The conflict, particularly along the Blue Line between Lebanon and Israel, has increased the need for medical aid in Lebanon.



**Haemodialysis** is a treatment to filter wastes, salts and fluids from the blood when the kidneys are no longer healthy enough to do this work adequately. It helps control blood pressure and balance important minerals such as potassium, sodium and calcium in the blood.





# Climate initiatives ACES and COP16 summit



Asia Clean Energy Summit (ACES) 2024 was held in Singapore in October. This premier event brought together experts, innovators and policymakers, civil society and academics to foster ideas for the advancement of clean energy solutions in Asia.

### ACES agenda

The summit identified and explored critical issues such as the viability and complexity of carbon trading market transparency, integration of local knowledge and technical expertise to foster clean energy alternatives for an equitable, sustainable future. The prime focus of ACES 24 was on decarbonizing

industries and the power sector. ACES also addresses the factors that need to be pursued to attain carbon neutrality. A framework is essential to commit resources and technology for a clean energy transition. The summit gave space for all stakeholders and planners to express opinion and debate for expanding the use of renewable



energy across Asia. An undertaking of this scale needs institutional backing that was provided by **Energy Management Authority, Asian Development Bank (ADB) and Singapore Economic Development Board.**

ACES24 assumes significance in the fact that this part of the world is the fastest-growing economic bloc, which has a bearing on emissions. Further, South Asia needs 450 GW of additional generating capacity and 60% of this has to be in renewables. An Asian power grid was thought of some 30 years back but never implemented. ACES24 broached extensively on this idea. Renewable energy impetus is believed to create 49 to 66 million jobs.

**Carbon trading**

Carbon credits are a unit

of measurement that represents the amount of CO<sub>2</sub> that has been removed or prevented from entering the atmosphere. Carbon credits are sold in international markets and are issued by international agencies. **Carbon credits are used to create a monetary incentive for companies to reduce carbon emissions.**

**Scope and practicality**

ACES is powered to assess and use the strengths and available technology of the region to make a difference in the carbon footprints of the member countries. This is crucial for efficient and judicious use of the resources of the region. A suitable parallel can be drawn to the spread of the industrial revolution across Europe in a short time, resulting in its economic prosperity..

It is an undeniable fact that developing Asian giants like India

and China account for 40% of worldwide emissions. Successful adherence to emission control targets in these countries has a powerful impact on worldwide emissions, setting an example as to how effectively global commons can be responsibly maintained. **ACES 24 is like a breath of fresh air that robustly exemplifies cooperation, reigning in the strengths of the region that fosters innovation in contrast to erecting trading blocs that stifle innovation.**

**COP16**

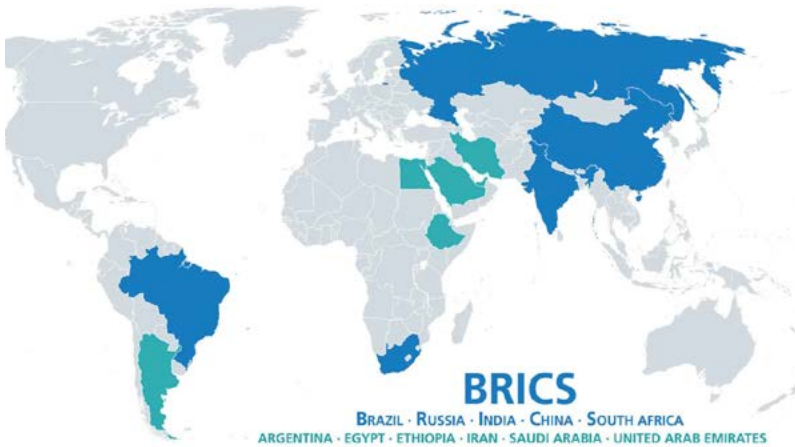
COP16 Biodiversity Conference was held in Cali, Colombia from 21<sup>st</sup> October to 1<sup>st</sup> November 2024. It is the governing body of **Convention for Biological Diversity (CBD).** It was a large



gathering attended by delegates including environmentalists, civil society, leaders and indigenous tribal leaders from 190 countries. Many of the key issues like national biodiversity protection strategy, digital sequencing and conservation of marine ecosystems, climate change and biodiversity were on the agenda.

The role and contribution of biodiversity to the world economy is understated. Biodiversity is an unfortunate casualty of climate change. The impending danger of extinction of critically endangered large animals draws worldwide attention, but that of small flora, fauna and microorganisms go unnoticed. The assessment of the vulnerability of biodiversity is a useful measure.



The logo for the BRICS Summit 2024 features the letters 'BRICS' in a large, stylized font. Each letter is filled with the flag colors of a corresponding country: 'B' for Brazil, 'R' for Russia, 'I' for India, 'C' for China, and 'S' for South Africa. Below the letters, the words 'SUMMIT 2024' are written in a bold, orange, sans-serif font.

The BRICS summit in Kazan, Russia, saw the consolidation of the bloc as a primary channel for the Global South in dealing with world affairs. After its significant expansion in the last summit, the enlarged group of nine full members decided to adopt a BRICS partner country category. In keeping with the motto “BRICS and Global South: Building a Better World” for the BRICS dialogue at Kazan, Brazilian President Luiz Inacio Lula da Silva declared the motto for next year’s BRICS summit in Brazil as “Strengthening Global South Cooperation for More Inclusive and Sustainable Governance.”

The 2024 BRICS summit in Kazan was a success for the Kremlin and a clear indication that Russia's isolation only works from one side: the West. The rest of the world sees no point in joining in the policy of pressuring Russia. The puzzle for the West is why the BRICS is so attractive to countries in the Global South.





The first reason is that the BRICS is an emerging major multilateral forum that is open to Emerging Markets and Developing Countries (EMDCs). One main motivation for countries applying for membership to the BRICS is the diversification of their diplomatic and economic relationships.

While the Organization of the Petroleum Exporting Countries Plus (OPEC+) will continue to manage the international oil market, the expanded BRICS energy profile could influence the sector in the long term. The inclusion of UAE and Iran significantly boosts the BRICS energy profile and if Saudi

Arabia formally accepts BRICS membership, the bloc will represent 42% of the global oil supply.

Russia's hosting of the 16<sup>th</sup> BRICS Summit had several messages, watched closely by particularly the Western countries. This was the biggest such conference in Russia since the Ukraine war began in 2022. **The summit agenda and the Kazan Declaration sent a concerted message on strengthening economic bonds within the group that together represents a third of global GDP.** Among the agreements, the push for an interbank cooperation mechanism, a grain exchange, a

cross-border payment system and insurance company, and the growth of the BRICS New Development Bank indicate the intent to seek alternatives to the prevailing international governance structures.

Prime Minister Modi's statement at the closed plenary sought to allay some concerns about this challenge, describing BRICS as an **inclusive, "not a divisive organisation but one that works in the interest of humanity"**. Given that India is the only member of BRICS that is also a part of US-led arrangements (the QUAD and the Indo-Pacific Economic Framework), this is a necessary balance.



# PM Modi's three nation visit

Prime Minister Modi recently completed a 5-day visit to **Nigeria, Brazil and Guyana**. Arriving at Abuja, Nigeria, he held a restricted meeting with President Tinbu followed by delegation level talks. Modi was presented with

**Grand Commander of the Order of Niger, highest honour given to a foreign leader since 1969**. The two nations signed agreements for cooperation in customs matters and surveys and cultural exchanges. **India also provided 20 tonnes**

**of humanitarian aid to people affected by recent floods in Nigeria**. This visit is the first by an Indian Prime Minister to Nigeria in 17 years.

PM Modi next landed in Rio de Janeiro, Brazil to participate in the G20 Summit. India is part of the **troika (past, current and next Presidents of G20)** along with Brazil and South Africa. Chaired by Brazilian President Luiz Inácio Lula da Silva, India sought to further strengthen their ties with Latin America. **Discussions addressed global economic growth, climate change and equitable development and shared vision of "One Earth, One Family, One Future"**. Our External Affairs Minister Jaishankar met his Chinese counterpart H.E. Mr. Wang Yi, on the sidelines.

Thirdly, PM Modi visited Guyana - the first-ever by an Indian PM in the last 56 years. PM held talks with President Mohamed Irfan Ali. **Both leaders explored opportunities for Indian investment in Guyana's growing oil and gas sector**. Additionally, they highlighted the importance of the Indian community in Guyana, celebrating their role in preserving shared cultural heritage. **PM also participated in the 2<sup>nd</sup> India – CARICOM (Caribbean Community) Summit**.

In total, PM Modi held 31 bilateral meetings and informal meetings with leaders from many other countries and also with heads and executives of European Union, United Nations, World Trade Organisation, World Health Organisation and International Monetary Fund.





# Leadership roles for India and France

## at ISA



India and France have been elected as President and Co-President of the International Solar Alliance (ISA) for a two-year term from 2024 to 2026 respectively.

The International Solar Alliance (ISA) was conceived to mobilise efforts against climate change through the deployment of solar energy solutions. It was announced on the sidelines of the 21<sup>st</sup> Conference of Parties (COP21) to the United Nations Framework Convention on Climate Change (UNFCCC) held in Paris in 2015. The International Solar Alliance harmonises and aggregates demand for solar finance, solar technologies, innovation, research and development and capacity building.



120 countries are signatories to the International Solar Alliance (ISA) Framework Agreement and of these, 102 countries have fully ratified the agreement and are considered full members of the ISA.

India and France have been elected as President and Co-President of the International Solar Alliance (ISA) for a two-year term from 2024 to 2026 respectively. India was the sole candidate for the presidency, while France won the co-presidency in a contest with Grenada.

The election of the president and co-president follows a process aimed at ensuring equitable geographic representation, with ISA members divided into four regional groups:

- ▶▶ Africa
- ▶▶ Asia and the Pacific
- ▶▶ Europe and Others
- ▶▶ Latin America and the Caribbean.

The ISA Assembly also elected eight vice presidents for





Macron co-hosted the ISA founding conference in New Delhi. The meeting was attended by 23 Heads of State and 10 Ministerial delegations. The leaders underlined their commitment to ISA's projects and programmes and to mobilise affordable financing for solar energy deployment. ISA aims to mobilise investment of over US\$1 trillion from public and private sources that will help it install more than 1,000 GW of solar generation capacity worldwide by 2030.

India and France, together with ISA member countries, aim to elevate ambitions in promoting solar energy and making a transformative impact globally. **The ISA leadership promises a decade of accelerated solar energy progress to benefit countries around the world as per ISA's mission and investment goals.**

### India's Contribution to ISA

**NTPC to contribute \$1 million to the corpus fund of \$15 million that India is providing to the ISA**

The Indian Renewable Energy Development Agency (IREDA) and the Solar Energy Corporation of India (SECI), both of them arms of the Ministry of New and Renewable Energy (MNRE) have already committed **\$1 million each**

Coal India & NALCO are also likely to announce similar contributions soon

India has also set aside five acres of land in Gurgaon, next to the National Institute of Solar Energy, to house the headquarters of the ISA

ISA is guided by its 'Towards 1000' strategy which aims to mobilise USD 1,000 billion of investments in solar energy solutions by 2030, while delivering energy access to 1,000 million people using clean energy solutions and resulting in the installation of 1,000 GW of solar energy capacity. This would help mitigate global solar emissions to the tune of 1,000 million tonnes of CO<sub>2</sub> every year.

**Notably, ISA is the first ever treaty-based international government organisation headquartered in India, placing it at the centre stage for India's role as a Global Climate leader.**

the standing committee, with two representatives from each of ISA's four regional categories. Ghana and Seychelles were selected as Vice Presidents for the Africa region, Australia and Sri Lanka for Asia and the Pacific, Germany and Italy for Europe and Others, and Grenada and Surinam for Latin America and the Caribbean.

Prime Minister Modi and French President Emmanuel





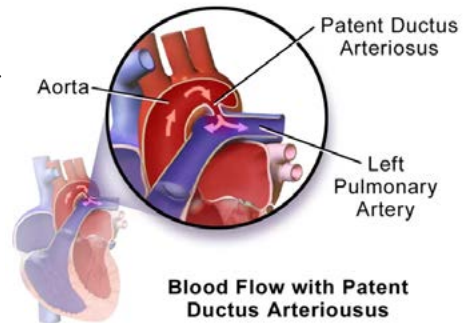
# Patent for canine cardiac treatment

Scarecrow Incorporated, based in Tokyo, has achieved a significant milestone by securing the world's first patent for Pinfenon (S) (R), an innovative treatment and preventive drug designed to reduce cardiac disorder markers in dogs. This pioneering supplement, developed in Japan, specifically targets the atrial natriuretic peptide (ANP), a crucial biomarker in assessing canine heart health.

Small dogs frequently suffer from mitral regurgitation, a

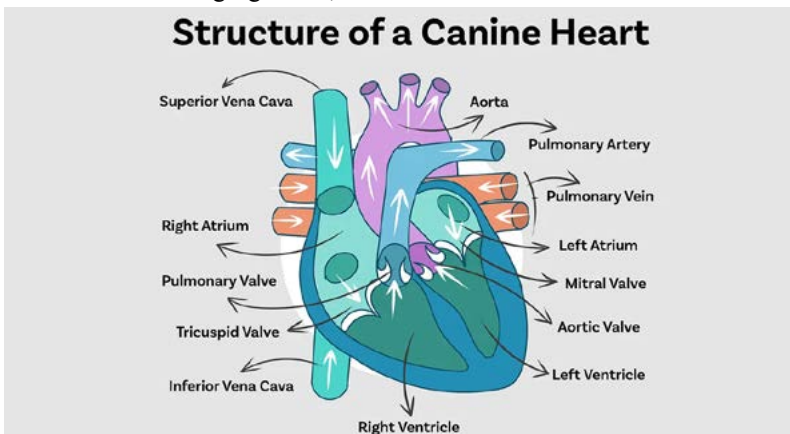
condition that often progresses to heart valve disease. ANP levels are indicative of the severity of this condition, and reducing them is essential for alleviating cardiac distress. Clinical studies conducted across Japan involving 27 dogs have demonstrated the efficacy of Pinfenon (S) (R). Participants showed significant improvements in breathing difficulties and other cardiac health metrics after completing a 30-day regimen.

The potency of Pinfenon (S) (R) is derived from extracts of French



maritime pine bark, renowned for its potent physiological benefits. Enhanced by complementary extracts such as fermented sesame and yeast, this natural formulation supports heart health in vulnerable canine breeds. The recently secured patent covers both the treatment formulation and manufacturing processes, paving the way for its wider application internationally.

Scarecrow Incorporated's ground-breaking achievement represents a leap forward in veterinary medicine, offering hope for better cardiac care and quality of life for dogs worldwide.



Shri Mrithyunjay GN

# Making India proud

India has been making significant strides in various fields, from conservation to space exploration to technology. Here are just a few places where Indians have made an indelible mark.

## Praising the protector

On 25<sup>th</sup> October at the 5<sup>th</sup> IUCN SSC Leaders' meeting at Abu Dhabi, about 300 conservation experts came together to tackle the intertwined crises of biodiversity and climate change. On this day,

one man was awarded for his contribution towards species conservation.

**Bibhab Talukdar**, a renowned conservation scientist from Assam, was honoured with the prestigious **Harry Messel Award for Conservation Leadership by the Species Survival Commission (SSC)** of the International Union for Conservation of Nature (IUCN). Established in 1948, IUCN is a non-profit organization that works to protect the environment and ensure sustainable development.

The award was instituted in 2004 in the name of Professor Harry Messel, the former Chair of the SSC Crocodile Specialist Group. This award was bestowed on Bibhab Talukdar for his exceptional contributions to species conservation of Asian rhinos.

Talukdar's dedication to wildlife conservation is evident in



his extensive work with the IUCN SSC, where he has been a member since 1991 and served as the Chair of the Asian Rhino Specialist Group since 2008.

## Touching the surface of the moon

The Indian Space Research Organisation (ISRO) has once again made history with the successful landing of Chandrayaan-3 on the Moon's South Pole.





This achievement has earned global acclaim and has been recognized with the prestigious **IAF World Space Award**.

**The IAF World Space Award is presented for an outstanding contribution or contributions in space science, space technology, space medicine, space law or space management of exceptional impact to the world's progress in astronautics.**

ISRO Chairman S. Somanath received the award on behalf of the organization on 14<sup>th</sup> October 2024. In a statement IAF said “Rapidly unveiling previously undiscovered facets of the Moon’s composition and geology, the mission stands as a global testament to innovation. Achieving a historic milestone, Chandrayaan-3 becomes the first to touch down near the lunar South Pole, showcasing both aspiration and technological prowess on an international scale.”

The successful lunar landing has now made a future of sending an Indian astronaut to the moon that much more possible.

### Changing the way we search

**Prabhakar Raghavan**, an alumnus of the Indian Institute of Technology Madras has been appointed as **Google's Chief Technologist** and is tasked with managing technical operations of an organization especially in the field of research and development.

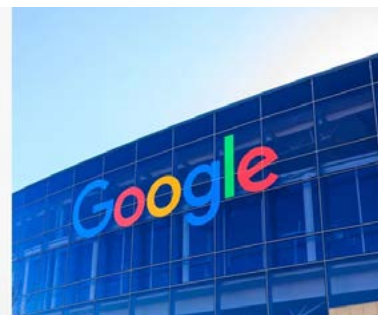
Google describes him as “...

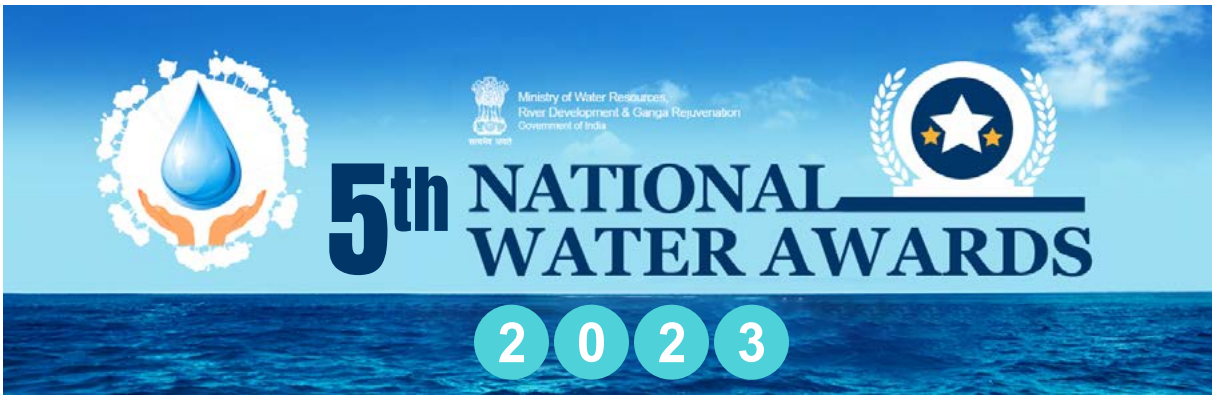
one of the foremost authorities on Search...”, and with over 20 years of research spanning algorithms, web search and databases, he has published over 100 papers in various fields and holds 20 issued patents, including several on web search systems.

He joined Google in 2012 and before his current appointment he served as Google's Senior Vice President for Knowledge & Information (K&I). He was responsible for Google's Search, Ads, Commerce, Geo, Assistant & Gemini products.

**Raghavan's appointment reflects his exceptional contributions to Google's search engine and artificial intelligence technologies.** This high profile appointment only adds to the number of leading technologists from India who have gone on to shape global tech infrastructure, including the CEO of Google, Sundar Pichai, Satya Nadella, the CEO of Microsoft and Nikesh Arora, Chairman and CEO, Palo Alto Networks.

**These recent achievements by Indian individuals and organizations demonstrate India's growing impact on a global stage.** As India continues to invest in research and development across a variety of fields, we can only expect to see more such achievements in the future and moving forward these successes will not only inspire future generations, but also contribute to the legacy of our nation.





Department of Water Resources, River Development and Ganga Rejuvenation (DoWR, RD &GR), and Ministry of Jal Shakti announced the 5<sup>th</sup> National Water Awards, 2023, and were conferred by the Hon'ble President of India, Droupadi Murmu, in New Delhi recently.

Thirty-eight winners, including joint winners across nine categories, were awarded for their exemplary work in the field of water conservation and management.



Each award winner was conferred with a citation and a trophy as well as cash prizes in certain categories. The event started with the traditional 'Jal Kalash' ceremony.

During the award distribution ceremony, the book titled *Jal Shakti Abhiyan: Best Practices* was launched by the Minister of Jal Shakti, C.R. Paatil. The book highlights the best practices of water conservation undertaken by various stakeholders under the Jal Shakti Abhiyan.

**Best State:** Odisha won the first prize for its work in water resources conservation and management creating about 53,000 water conservation & rainwater harvesting structures.

**Second place:** Uttar Pradesh

**Third place:** Gujarat and Puducherry

**Best Urban Local Body:** Surat, Gujarat

**Best Village Panchayat:** Pullampara, Thiruvananthapuram, Kerala

**Best Civil Society:** BAIF Development Research Foundation, Pune

**Best Water User Association:** Pentakli Project Union of Water User Association, Buldhana, Maharashtra

**Best School/College:** Upper Primary School, Jethwan Ka Bas, Sikar, Rajasthan

The National Water Awards are for creating awareness among the people about the importance of water and motivating them to adopt the best water usage practices.



## DO YOU KNOW ?

- ♥ The *Jal Kalash* ceremony is a Hindu ritual that involves filling a bronze or copper urn with water and placing it in a sacred space.
- ♥ The 1<sup>st</sup> National Water Awards were launched in 2018.
- ♥ The awards were not given in 2021 due to COVID-19.





## New Chief Ministers for Jammu & Kashmir and Haryana

More than the victors and the losers, that free, fair and peaceful elections were held, with the wholehearted participation of the people (63.45% voting) in J&K is the big news.

The first round of elections to the State assemblies of Jammu & Kashmir and Haryana, post the Lok Sabha elections in May, were held in October. The results were indeed interesting.

### Jammu & Kashmir

After decades of terrorism and turbulence, J&K experienced smooth and peaceful elections. The alliance of J&K National Conference (JKN) and Indian National Congress (INC) secured a clear mandate to rule the state.

More than the victors and the losers, that free, fair and peaceful elections were held, with the wholehearted participation of the people (63.45% voting) in J&K is the big news. This is much bigger

than the fortunes of the political parties as this would determine the future of J&K.

The elections were held after 10 years and more significantly after the abrogation of Article 370. It was as normal as any election in any other state of India. This effectively breaks the myth of J&K being different from other states and the people of J&K being supportive of the secessionist cause. The west Pakistan refugees, Valmiki and the Gurkhas voted for the first time. **J&K is firmly a part of the Indian mainstream.**

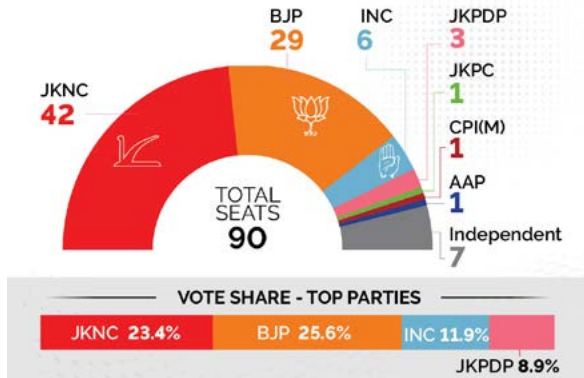
As expected, the alliance forged by JKN and INC won with a comfortable majority of 48 seats followed by BJP with 29 and Mehbooba Mufti's J&K People's Democratic Party coming a distant third with 3 seats.



# J&K ASSEMBLY ELECTIONS 2024



PARTY-WISE SEATS WON



It is important to note that her separatist slant has been totally rejected by the people. Independents won in 7 seats. The assembly has 90 seats in all.

The Vice President of JKN **Omar Abdullah** was sworn in as the **Chief Minister** on 16<sup>th</sup> October. He is the son of Farookh Abdullah and grandson of Sheikh Abdullah. Both of them have been CMs of the State in the past. Born in 1970, Omar Abdullah had his initial school education in Srinagar and then in Himachal Pradesh. He did his B.Com at the Sydenham's College in Mumbai.

He then worked in the private sector before plunging into politics in 1998 when he was elected to the 12<sup>th</sup> Lok Sabha and he was part of the next two Lok Sabhas too. He has served as the Union Minister of State and has also served in various parliamentary committees. He has also been a member of the J&K legislature multiple times and served as the Chief Minister of the State from 2009 to 2015. With such rich legislative and administrative experience, the people of India in general and of J&K in particular are looking forward to a progressive and development oriented governance from him.

## Haryana

Despite all pre-poll predictions, BJP pulled off a decisive win for the third time in succession in Haryana, beating the perceived anti-incumbency. The narrative peddled by the anti-BJP ecosystem about widespread discontentment resulting in the farmers' and the wrestlers' protests and the resultant magnification of discontentment has fallen flat. **This has once again established that democratic mandates are much more complicated and cannot be predicted by limited surveys or anecdotal hypotheses.** The BJP's gamble of changing the Chief Minister in March has also probably helped in this success.

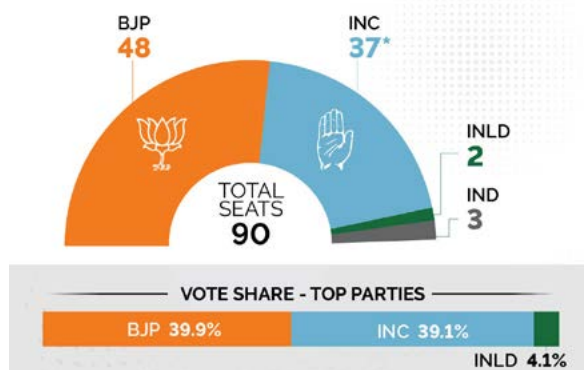
BJP won 48 seats in the 90 member Assembly while INC won 37 seats. The Indian National Lok Dal of Om Prakash Chautala won 2 seats and Independents won 3. It is also noteworthy that the Aam Admi Party came a cropper. **Nayab Singh Saini** was again sworn in the **Chief Minister** on 17<sup>th</sup> October. Born in 1970, he did his schooling in Haryana. He then completed the BA in Dr.B.R.Ambedkar Bihar University and his LL.B from the erstwhile Meerut University. He joined BJP as an ordinary worker and has grown up the ranks. He served as an MLA of the Haryana Legislative Assembly from 2014 to 2019.

During this period he has also handled various ministries as a minister in the State cabinet. In 2019 he was elected to the Lok Sabha and in March he was sworn in as the CM, replacing Manohar Lal Khattar. In the short period he has served as the CM Saini has enhanced the expenditure limit for Gram Panchayats and reduced the tariff on electricity. He had also introduced an affordable housing scheme in July. Given his background and track record the people of the State are hopeful of a development-oriented regime with special focus on the down trodden.

# HARYANA ASSEMBLY ELECTIONS 2024



PARTY-WISE SEATS WON







# Indians shine in sports

Over the last few months, Indian athletes have showcased their prowess in a variety of international and national sporting events. Here are just a few of their achievements:

## Akhil Sheoran Shooting for the stars

Akhil Sheoran, a rising star in Indian shooting, added another feather to his cap by clinching the **bronze medal** in the men's 50m rifle 3 Positions event at the **ISSF World Cup Final** held in New Delhi.



This is not the first time Sheoran has secured a podium finish. In 2023, he secured a bronze medal at the ISSF World Championships in Baku, Azerbaijan. Earlier in the year, he had also won a bronze medal at the Cairo World Cup and a gold medal at the Asian Championships in Jakarta.

He was not the only Indian to shine at the ISSF World Cup! Despite not making the podium, Delhi's **Rhythm Sangwan** came in **fourth place** in the **women's 25m Air pistol** event as well.

Their consistent performances across multiple competitions, and their Olympic participation, have rightfully earned them positions as India's top shooters alongside others like Abhinav Bindra and Manu Bhaker.

## Deepika Kumari Bullseye every time

Deepika Kumari, continued her impressive archery winning streak by securing a **silver medal**



at the **2024 Archery World Cup** in Mexico. This latest achievement adds to her already illustrious career in Indian archery for over a decade, which includes numerous international accolades.

### Here are just a few of her achievements:

- ▶ She won the 11<sup>th</sup> Youth World Archery Championship in 2009.
- ▶ She secured gold medals at the 2010 Commonwealth Games in both individual and team events.
- ▶ Won her first World Cup individual stage recurve gold medal in 2012 becoming



world no. 1 in Women's Recurve Archery in 2012.

- ▶ She won three gold medals at the Archery World Cup Stage 3 in Paris 2021.
- ▶ She made history by becoming the 11<sup>th</sup> archer to achieve a triple gold in the history of the Hyundai Archery World Cup.

Her consistent performances have truly made her a role model for aspiring Indian archers.



**A recurve bow is one of the main shapes a bow can take, with limbs that curve away from the archer when unstrung. A recurve bow stores more energy and delivers energy more efficiently than the equivalent straight-limbed bow, giving a greater amount of energy and speed to the arrow.**

## India's U19 Boxing team

### Here to knock your lights out

India's boxing team showcased their incredible ability at the U-19 World Boxing Championships, returning home with a remarkable haul of 17 medals.

**GOLD:** Parthavi Grewal, Vanshika Goswami and Hemant Sangwan.

**SILVER:** Nisha, Supriya Devi Thokchom and Kritika Wasan secured silver.

This significant medal count was highlighted by the contributions of 11 Khelo India Athletes (KIAs), of which eight are trainees from the SAI National Centre of Excellence (NCOE). The Indian contingent displayed exceptional skill, determination, and fighting spirit throughout the



tournament. Several young boxers emerged as promising talents, showcasing their potential to represent India at the highest level in the future.

## Aravindh Chithambaram Master of outmaneuvering Aravindh Chithambaram

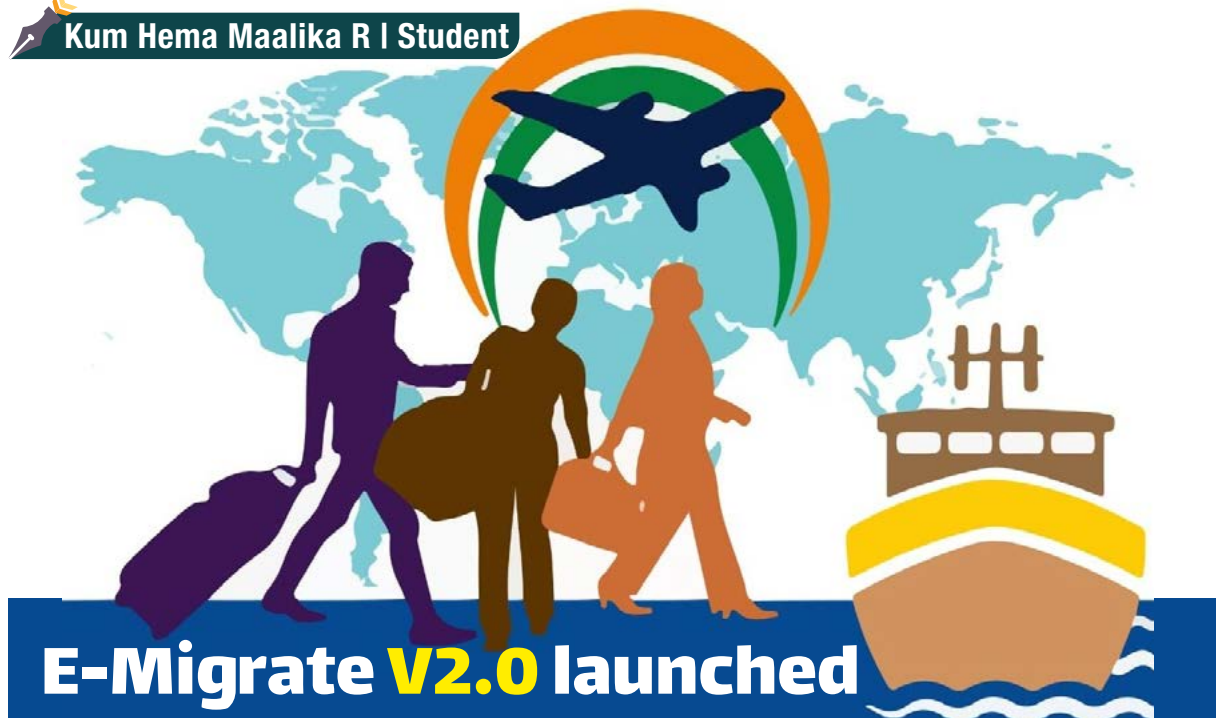


clined the **Masters title** at the **Chennai Grandmasters 2024**. This victory is a significant milestone in his career and has further solidified India's position as a chess powerhouse.

Chithambaram has been making waves in the international chess circuit. He has consistently performed well in various tournaments, showcasing his strategic acumen and tactical brilliance. His recent success at the Chennai Grandmasters is a testament to his incredible skill.

These recent sporting achievements are a source of immense pride for the nation. They inspire young athletes to pursue their dreams and strive for excellence. **As India continues to invest in sports infrastructure and training facilities, we can expect to witness many more such triumphs in the years to come.**





**E**-Migrate portal, an innovative digital platform is a boon for Indian workers abroad, particularly blue-collar labourers. Launched in 2014 by the Ministry of External Affairs (MEA), Government of India, it offers reliable legal and safety support and provides a crucial role in simplifying emigration processes. On 14<sup>th</sup> October 2024, External Affairs Minister S. Jaishankar introduced e-Migrate V2.0, an upgraded version of the portal alongside a mobile app. This revamped version incorporates several advanced features designed to improve user experience and expand its reach:

- ▶ 24/7 multilingual helpline support to assist workers in multiple languages.
- ▶ A feedback system to address concerns and challenges faced by Indian workers overseas.
- ▶ Secure and paperless document submission, reducing bureaucratic hurdles.
- ▶ Collaboration with Common Service Centres to extend emigration services to rural communities in local languages.
- ▶ An overseas Job Search Board to connect workers with employment opportunities globally.

Development Goals, which calls for the facilitation of safe, orderly, regular and responsible migration.

**The e-Migrate portal, supported by the Emigration Act of 1983, offers transparency and accountability by listing over 1,800 registered private agencies, thereby shielding workers from fraudulent recruitment practices.** The Minister also referred to previous initiatives like the MEA's awareness campaign for safe migration, which included the release of a commemorative postal stamp.

Jaishankar highlighted the significant strides made in recent years, including the near-doubling of passport issuance, showcasing the Ministry's dedication to harnessing technology for improved governance. The enhancements in e-Migrate V2.0 reflect the government's people-centric approach, ensuring seamless, efficient services while prioritizing the safety and well-being of Indian migrants.

While unveiling the updated platform, Jaishankar emphasized its significance as a symbol of the government's unwavering commitment to protecting the rights and dignity of Indian workers abroad. He highlighted the portal's alignment with Goal 10 of the 2030 Agenda for Sustainable





# Kaksar Bridge renamed

India is lucky to be the land of brave-hearts - courageous soldiers guarding our borders and selflessly sacrificing their lives for the sake of the nation. One such hero is Captain Amit Bhardwaj, who laid down his life during the Kargil War in 1999. Captain Amit was part of the 4 JAT Battalion deployed in Kaksar in Kargil. While occupied

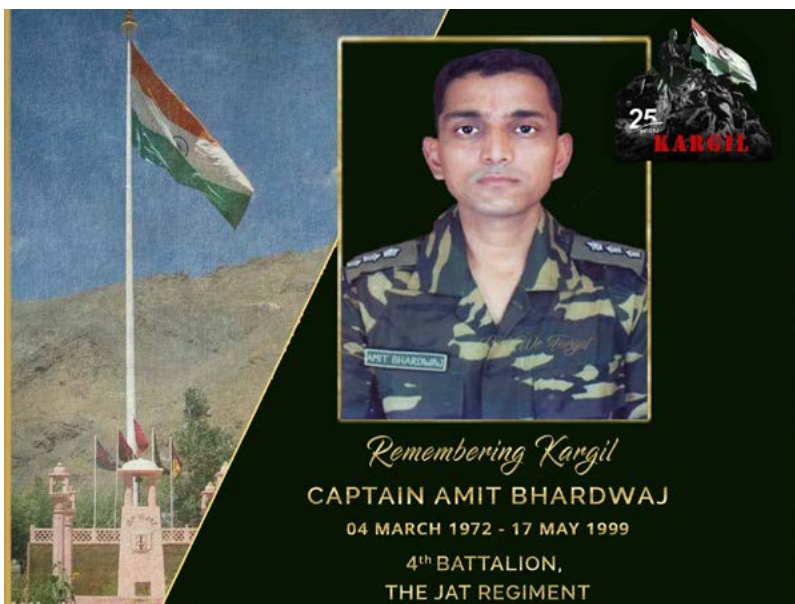
in a search and rescue patrol, the battalion discovered infiltration by the enemy lines. Captain Amit Bhardwaj then saved his platoon from ambush, sacrificing his life in the process.

To honour his immense contribution, the Kaksar Bridge in Ladakh has been renamed as **Captain Amit Bhardwaj Setu**.

The inauguration was performed by his sister Sunita Dhonkaria.

The ceremony was attended by the Chief Executive Councillor of LAHDC (Ladakh Autonomous Hill Development Council) Kargil, Dr. Mohammed Jaffer Akhoun, Major General K. Mahesh, SM, General Officer Commanding (GOC) of 8 Mountain Division, Deputy Commissioner/CEO LAHDC Kargil, Shrikant Balasaheb Suse alongside many other dignitaries from the Indian military.

During the event, CEC Dr. Akhoun expressed his immense satisfaction and pride at being present for the honouring of Captain Amit Bhardwaj. He felt deeply thankful for the border forces, and how they sacrifice their lives unselfishly. Dr. Akhoun mentioned that, in addition to the work done by the army for the safety of the country, they were also involved in the Sadbhavana Scheme, an initiative to educate local children in the Kargil area.



# Kaziranga

## a butterfly diversity hub



**K**aziranga National Park, located in the north-eastern state of Assam, is one of India's most beautiful and vibrant natural habitats. Famous for its breathtaking landscapes and incredible wildlife, this UNESCO World Heritage Site is a must-visit for anyone who loves Nature. Spread across the banks of the Brahmaputra River, the park offers stunning views of lush green grasslands, serene water bodies and distant hills. The early mornings in Kaziranga are magical, with misty fields and the calls of birds filling the air. As the sun rises, the beauty of the park comes alive, reflecting its rich colours and textures.

Kaziranga is home to an amazing variety of wildlife. It is most famous for the one-horned rhinoceros, a species found in abundance here. Apart from rhinos, visitors can spot elephants, tigers, deer and wild water

buffaloes roaming freely in their natural habitat. The park is also a birdwatcher's paradise, with species like pelicans, storks and hornbills gracing the skies.

### 446 species of butterflies

Recently, Kaziranga has gained attention for its butterfly population. With 446 species of butterflies, it is the second-largest butterfly habitat in India. This includes rare and colourful species that add even more charm to its beauty. The park's location near the Himalayan and Patkai mountain ranges contributes to its rich biodiversity. Its rivers, wetlands and forests make it a haven for countless plant and animal species.

Kaziranga is not just a park—it is a celebration of nature's wonders. Whether you take a jeep safari to see wildlife or enjoy the peaceful surroundings, Kaziranga offers an unforgettable experience. **It stands as a shining example of India's**

**commitment to conserving its natural heritage, a place where beauty and biodiversity truly thrive.**



## DO YOU KNOW

- ♥ **Lepidopterists** are scientists or enthusiasts who study or specialize in **Lepidoptera**, the order of insects that includes butterflies and moths. Their work involves researching the biology, behaviour, distribution and ecological roles of these insects.
- ♥ **Namdapha National Park** in Arunachal Pradesh is considered the largest habitat for butterfly species in India.





# The new Chief Justice of India

Justice Sanjiv Khanna is the 51<sup>st</sup> Chief Justice of India and his tenure as the CJI will come to an end in May 2025.

***Amicus curiae*** is a legal term that means "friend of the court". It refers to a person or organization that is not a party to a legal case but offers information or arguments to help the court make a decision.

Justice Sanjiv Khanna assumed office as the Chief Justice of India on 11<sup>th</sup> November succeeding Justice D.Y.Chandrachud who retired the previous day. He is the 51<sup>st</sup> Chief Justice of India and his tenure as the CJI will come to an end in May 2025.

### Early life

Justice Sanjiv Khanna was born in 1960 and had his schooling at the Modern School, New Delhi. After his graduation from St. Stephen's College, Delhi he studied law at the Campus Law Centre of the Faculty of Law, University of Delhi. His father was Justice Dev Raj Khanna who retired as a Judge of the Delhi High Court and his mother Ms. Saroj Khanna was a Hindi lecturer at Lady Shriram College, Delhi.

### Career

Enrolled as an advocate in the Bar Council of Delhi in 1983, he started his practice in the District courts at the Tis Hazari complex, Delhi, and later at the Delhi High Court and Tribunals. He had extensive exposure to diverse areas of Law ranging from Constitutional law, Company law, Commercial law, Environmental law, Medical negligence, Arbitration and Direct taxation. He was a senior standing counsel for the Income Tax department and was appointed as a standing counsel (civil) for the National Capital Territory of Delhi. He has also appeared in many cases as an Additional Public prosecutor and *amicus curiae*.

He was appointed as an additional Judge of the Delhi High Court in 2005 and was made a





permanent Judge in 2006. During his tenure at the Delhi High Court, he made significant contributions to the Delhi Judicial Academy, Delhi International Arbitration Centre, and District Court Mediation Centres. He was elevated to the Supreme Court Bench in 2019 without having served as the Chief Justice of any High Court and superseding 32 High Court judges senior to him. He was also the Chairman of the Supreme Court legal service committee till December 2023.

### Significant judgements

Justice Khanna has delivered some landmark judgments as a Judge of the Supreme Court. Some of them are:

- ▶▶ Interim bail to the former Chief Minister of Delhi Arvind Kejriwal.
- ▶▶ Ruling that delays in proceedings could be a valid ground for bail under the Prevention of Money Laundering Act (PMLA).
- ▶▶ Rejecting all petitions questioning the use of EVMs.

- ▶▶ Was part of the Bench that declared Electoral bonds as unconstitutional.
- ▶▶ Played a significant role in the bench that upheld the validity of the abrogation of Article 370.



- ▶▶ Played a key role in the decision to bring the office of the CJI under the ambit of the RTI.

### As the Chief Justice of India

Justice Khanna is expected to form benches to deliberate on significant cases, including the constitutionality of the Election Commission Appointments Act, the criteria for “need and necessity” of arrests under the Prevention of Money Laundering Act, the

government’s use of money bills as a tool for legislative amendments in Parliament and the legality of the Bihar caste census.

He will also be hearing important cases like the Marital rape, criminalisation, Google’s antitrust case and the E – gaming retrospective taxation case and the ban on triple talaq.

He has also outlined his priorities - trial reforms, promotion of mediation and making the judiciary more citizen-centric. On the administrative front, he has already imposed a ban on oral mentioning of cases.

On the whole, his tenure as the CJI, though short, will be hectic and watched intently. **He is known for his independence and personal integrity.** However public evaluation will be much tougher as the benchmark would be his fiercely independent uncle, Justice Hans Raj Khanna, the author of the Basic Structure Doctrine, and whose portrait adorns Courtroom 2 of the Supreme Court.





## First self-powered Indoor air quality monitor

India's first self-powered indoor air quality monitoring system was unveiled at Thiruvananthapuram International Airport by Union Minister Jitendra Singh.

This system is named **Pavana Chitra**. It is an off-grid air quality monitor that uses indigenous solar cells to track temperature, humidity, CO<sub>2</sub>, VOCs and the air quality index. It was developed by the Council of Scientific and Industrial Research-National Institute for Interdisciplinary Sciences (CSIR-NIIST). N. Kalaiselvi, Director General, Council of Scientific and Industrial Research (CSIR) and Secretary, Department of Scientific and Industrial Research, presented the monitors to Rahul Bhatkoti, the Chief Airport Officer.



Pavana Chitra is handcrafted from locally available materials and is designed to mimic photosynthesis. It also blends Kerala's vibrant folklore art, Theyyam, with cutting edge science and technology.

### Air quality challenges at airports

Airports face a variety of air quality challenges due to their unique mix of indoor and outdoor environments. Air pollution near airports often comes from various sources, including aircraft emissions, ground service equipment, construction and vehicular traffic. Terminal buildings often have large crowds of people, numerous air conditioning systems and sources of indoor pollution such as food courts, shops and office spaces. Aircraft engines emit significant pollutants, especially during takeoff and landing, which can contribute to both local and global air quality issues.

The purpose of an air quality monitoring system at an airport is to continuously track and measure the

levels of pollutants in the air. This allows airport authorities to identify areas with poor air quality, assess the impact of aircraft emissions and other airport activities on the surrounding environment. They can also implement strategies to mitigate air pollution, thus protecting the health of passengers, staff and nearby residents.



**VOCs** (Volatile organic compounds) are a group of chemicals that can vaporise into the air and contribute to air pollution. These are found in many products, including paint, varnish, wax and cleaning products. They are also emitted from vehicles, dry cleaners, auto-body shops and painting and coating facilities.







# National Para Swimming Championship

The 24<sup>th</sup> National Para Swimming Championship, held in Panaji, Goa, concluded on a triumphant note with **Karnataka** emerging as the **overall champion**. The event showcased India's commitment to inclusivity and para-sports, attracting 518 swimmers from 28 states.

### Top States

<b>Karnataka</b>	<b>392 points</b>
<b>Maharashtra</b>	<b>378 points</b>
<b>Rajasthan</b>	<b>248 points</b>

The championship was notable for its large and diverse participation, with 360 male and 158 female swimmers competing in various categories. Among the participants, 231 were first-time competitors, highlighting the growing popularity and reach of para swimming in India. This broad participation underlines the importance of such national events in fostering emerging talent and encouraging para-athletes to pursue competitive sports on larger platform.

### Top individual performances

Men's category	Champion	State
Senior	Mohammed Aasim	Kerala
Junior	Ravi Karthik	Andhra Pradesh
Sub-Junior	Revansh	Haryana

Women's category	Champion	State
Senior	Sharanya	Karnataka
Junior	Saee Pujair	Maharashtra
Sub-Junior	Abha Ganesh	Maharashtra



The championship not only provided a competitive arena but also inspired a greater movement towards inclusivity in sports. As para-sports gain momentum, such events play a crucial role in empowering athletes and raising awareness about the importance of accessibility in athletics.

The success of this championship has paved the way for future para-sports events in India. Organizers, including the Paralympic Committee of India and the Goa Paralympic Association, expressed their commitment to

expanding opportunities for para-athletes. Their efforts have been instrumental in promoting para swimming and creating a space where athletes from all over the country can come together and compete at the highest levels.

Looking ahead, the growing popularity and participation in para swimming are expected to set new benchmarks in terms of inclusivity and excellence. This championship has served as a testament to the dedication of athletes, organizers and supporters alike in making para-sports an integral part of India's sporting culture.





## inaugurates new South Asia HQ and Training Centre

**A**irbus has inaugurated its new India and South Asia Headquarters and Training Centre, located at Delhi's Indira Gandhi International Airport, marking a significant investment in the Indian aerospace sector. Located in the National Capital Region (NCR), this facility is poised to play a key role in training pilots and technicians and expanding Airbus's industrial footprint in India. **The centre is equipped with four**

**A320 simulators and boasts a capacity to train up to 800 pilots and 200 technicians annually.** The facility will be "the heart of Airbus' industrial mission in India," aiming to stimulate growth in the aerospace industry, create skilled jobs and drive exports.

### Airbus' expanding operations in India

Airbus' footprint in India has grown considerably in recent years.

- ▶ Procurement from India has doubled, now exceeding 1 billion euros.
- ▶ The employee count in India has risen to 3,500.
- ▶ The establishment of two final assembly lines: one for the C295 military transport aircraft and another for the H125 helicopter.

In addition, Airbus is collaborating with Air India to establish a second pilot training facility in the NCR, which will include 10 simulators for A320 and A350 aircraft. Airbus's ambitious plans also include the development of a 5,000-seater Airbus Campus in Bengaluru to support its expanding workforce.

### Growth, innovation and job creation

For Airbus, the new headquarters and training centre represents more than just a facility; this signifies a long-term





## DO YOU KNOW



- ♥ Airbus India Headquarters is in Bengaluru.
- ♥ Airbus Training Centre in India is in Gurugram, Haryana.
- ♥ Airbus inaugurated its India Training Centre (AIRC) in 2018 to provide pilot and maintenance training for Airbus aircraft.
- ▶ **Capabilities**
  - ▶ Full-flight simulators for the A320 family.
  - ▶ Cabin crew training modules.
  - ▶ Advanced maintenance training infrastructure.

commitment to India's growth in the aerospace sector. By focusing on innovation, skill development and high-tech manufacturing, Airbus aims to strengthen India's standing as a critical player in the global aerospace industry.

The headquarters will act as a catalyst for India's aerospace ecosystem, leveraging the country's technological talent and fostering partnerships that will benefit both India and the global market.

### India's infrastructural expansion in aviation

- ▶ 50 new airports are expected within the next five years.

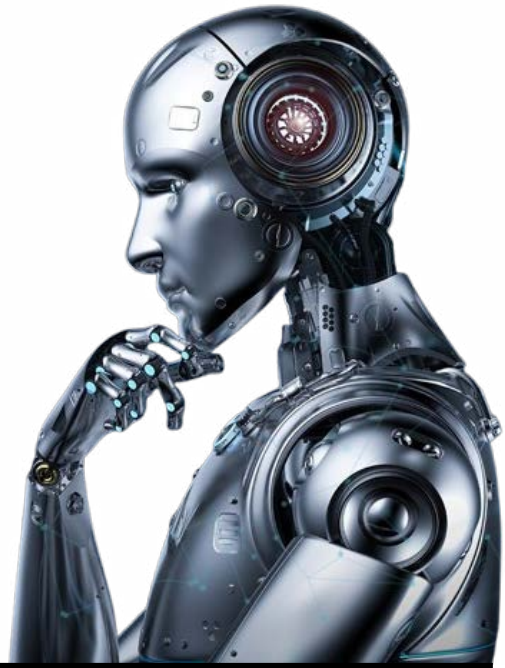
- ▶ Over 400 airports are anticipated within the next 20-25 years.

### Boosting pilot training capacity in India

- ▶ Eight new Flying Training Organizations (FTOs) have been added in the past three to four years, with 10 more in the pipeline.
- ▶ Training aircraft numbers have risen from 190 in 2020 to 264 in 2024.
- ▶ The issuance of commercial pilot licenses has more than doubled, rising from 744 in 2019 to 1,600 in 2023.



# Meta teams up with



**This strategic collaboration will not only drive the advancement of AI innovation in India but also play a pivotal role in creating a robust ecosystem for ground breaking research, skill development and open-source innovation.**

**M**eta has partnered with IndiaAI under the Ministry of Electronics and Information Technology (MeitY) to promote open source AI innovation, research and skill development in India. Key initiatives include establishing a Center for Generative AI at IIT Jodhpur and launching AI for Skilling and Capacity Building with All India Council for Technical Education (AICTE) aiming to empower India's tech and economic future.

Artificial intelligence enable computers to perform a variety of advanced functions, including the ability to see, understand and translate spoken and written language, analyse data and make recommendations. It can predict earthquakes and volcanoes and many other natural disasters; restore vintage and damaged photos; help fight the cancer.

This strategic collaboration will not only drive the advancement of AI innovation in India but also play a pivotal role in creating a robust

ecosystem for ground breaking research, skill development and open-source innovation.

Alongside, the establishment of the Center for Generative AI, *Shrijan* at IIT Jodhpur and the launch of the 'AI for Skilling and Capacity Building' initiative, in partnership with AICTE is also in progress.

#### **The partnership will**

- ▶▶ Enable development of indigenous AI applications.
- ▶▶ Bolster research capabilities .
- ▶▶ Facilitate tech sovereignty so that the vision of AI solutions will be tailor-made for India.
- ▶▶ Address key national challenges in education, mobility and healthcare using open-source AI.
- ▶▶ Foster talent, promoting open science and contributing to AI policy and standards development in India.

#### **Empowering India's AI Future**

The initiative will support India's ambitious goal of becoming





The programme also features Unleash LLM Hackathons, where students will submit AI solutions to address real-world problems. Top ideas will receive mentoring, seed grants and market support. Additionally, the **AI Innovation Accelerator will identify and support 10 student-led start-ups experimenting with open-source AI models, offering incubation and visibility.**

**Center for Generative AI, Srijan, IIT Jodhpur**



*Srijan* means creation. This facility will be a leading centre for Foundation Models and Generative AI research in India, focusing on innovation with ethical and responsible use. It aligns with the IndiaAI mission to strengthen the AI ecosystem through ground-breaking research and collaborations across industries.

This GenAI CoE aims to advance research and development in AI while fostering the growth of responsible and ethical AI technologies in India. It will support and enhance open science innovation across the AI technology landscape.

Through education, capacity building and policy advisory, the centre will be empowering the next generation of researchers, students and practitioners with the knowledge and tools necessary for the responsible development and deployment of GenAI technologies.

It is interesting to note that last year, Meta partnered with 'IndiaAI' to advance AI & Emerging Technologies in India and the Ministry of Education to empower students and educators via programmes with CBSE and AICTE.



a USD 5 trillion economy by equipping the nation's youth to lead in the global AI arena, securing India's position as a leader in technological advancement and economic growth. This will include the establishment of a Gen AI

Resource Hub with courses, case studies and open datasets; an LLM for Young Developers Course designed by Meta; and Master Training Activation Workshops to introduce participants to foundational AI concepts.





## Rajasthan village fights *global warming*

**L**ittle drops of water make a mighty ocean. A small village **Chak 12 T.K.** with less than a 100 households in Rajasthan, 20 km away from the India-Pakistan border is playing a massive role in environmental conservation through community driven initiatives.

A public nursery named **Shaheed Bhagat Singh Familial Forestry** was established 4 years ago.

Over these years, this nursery has provided nearly 2,00,000 indigenous saplings free of charge, playing a crucial role in restoring degraded lands across three states Rajasthan, Punjab and Haryana. In memory of our freedom fighter Bhagat Singh, a small forest block is developed with 31 species of trees.

This initiative directly contributes to our country's efforts in achieving Sustainable Development Goals SDG 15 – Life on Land and SDG 13 – Climate Action.

The nursery primarily grows indigenous species such as *jal*

(evergreen tree), *khejri* (flowering tree), *kumat* (gum tree), small *lesua* (a type of berry) and *rohida* (flowering tree) which are rare in both government and private nurseries.

Familial forestry is a concept where people embrace trees as their family members. It promotes biodiversity, strengthens ecosystems and encourages communities to be climate-sensitive and proactive by incorporating rituals and festivals with trees into social structure. This initiative also involves promoting millets, discouraging single-use plastic, restoring community lands and championing agroforestry and sustainable living.

It is a concept developed by Prof. Shyam Sunder Jyani who was awarded the 'Land for Life Award' by the United Nations for his exemplary contributions to land conservation. This Familial Forestry initiative has attracted sponsors across the globe which includes International Organisations such as SuNaAnRu (Canada), Praanada (the US) and the Billion Tree Initiative (the UK).



### DO YOU KNOW

- The **Land for Life Award** is world's highest award for land conservation and restoration. It is given biennially by United Nations Convention to Combat Desertification (UNCCD), a United Nations arm that works on land restoration and conservation.
- **Agroforestry** is a land management system that combines trees with crops or livestock, or both on the same piece of land.





## ISRO's analogue space mission

**T**he Indian Space Research Organisation (ISRO) has successfully launched India's first-ever analogue space mission in Leh, Ladakh. This mission is a collaborative project between ISRO's Human Spaceflight Centre, AAKA Space Studio, the University of Ladakh, IIT Delhi and the Ladakh Autonomous Hill Development Council.

**The main goal of the analogue mission is to simulate conditions the astronauts would face on**

**the Moon and Mars.** Ladakh's unique geography, harsh climate and rugged terrain make it an ideal location for this simulation. The region's cold desert environment, with temperatures ranging from 3°C to 35°C in summer and -20°C to -35°C in winter, mirrors the extreme conditions on other planets.

This climate allows scientists to test how astronauts might adapt to the challenges of space travel in such conditions.

**An analogue space mission is a research method where Earth-based environments are used to mimic the conditions of space.** These missions allow scientists to test new technologies, systems and human responses to space travel. By simulating these extreme conditions, scientists can identify potential challenges and solutions before sending astronauts into space, reducing risks for real missions.



This mission will involve various field tests to assess technologies like robotic equipment, habitats, power generation and mobility systems. It will also focus on understanding the psychological and behavioural effects of isolation and confinement on astronauts such as stress and fatigue. **These simulations are essential for preparing astronauts to deal with the challenges they may face in space, such as space radiation, gravity issues and maintaining their health and well-being in a confined environment.**



The Ministry of Culture and International Buddhist Confederation organized the First Asian Buddhist Summit on 5<sup>th</sup> and 6<sup>th</sup> November 2024 in New Delhi. **The theme of the summit was the ‘Role of Buddha Dhamma in strengthening Asia’.** It saw a participation from 32 countries with over 160 international delegates.

Members of the *Mahasangha*, patriarchs of various monastic traditions, monks, nuns, members of the diplomatic community, professors of Buddhist studies, experts and scholars, around 700 participants, engaged enthusiastically with the topic. One of the remarkable achievements of the first Asian Buddhist Summit was the successful organization of the two parallel forums, each offering an array of insightful perspectives. One forum focussed on the foundational teachings of the Buddha and their modern-day applications, while the other explored the ways in which Buddhist principles can contribute to sustainable development, social harmony and international cooperation.

This summit threw up many innovative ideas emanating from the ancient philosophy and science of *Dhamma*. **There were several presentations that offered unique**



## First Asian Buddhist Summit in India

**alternatives, perspectives and some ‘out of the box’ approaches looking at philosophical knowledge as a means for application and practical usage for the betterment of society.**

Prof. Ceon Ramon from the Dept. of Electrical and Computer Engineering University of Washington, USA drew a comparison between the duration of mental cognition from neuroscience and the Buddhist perspectives of meditation in their clinical applications. Reflecting on the nature of arousal and cessation of a thought (the *Dhyan-* moment), measurements showed that these time frames are what meditators inferred centuries ago without a clock. This can be useful in the treatment of mental disorders based on Buddhist practices of *paramitas* and meditation combined with neuro feedback and visualization techniques. After some initial hiccups *Vipassana* meditation courses are giving very good results even in prisons with hardened criminals. Dr. Jagbir Singh from the Department of History, Dyal

Singh Evening College, University of Delhi spoke about the Buddhist influences on the evolution of Chinese architecture. He traced its development from the Han Dynasty to the present day.

Buddhism had a profound impact on Vietnamese society; as the philosophy of liberation (*moksha*), peace and happiness (*nirvana*) have held Vietnamese society strongly together as the country went through several conflicts. The representatives expressed keenness in engaging Indian experts on excavating the essence of Buddhist teachings.

### DO YOU KNOW ?

**In the 1<sup>st</sup> century the Han Emperor Ming constructed the white horse monastery in honour of the first two Indian monks who went from India to China – Kashyap Matanga and Dharmaratna.**





# Madhya Pradesh, Rajasthan unite for Cheetah Project

In May this year, a cheetah from the KNP strayed into Karoli district of Rajasthan and was later rescued. In December 2023, a cheetah strayed into Rajasthan's Baran district and was later brought back to the KNP.

In the wake of incidents of cheetahs from Madhya Pradesh straying into neighbouring Rajasthan, a Joint Corridor Management Committee (JCMC) of both states has been formed to work for the conservation of the felines.

## About JCMC

- ▶ The committee will assess suitable areas for the future relocation of cheetahs from Madhya Pradesh's Kuno National Park (KNP) and Gandhi Sagar Sanctuary.
- ▶ Recommendations will include habitat improvements, particularly for the pre-augmentation base.
- ▶ The committee will evaluate options for joint tourist routes, potentially covering border areas like the National Chambal Gharial Sanctuary, Kuno National Park (KNP) and Ranthambore National Park.

The panel, headed jointly by Principal Chief Conservators of Forest (PCCFs) (wildlife) of Madhya Pradesh and Rajasthan, has been assigned the task of identifying the 'Cheetah Conservancy Landscape' in the corridor for the safe movement of the felines between Madhya Pradesh and the neighbouring Rajasthan.

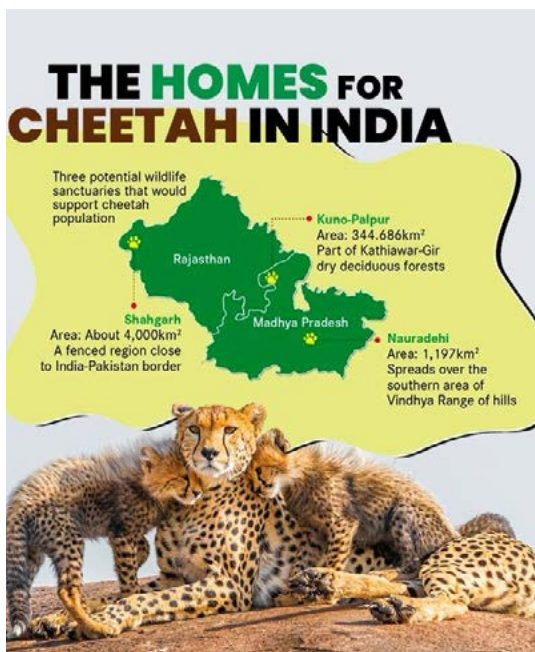
According to an official notification issued here, the committee will discuss and formulate a Memorandum of Understanding (MoU) between

Madhya Pradesh and Rajasthan for a feasibility study for corridor development and management for the movement of cheetahs in the cheetah conservancy landscape to be identified by it. The committee has also been asked to study the possibility of joint tourism routes in the National Chambal Gharial sanctuary, covering both the states and areas that are adjacent to each other in both the states including KNP in MP and Ranthambore National Park in Rajasthan.

The committee would suggest measures for capacity building of officers and frontline staff with reference to monitoring, patrolling and other measures required for managing cheetahs straying out from Kuno through the existing corridors to Rajasthan.

Cheetahs live primarily in grasslands and benefit the ecosystem by keeping the animals they hunt in healthy populations. They typically hunt the weak and slowest of several species of animals. If cheetahs no longer existed, there would be a domino effect referred to as a trophic cascade.

According to officials, 17 cheetah cubs were born on Indian soil over the last two years at the KNP.





# First digital population clock

The clock is the first-of-its-kind in the region, jointly set up by **Institute for Social and Economic Change (ISEC)** and the Ministry of Health and Family Welfare (MoHFW), Government of India. Using an inbuilt satellite connection for precise timekeeping, the clock will update the estimated population, every two seconds for India and every one minute and 10 seconds for Karnataka. The clock is stationed near the institute's main gate.

The workstation will help researchers access anonymised and comprehensive micro level population data and will be available for all researchers free

of cost, enabling in-depth analyses and research on demographic trends and their implications, besides highlighting the need for sustainable development policies in light of rapid population growth. This initiative was inaugurated by Kal Singh, Director General (Statistics Division), and Rakesh Kumar Maurya, Deputy Director General (DDG, Statistics Division) of the Health Ministry, and Sukhadeo Thorat, Chairman, Board of Governors, ISEC.

The project extends beyond Bengaluru, with MoHFW installing similar clocks in 18 Population Research Centres across India based in universities and research institutes. Alongside the clock, ISEC now hosts a new Census Data Research Workstation, providing researchers and students with access to comprehensive census data for deeper demographic analysis. This state-of-the-art facility is equipped with advanced software and analytical tools enabling rigorous studies on population trends to assist with policy and planning.

There are several emerging and future areas where the population clock can be applied

- ▶▶ Urban planning and smart cities
- ▶▶ Environmental sustainability and resource management
- ▶▶ Education and workforce development
- ▶▶ Economic and market analysis
- ▶▶ Political and social governance
- ▶▶ Disaster response and crisis management

As technology advances, the ability to track and predict population changes in real time will become increasingly important across a wide range of sectors. A population clock integrated with other real-time data (e.g., climate, health, economy) could provide a powerful tool for anticipating challenges and shaping policies for a sustainable and equitable future. **Whether in managing urban growth, responding to healthcare needs or navigating complex global challenges, the population clock will remain a critical resource in decision-making processes.**



## Fire-resilient plant species discovered in India



A team from the Agharkar Research Institute (ARI), Pune, led by Dr. Mandar Datar, with the support of local botanist Aditty Dharap and Ph.D. student Bhushan Shigwan have identified a new fire-resilient species in the Northern Western Ghats of India, named *Dicliptera polymorpha*.

The species' novelty was confirmed by leading global expert Dr. I. Darbyshire from Kew Botanic Garden, London (U.K.). A research paper detailing this species was recently published in the prestigious journal Kew Bulletin.

### Why in the news?

- ▶ *Dicliptera polymorpha* is a pyrophytic species, thriving on

*Dicliptera polymorpha* Dharap, Shigwan & Datar



the slopes of open grasslands that endure extreme climatic conditions.

- ▶ Unlike typical species, it blooms twice making it one of the few plants that can survive in fire-prone ecosystem.
- ▶ It was discovered in Talegaon-Dabhade, a region in Western Ghats which is known for grasslands and fodder markets.



### Scientific details

- ▶ The first bloom occurs post-monsoon between November and April, second during the summer, triggered by the grassland fires during May and June.
- ▶ The second bloom is shorter but more vigorous, produced from the plant's woody rootstocks. During this second phase, the woody rootstocks produce dwarf flowering shoots, leading to a more abundant but shorter flowering period.
- ▶ The species is "taxonomically unique" as the inflorescence

units (cymules) develop into spicate inflorescences when triggered by fires, a feature not seen in any other Indian species.

**Spicate inflorescence** is a type of unbranched or branched inflorescence where the flowers are attached directly to the stalk without a pedicel.

### Implications of the discovery

- ▶ The discovery has crucial conservation implications. While fire is essential to its life cycle, the species' survival depends on a balanced fire management system to avoid habitat degradation.
- ▶ Frequent human-induced fires should be balanced to prevent habitat degradation that may threaten its survival.
- ▶ The species' limited habitat in the Western Ghats highlights the importance of protecting these delicate ecosystems to ensure the survival of such newly discovered species.
- ▶ It is the only known Indian species with this spicate inflorescence structure, with its closest relatives being found in Africa.





## Newly-discovered snake species named after Leonardo DiCaprio

**A** new species of snake has been discovered in the Western Himalayas. It is named '*Anguiculus Dicaprio*' (or 'Dicaprio's Himalayan snake') after well-renowned Hollywood actor Leonardo DiCaprio.

The actor is known to have financially supported several environmental initiatives such as wildlife conservation and climate change awareness.

Over 22 inches long, the physical appearance of the snake is quite distinct with dark brown spots, elongated body, small head and large nostrils which makes it easier to identify. *Anguiculus Dicaprio* belongs to a classification of snakes labelled under Colubridae

family that consists of a variety of species and groups.

Despite growing threats to the environment and several species disappearing day by day, this exciting discovery has led to a better understanding of the Himalayan biodiversity. The snake has also been seen across many regions in India & Nepal, especially in Nainital, Kullu, Chamba, Shimla and in Nepal's Chitwan National Park.

The Western Himalayas are usually spread out across north-western India and northern Pakistan. This region is ecologically diverse and is often neglected when it comes to finding new species. Researchers suggest that more research needs to

be conducted in surveying the area where we can possibly record more new species unknown to science.

The first specimens of *Anguiculus Dicaprio* were discovered in 2020 and the research teams are analysing the snake in its habitats so they can gain a better understanding of its behavioural patterns as they are usually spotted during summer. The primary objective is to ensure that such unique species are protected at all costs, thereby safeguarding their survival in an age where so many species die out due to human interference.

It has been a remarkable year for herpetologists, where another new species of Green Anaconda was also discovered in the Amazon rainforests earlier in February. There are many remote places across the globe where humans have hardly set foot and the possibility of finding such exotic species at such places appears quite likely.





## ABHAY - GRSE's 7<sup>th</sup> ASW Ship



GRSE has delivered 72 warships so far to the Navy, and 17 more warships are currently under construction thus showcasing its versatility and status as a major shipyard in the country.

### Deep Dive

**G**arden Reach Shipbuilders and Engineers (GRSE) Ltd, in March 2024 had reached a significant milestone by simultaneously launching two Anti-Submarine Warfare Shallow Watercrafts (ASW SWCs) for our Navy.

Named “INS Agray” and “INS Akshay” these ships were reincarnations of Abhay-class warships of the Indian Navy. While the original INS Agray was decommissioned in 2017, INS Akshay was decommissioned in 2022.

These two vessels were the 5<sup>th</sup> and 6<sup>th</sup> in a series of 8 ASW SWCs being built by GRSE.

### The keel and hull

On 25<sup>th</sup> October 2024, GRSE achieved a major milestone when

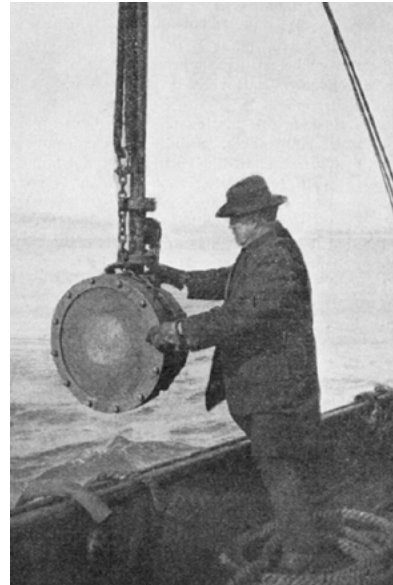
the 7<sup>th</sup> ship in a series of 8 Anti-Submarine Warfare Shallow Watercrafts was successfully launched.


**GRSE has designed and built over 110 warships till date, which is the highest number of warships delivered by any Indian shipyard.**

It is also heartening to note that in addition to the ASW Shallow Watercraft, the shipyard is constructing the P-17 Alpha class frigates, Survey Vessel Large, the New Generation Offshore Patrol Vessels for the Indian Navy and multiple other projects for the DRDO and other entities.

GRSE has delivered 72 warships so far to the Navy, and 17 more warships are currently under construction thus showcasing its versatility and status as a major shipyard in the country.







# 1912

## FESSENDEN OSCILLATOR

Quebec-born Reginald Fessenden invented the oscillator which was built into the fathometer and lay the base for developments in navigation, sonar technology and marine mapping.

\*CSTM 1980.0466



### HIGHLIGHTS

- ▶ Designed with over 80% indigenous content these ships can be employed for anti-submarine operations in coastal waters.
- ▶ Capable of Low-Intensity Maritime Operations (LIMO) and mine-laying activities thus enhancing the Navy's operational reach and defensive capabilities along India's coastlines.
- ▶ 77-meter-long, 10-meter-wide warships are engineered for powerful subsurface surveillance in coastal waters.
- ▶ Can track various surface and underwater targets and conduct coordinated anti-submarine operations with aircraft.
- ▶ Compact, waterjet-propelled vessels capable of reaching speeds up to 25 knots, providing agility and swift response in tactical situations.
- ▶ Equipped with an advanced anti-submarine warfare suite, these ships carry lightweight torpedoes, ASW rockets and mines making them formidable assets for coastal defence.
- ▶ Armed with a 30 mm Close-in Weapon System (CIWS) and 12.7 mm stabilized remote-control guns ensuring a robust defence against aerial and surface threats.
- ▶ Fitted with a hull-mounted sonar and low-frequency variable depth sonar for comprehensive underwater surveillance enhancing their detection and engagement capabilities in anti-submarine operations.

**SONAR** is the acronym for **S**ound **N**avigation and **R**anging. Underwater sound is used both by whales and dolphins for communication and echolocation. Reginald Fessenden was the inventor of SONAR. This is a method for detecting, locating and determining the speed of objects through the use of reflected sounds.





# Indian Military Heritage festival 2024

## Rewind

▶▶ A two-day inaugural Indian Military Heritage Festival (IMHF) showcasing the heritage and culture of the Indian Armed Forces was held in October 2023 in New Delhi under the aegis of the United Service Institution (USI) of India, a think tank commissioned in the 19<sup>th</sup> century. Defence Minister

Rajnath Singh inaugurated the maiden festival.

▶▶ 2022-2023 being the year of India's leadership of the G20, USI collaborated with GOI to pronounce our position as a global powerhouse working for the development of all nations in the Global South.

▶▶ Despite a long and glorious military history and strategic culture

dating back many centuries, the common public is unaware of the different facets of India's military history and heritage.

▶▶ The festival aims to engage both global and Indian think tanks, institutions, public and private sector undertakings, NGOs, academics & research scholars and experts in military heritage for cross-pollination of ideas and discussions.

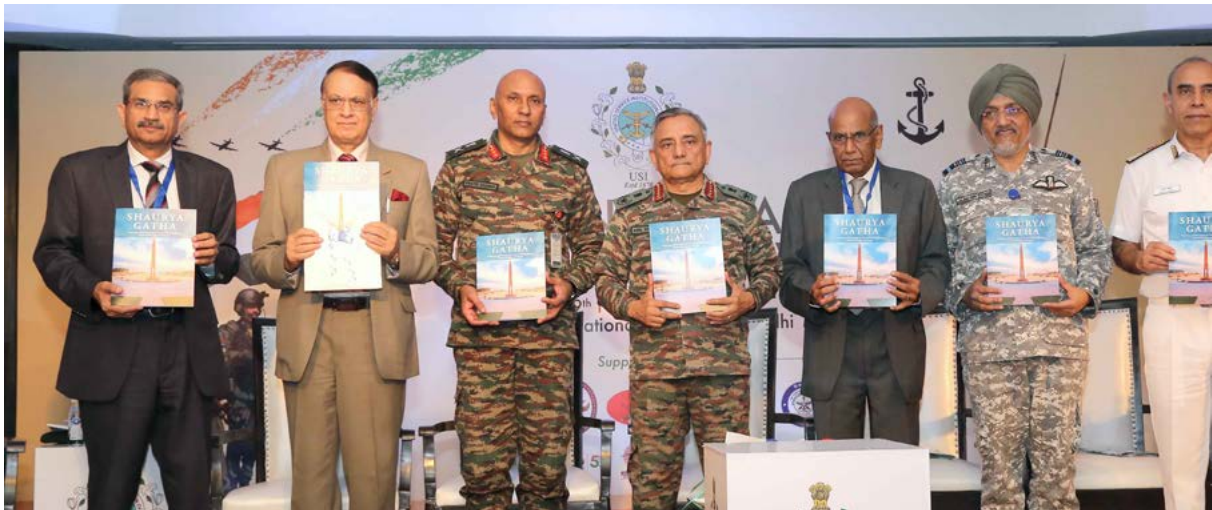
▶▶ Planned as a flagship annual programme on our heritage and military traditions, security and self-reliance besides promoting **Atmanirbhar Bharat**.



## Military history and heritage

India's military history and heritage are extensive and diverse, spanning epochs of warfare and valour. From the ancient





## Highlights

- ▶ Launch of Project 'Shaurya Gatha'- an initiative of the Department of Military Affairs (DMA) and USI aims to conserve and promote India's military heritage through education and tourism.
- ▶ DRDO presented a photo exhibition highlighting its journey and achievements in contributing to Atmanirbhar Bharat through innovations in defence research.
- ▶ The participation of NCC Cadets and students from schools and colleges across NCR helped to inspire the younger generation to consider careers in the armed forces.
- ▶ Informative stalls from the three Services showcased their roles and the opportunities available for aspiring youth in the military.
- ▶ Supported by the MoD, DMA, Tri-Services, DRDO, Department of Tourism Ladakh, Government of Arunachal Pradesh, Ministry of Culture and the British High Commission, the festival was a grand success.

battles recounted in epics like the Mahabharata to the empires of the Cholas, Mauryas, Mughals and Marathas, India's past is deeply intertwined with its military achievements. Highlighting the indomitable courage and sacrifices, the festival imparts invaluable lessons from past conflicts, helps shape national identity and pride,

and is a testament to our military for its resilience and adaptability, serving as a source of inspiration for future generations. **Preserving this legacy is not just about honouring the past, it is about guiding the future with lessons learned from history.**

### Second edition

The second edition of the IMHF, India's flagship conference was hosted by USI in collaboration with the India International Centre on 8<sup>th</sup> and 9<sup>th</sup> Nov 2024.

The domain of military history and heritage is not only virtually untapped but has significant growth potential by highlighting India's security concerns by reshaping the defence industry. Chief of Defence Staff Gen Anil Chauhan inaugurated the festival this year with the three Service Chiefs.







# Antariksha Abhyas

## First space defence exercise

This first-of-its-kind exercise is expected to help secure national strategic objectives in space and integrate India's space capability in military operations.

### Bytes from Defence Orbit

'Antariksha Abhyas 2024', an exercise to "war-game the growing threats from and to space-based assets and services" was conducted in November by the Defence Space Agency of Headquarters Integrated Defence Staff.

The first-of-its-kind exercise is expected to help secure national strategic objectives in space and integrate India's space capability in military operations as of late many advanced nations have been exploring defences in this domain.

As this domain becomes increasingly congested, competitive and commercial, there is an imperative need of better understanding of space-based assets and services besides identify vulnerabilities" in conduct of operations in the event of "denial or disruptions" of space-based services.

### Need for Space Defence

#### Threats

- ▶ Military, non- military threats or both
- ▶ **Non-military threats (uncontrolled and natural):** includes space debris and radiation leading to failure of satellite systems.
- ▶ Military threats (controlled)
- **Cyber-attacks:** hacking on-board sensors, uplink and downlink jamming, tracking operations etc.
- **Anti-satellite weapons:** Direct-ascent ASAT, orbital ASAT etc.
- **Rendezvous and proximity operations:** De-orbiting satellites, directed energy attack from proximity, deterrence etc.
- ▶ **Surveillance and Reconnaissance:** Using high-





resolution cameras, synthetic aperture radars etc., for weapon deployment, border security etc.

- ▶▶ Space defence accounts for prevention of potential threats to space assets (Kinetic, direct energy, jamming, cyber etc.) and existing countermeasures.

### Highlights of inaugural address by CDS, General Anil Chauhan

- ▶▶ Space, once considered the final frontier, is now the critical enabler of India's defence and security apparatus.
- ▶▶ With its rich legacy of space exploration and growing military capabilities, India is well positioned to navigate the challenges posed to space-based capabilities.
- ▶▶ Provide enhanced understanding of space-based assets and services, and to gain

understanding of operational dependency on space segment between stakeholders.

### Steps taken by India for Space Defence

- ♥ Creation of Integrated Space Cell within Headquarters of Integrated Defence Staff in 2010.
- ♥ Defence Space Agency (DSA) created in 2018.
- ♥ Creation of Defence Space Research Organization (DSRO) in 2019.
- ♥ Test of an Anti-Satellite (ASAT) missile - **Mission Shakti** in 2019 and future technological advancements.

### Objectives

- ▶▶ Foster coordination between defence, intelligence and space research entities.
- ▶▶ Ability to secure our national interests in space by involving participation of the Army, Navy and Air Force and their collaboration for integrated operations in modern defence strategies.
- ▶▶ Identify potential vulnerabilities in space assets, especially in situations where space-based services may be denied or disrupted.
- ▶▶ Validate aspects of space operations including satellite communication, surveillance and reconnaissance capabilities to ensure that India can effectively respond to emerging challenges in the space domain.
- Lay the groundwork for future innovation in space defence technologies and strategic resilience in space operations.





# SEA VIGIL -24

## Largest coastal defence exercise

**This coastal defence exercise aims to gauge our preparedness against threats that originate from the sea.**

### Coastal bulletin

The Indian Navy conducted the fourth edition of the 'Pan-India' Coastal Defence Exercise **Sea Vigil-24** in November. Sea Vigil-24 is a national-level coastal defence exercise and is one of the largest conducted as far as coastal defence is concerned. It is being held simultaneously in all the coastal states and union territories of India. This coastal defence exercise aims to gauge our preparedness against threats that originate from the sea.

This edition will span an unprecedented scale, both in terms of geographical reach and the magnitude of participation with the participation of six ministries.

Nearly 21 agencies include Navy, Indian Coast Guard, State Marine Police, Fisheries Department, Customs Department, Director General of Shipping, Director General of Lighthouse, CISF, Port authorities and many more.

The Coastal Defence & Security Readiness Evaluation (CDSRE) phase of the exercise is already underway from end of October and being conducted by the Naval Officer-in-Charge of all coastal states and UTs (including Lakshadweep & A & N Islands) wherein audit of complete coastal defence and security infrastructure is being carried out. National Security Council Secretariat officials will also be part of Indian Navy-led CDSRE teams for the first time.



## Origin

- ▶ Conceptualised in 2018, Sea Vigil was designed to validate and enhance measures adopted to bolster Coastal Defence, post the 26/11 Mumbai terror attacks.
- ▶ To encompass the entire 11,098km coastline and vast Exclusive Economic Zone (EEZ) of 2.4 million

square kilometres by engaging complete coastal security infrastructure and all maritime stakeholders.

- ▶ Raise awareness amongst coastal communities about maritime security and involvement of fishing communities, coastal populace and students from NCC and Bharat Scouts and Guides.

- ▶ The exercise will test various security measures, including surveillance systems, rapid response strategies and the capability of forces to counter terrorism and other maritime threats.

## Significance

The exercise is aimed to enhance the nation's capability to counter maritime security threats such as smuggling, piracy and infiltration which have become increasingly prevalent in the region. Sea Vigil 24 is crucial in the context of India's growing maritime interests and the need for robust coastal security mechanisms to protect vital assets and maintain strategic maritime dominance.

## Technological advancements and coordination

Sea Vigil 24 is also an opportunity to test India's latest surveillance and security technologies which play an essential role in identifying threats in real time. This not only boosts the Navy's capability but also sets a benchmark for coordinated efforts between various maritime security agencies, improving response times and operational efficiency.

The exercise offers a significant opportunity to assess current preparedness of all maritime security agencies, identify their strengths and weaknesses and enhance the nation's overall maritime defence framework.

A precursor to the **Theatre Level Readiness Operational Exercise (TROPEX)** conducted biennially by the Indian Navy, Sea Vigil-24 will validate our coastal preparedness by reinforcing India's commitment to safeguard its maritime boundaries in coordination with all coastal defence stakeholders.





# EMPLOYMENT & LABOUR LAW

## PART 3

In continuation to the previous edition, we will be looking into some more of the pertinent labour/employment laws in force in India.

### The Minimum Wages Act, 1948

The Minimum Wages Act (“Wages Act”) prescribes minimum wages for employees in different establishments as specified in the

Wages Act, with a view to prevent exploitation of the workforce. The criteria for the minimum wage payable and the manner of paying such wage are specified in the Wages Act, with the intention to enable workers to lead a decent and respectable livelihood. The Wages Act classifies workers into various categories and empowers the central and various state governments to determine, revise and enforce

minimum wage rates for different categories of workers in various industries and regions.

The Wages Act also provides for workers who are paid less than the prescribed minimum wage, to file a complaint with the relevant authority and seek redressal. Further, non-compliance with the Wages Act can lead to penalties for employers, including a fine and imprisonment.



### The Payment of Gratuity Act, 1972

The Payment of Gratuity Act (“Gratuity Act”) was brought into effect for putting in place a scheme for the payment of gratuity to employees in various establishments employing ten or more employees/workers. **‘Gratuity’ is a sum paid by employers in exchange for the services rendered by the employee.**

Under the Gratuity Act, gratuity is payable to an employee on his

## Payment of Gratuity Act, 1972



### GRATUITY UNDER INCOME TAX ACT: ALL YOU NEED TO KNOW



#### Government Employees

Full amount of gratuity is tax-exempt



#### Employees governed by Payment of Gratuity Act

Least of the following is tax-exempt

- Last salary (basic + DA)\* number of years of employment\* 15/26
- Rs. 20 lakhs (hiked from Rs. 10 lacs)
- Gratuity actually received



#### Employees not governed by Payment of Gratuity Act

Least of the following is tax-exempt

- Last 10 month's average salary (basic + DA)\* number of years of employment\* 1/2;
- Rs. 10 lakhs (statutory amount)
- Gratuity actually received

retirement or resignation from an establishment, after completing a minimum number of years of service. The terms regarding

- (a) calculation of the number of years of service,
- (b) calculation for the amount of gratuity and
- (c) the manner of payment of the gratuity, are detailed under the Gratuity Act.

### Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013

The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013 ("POSH Act") was notified with an aim to protect women from sexual harassment at the workplace, and to create a safer working environment for women. The POSH Act covers all women irrespective of employment status. **The POSH Act requires establishment of an Internal Complaints Committee in workplaces with ten or more workers.**

The Internal Complaints Committee of an establishment must be headed by a woman and at least 50% of the committee must be women. The POSH policies of establishments would also need to detail the rights of affected parties in the event of sexual misconduct and the manner of handling/ investigating complaints received in this regard.



## DO YOU KNOW ?

**Sexual misconduct does not have to be caused only by way of actions or physical assault – even inappropriate words or comments can constitute sexual misconduct.**





# Cow Milk a holistic elixir

Milk, particularly cow milk, has been revered in Indian culture for centuries as a vital source of nutrition and health. From Ayurveda to modern naturopathy, milk is seen as a "complete food," rich in nutrients essential for physical and mental well-being.

Indian naturopathy views cow milk as a *sattvic* (pure) food that nourishes the body and mind.

It is considered beneficial for all age groups due to its natural composition, which supports:

- ▶ **Bone health:** High levels of calcium and vitamin D strengthen bones and teeth.
- ▶ **Immunity:** Immunoglobulins and enzymes in milk boost immunity.

▶ **Digestion:** Raw or boiled milk aids in digestion when consumed appropriately.

▶ **Energy and vitality:** Milk provides an instant energy source due to its carbohydrate content.

▶ **Mental wellness:** Milk contains tryptophan, an amino acid that helps in serotonin production, promoting relaxation and better sleep.

In Ayurveda, cow milk is classified as a rejuvenator or *rasayana*, often prescribed for conditions like weakness, respiratory disorders and mental fatigue.

## Addressing the allergen debate: Is milk truly harmful?

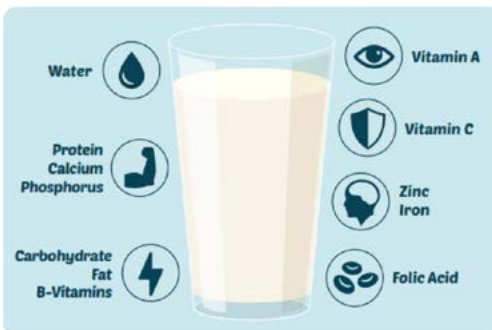
There is a growing narrative in global health communities suggesting milk, particularly cow milk, may act as an allergen. This notion often stems from cases of lactose intolerance or milk protein allergies. **However, from an Indian naturopathic viewpoint, milk is**

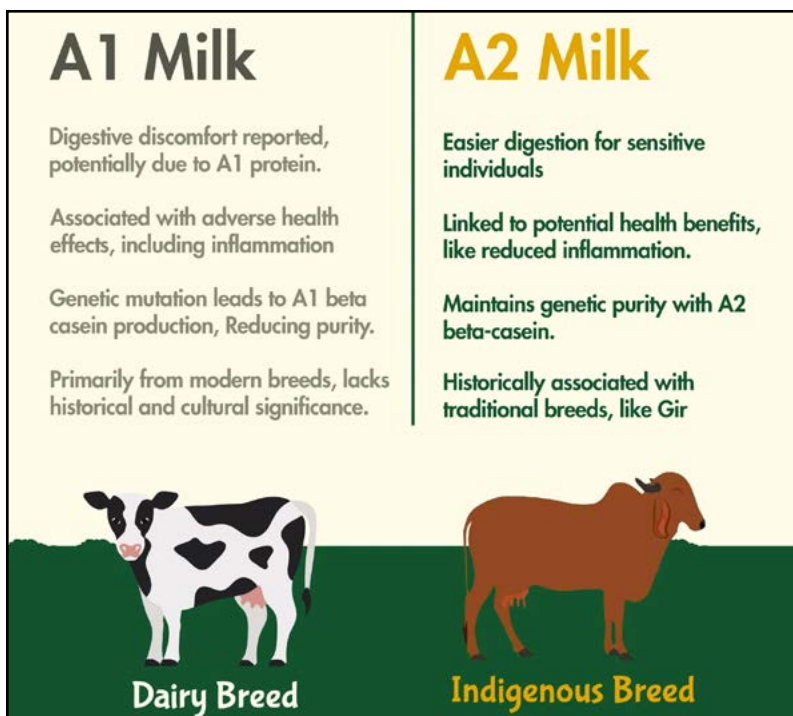
**not an allergen, when consumed mindfully.**

▶ **Lactose intolerance:** Lactose intolerance results from the absence of lactase, the enzyme that breaks down lactose. Native Indian cow milk, especially when boiled with spices like turmeric or ginger, becomes more digestible.

▶ **Beta-casein proteins:** Much of the milk allergy debate revolves around the type of beta-casein protein present in milk, specifically A1 versus A2. A1 milk, predominantly found in European breeds, is harder to digest and may trigger inflammation. In contrast, A2 milk from native Indian breeds does not produce the same adverse effects.

▶ **Traditional preparation:** Milk consumption in Indian households often involves boiling and adding digestive spices, reducing allergenic potential and improving tolerance.





### A1 vs. A2 Milk: Understanding the Difference

#### A1 Milk

- ▶ Contains A1 beta-casein protein, which, when digested, releases beta-casomorphin-7 (BCM-7), a peptide linked to inflammation, digestive issues and even neurological disorders.
- ▶ Commonly produced by European breeds like Holstein and Jersey cows.

#### A2 Milk

- ▶ Contains A2 beta-casein protein, which is easier to digest and free from BCM-7.
- ▶ Associated with fewer cases of milk intolerance and allergy.
- ▶ Found in milk from native Indian breeds like **Gir**, **Sahiwal**, and **Red Sindhi**.

### Native Indian cow breeds and the superiority of A2 milk

India is home to several native cow breeds, known for their unique hump and the ability to produce A2 milk. These breeds include:

### Key native breeds

- ▶ **Gir:** Known for high milk yield and rich nutritional content.
- ▶ **Sahiwal:** Renowned for its creamy, high-fat-content milk.
- ▶ **Red Sindhi:** Produces milk ideal for curd and ghee preparation.
- ▶ **Tharparkar:** Hardy breed with milk suitable for various climatic conditions.

### Benefits of A2 milk

- Improved digestibility:** Free from BCM-7, making it suitable for individuals with lactose intolerance or sensitivity.
- Nutritional richness:** Higher levels of omega-3 fatty acids, antioxidants and micronutrients.
- Anti-inflammatory properties:** Helps in reducing inflammation and preventing chronic illnesses.
- Boosts immunity:** Rich in **conjugated linoleic acid (CLA)** and essential vitamins, A2 milk strengthens immunity.

**5. Environmental sustainability:** Native breeds are more adapted to Indian climatic conditions and require fewer resources, making their farming environmentally sustainable.

### Cow milk in traditional Indian medicine. Uses in Ayurveda

- ▶ **For weakness:** Warm milk with ghee and honey rejuvenates the body.
- ▶ **For insomnia:** Milk with nutmeg and cardamom induces restful sleep.
- ▶ **For digestive health:** Milk with turmeric acts as a natural digestive aid.
- ▶ **As a carrier for medicines:** Milk is used as an *anupana* (vehicle) for delivering Ayurvedic medicines.

### In panchagavya

Cow milk is a core component of *panchagavya*, a combination of five cow derivatives (milk, curd, ghee, urine and dung) used in traditional medicine for detoxification and immunity enhancement.

From an Indian naturopathy perspective, cow milk is not merely a beverage but a symbol of holistic nourishment. The benefits of cow milk, particularly A2 milk from native breeds, extend beyond physical health to mental and emotional well-being. Contrary to misconceptions, milk can be a non-allergenic, life-enhancing food when sourced mindfully and consumed as per traditional methods.

By promoting the use of A2 milk and supporting native Indian breeds, we can embrace a sustainable, health-centred approach rooted in time-honoured wisdom.







## Mahadev Mahto's forest revolution

Nestled 25 kilometers from Hazaribag, the village of Berho in Tatijhariya is home to an extraordinary man, Mahadev Mahto, whose tireless dedication has transformed the barren landscape of Dudhmatiya in Jharkand into a thriving forest. Known as the **"Jungle Man of Hazaribag,"** Mahadev's conservation efforts have earned global recognition, drawing researchers and environmentalists from around the world to study the revitalized forest.



As a schoolteacher, Mahadev began his career in 1975 and retired in 2014, but his passion for the environment extended far beyond the classroom. In 1987, a harrowing encounter with a herd of wild elephants changed the course of his life. When 20 elephants entered his village, they rampaged through the area. Their distress was caused by the loss of their natural habitat. Mahadev, caught amidst the chaos, sustained injuries but survived. This incident sparked his resolve to restore the balance between humans and wildlife by creating a safe natural habitat for animals.

**With an initial effort of planting 700 trees across 30 acres, Mahadev expanded the forest to encompass over 1,00,000 trees in 21 years.** The Dudhmatiya Jungle now spans 500 acres and serves as a crucial corridor for wildlife, particularly elephants. **His efforts have re-established a harmonious ecosystem where animals can thrive without encroaching on human settlements.**

To galvanize community support, Mahadev innovatively linked forest conservation with cultural traditions. In 1989, he

introduced the practice of tying red ribbons around tree trunks, likening it to the **Raksha Bandhan** festival, symbolizing the pledge to protect and nurture the forest. This movement gained momentum, and every year on 7<sup>th</sup> October, villagers gather for the "Environment Mela" at Dudhmatiya. During the event, participants pledge to adopt and safeguard a tree for life. The initiative has since extended to other jungles, fostering a community-driven conservation ethic.

**Under Mahadev's leadership, the villagers have dug 73 water reservoirs, replanted native trees and formed 434 forest committees, all working tirelessly to protect the forest.** Today, Dudhmatiya Jungle stands as a sanctuary for wildlife, hosting herds of elephants that now have access to food, water and safe migration paths.

Mahadev's vision has significantly reduced human-wildlife conflict, rejuvenated the region's ecosystem and inspired countless individuals to take up the cause of conservation. **His story is a testament to the transformative power of determination and community collaboration in preserving nature.**



# Dr.N. Kalaiselvi

First woman Director-General of the CSIR

(5<sup>th</sup> February 1967)



When a person believes in learning from every interaction and every environment, it is certain that one day they will become a leader! This is what the life of Dr. Kalaiselvi, the first woman DG of the CSIR (Council of Scientific and Industrial Research) shows us.

Hailing from Tamil nadu, young Kalaiselvi went to a Tamil medium school at Ambasamudram, a small town with cultural heritage and historical significance. While studying B.Sc. Chemistry at the Government Arts College for Women, Tirunelveli, her hard work and consistency in learning earned her University rank from Madurai Kamaraj University. She completed her postgraduate studies at Government Arts College, Coimbatore. She saw

her teachers as a great motivation and inspiration who showed her the path. Intellectual thirst combined with an inquiring mind made her pursue research leading to a Ph.D. in synthetic organic chemistry, specialising in the area of heterocyclic compounds.

After a short stint of teaching in a college, Dr.Kalaiselvi began her research career in 1997, by joining CSIR-Central Electrochemical Research Institute (CSIR-CECRI) at Karaikudi in Tamil nadu. There, she focused on electrochemistry research, mainly on developing lithium batteries.

In her career spanning more than 25 years, she has addressed problems on electrochemical power systems, development of electrode materials, custom designed synthesis methods, optimisation

of reaction parameters and electrochemical evaluation of in-house prepared electrode materials for their suitability in energy storage device assembly.

“In 1997-1998, India's Lithium-Ion Batteries (LIBs) technology was in its infancy. It was a new area that offered an enormous opportunity to do R&D at the electrode level. This turned out to be an exciting area. Today, 80% of Indians have mobile phones, which are powered by LIBs. In the future, we shall witness a revolution in e-mobility, in which different kinds of batteries will power them. So research in this area is fascinating and will radically

change the way we generate and use energy,” she says.

Her research interests include super capacitors and waste-to-wealth driven electrodes and electrolytes for energy storage and electro catalytic applications. With consistent contributions for more than two decades in developing indigenous approaches as well as creating materials and transferable technologies, she became the first woman director of the CECRI in 2019. **With this visionary's team efforts, CECRI has been setting up indigenously-developed first-of-its-kind lithium-ion battery manufacturing plants in Chennai**

**with a capacity of producing 1,000 batteries a day.**

### Highlights

- ▶ More than 125 research papers; 6 patents
- ▶ MRSI medal,
- ▶ CSIR Raman Research Fellowship,
- ▶ INSA-NRF Exchange award,
- ▶ Brain Pool Fellowship of Korea

Dr.Kalaiselvi has successfully executed numerous collaborative and sponsored research projects funded by DST, MNRE, DRDO and CSIR. She served as a nodal scientist for MULTIFUN (Multifunctional Electrodes and Electrolytes for Futuristic Technologies) project to the tune of ₹ 68.54 crore with CSIR-CECRI as the nodal lab and 6 other CSIR Institutes as participating labs during 2012-2017.

She has been involved in the development of practically viable Sodium-ion/Lithium-sulphur batteries and super capacitors. Her farsightedness has accelerated our country's growth through the Ministry of Non Renewable Energy (MNRE) for the implementation of e-mobility in India, with indigenous technological support in a major way. She coordinated the preparation of the Technical Report on National Mission for Electric Mobility (NMEM). As a part of TIFAC, the think tank of Government of India, Dr.Kalaiselvi has played a crucial role in planning and executing our government's response to the fast changing technological scenario globally fostering collaboration among academic, research and industrial partners. She was the theme director of Energy and Energy Devices (E2D) of CSIR.





In August 2022, Dr. Kalaiselvi was appointed as the DG of CSIR & Secretary of DSIR, leading the network of 38 national laboratories across our country, developing cutting edge technology. She is at the helm, steering activities to achieve the plan CSIR in 2030 laid out for Amrit Kaal (India's vision for 2047) and then extend or leverage the progress achieved to meet India's 2047 goals. The first step towards fulfilling this promise is towards realising the UN Sustainable Development Goals (SDGs) by 2030.

She highlights that one of CSIR's highest priorities is to steer the country's missions as an empowered leader of global South for a sustainable future. Dr.N.kalaiselvi who spearheads the institution where she started her career as an entry-level scientist emphasises the importance of societal missions. She reiterates, "Through CSIR 800, we are aiming to reach the "unreached" parts of the country, where almost 800 million people live. The goal is to understand the problems faced by individuals in remote areas

and address them by employing technologies". **This mission aims to improve quality of life by providing technical assistance for low cost housing, affordable health care, potable water supply, sustainable energy and protecting the environment.**

In this regard, societal programmes like CSIR-HARIT (**Harnessing Appropriate Rural Interventions and Technologies**) are designed to focus on enhancing quality of lives of rural communities, helping socio-economic development through CSIR interventions and innovative technologies.

One of the biggest triumphs of CSIR-HARIT is the development of blight-resistant **Samba Masuri** (an important rice variety), which has almost doubled the farmers' income and better yield. Dr Kalaiselvi practises open conversations, transparency during interactions and reinforces the need to have faith in oneself and others.

This exemplary leader believes that the next 20-25 years are crucial for India. "India has entered a phase of **Amrit Kaal**. During this period,



the country's youth population will increase. **Our performance in the coming two decades will have a bearing on India's long-term future. We must work towards self-reliance and achieve Atmanirbharata in all sectors.** We must sustainably use our available resources and leave a better planet for our future generations, because we have only one earth on which we can all have only one future."





# Chandigarh

## I

### Quick five on Chandigarh!

- 1 Capital city of the states - \_\_\_\_\_
- 2 The architect of the city - \_\_\_\_\_
- 3 Declared as Union Territory in the year - \_\_\_\_\_
- 4 Located at the foothills of this range - \_\_\_\_\_
- 5 Regional languages spoken here - \_\_\_\_\_

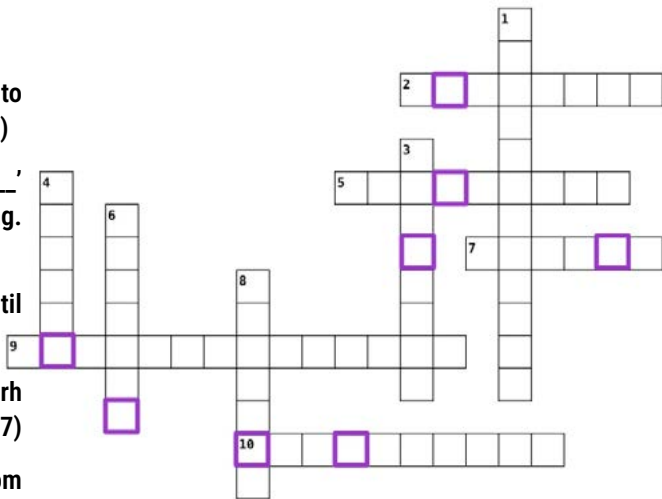


## II

### Crossword

#### Across

2. This monument symbolizes "open to give, open to receive", and is the official emblem of the city. (4,4)
5. This city is also known as 'The City \_\_\_\_\_' owing to its modern architecture and town planning. (9)
7. This was the temporary capital of East Punjab until Chandigarh was completed. (6)
9. This famous government building in Chandigarh was declared as World Heritage site by UNESCO. (7,7)
10. A unique sculpture garden made entirely from industrial and home waste materials. (4,6)



#### Down

1. Dedicated to the study of the life and works of Mahatma Gandhi, this lotus shaped structure represents simplicity and purity advocated by Gandhi. (6,6)
3. Famous former Indian cricketer born in Chandigarh. (5,3)
4. This lake in Chandigarh is a man-made lake at the foothills of the Himalayas. (6)
6. Official language of Chandigarh. (7)
8. The entire city is divided as \_\_\_\_\_, a part of the grid plan. (7)

## III

### What am I?

Unscramble the highlighted boxes in the crossword to find me.

**Hint:** Traditional art form of Punjab, a type of embroidery meaning 'floral work'. The designs include floral patterns, motifs and geometrical shapes.

Answers on page 66





# Ghulam Nabi Dar

**G**hulam Nabi Dar is an inspiring septuagenarian woodcarving artisan whose unwavering dedication to his craft has earned him both state and national recognition. His remarkable journey as a craftsman began at the tender age of 10 when he first ignited his passion for working with wood.

Dar, born on 3<sup>rd</sup> April 1957, has remarkably transformed the art landscape by moving beyond traditional designs to forge a distinctive artistic identity inspired by the breathtaking beauty of

Kashmir. His exceptional attention to detail and skill in capturing nature's essence in his carvings not only showcase his talent but also resonate deeply with art enthusiasts, earning him widespread admiration and respect in the artistic community.

**Highlights**

Dar's talent was officially recognized when he received a **State award in 1984** for his outstanding contributions to the field of wood carving. Additionally, he had the opportunity to showcase his skills

internationally, particularly in Indonesia and Thailand, including a memorable stint working in Baghdad in 1978 and Lichtenstein, Germany in 2003. However, it was during the years **1995-96** that his craftsmanship reached new heights when he was honoured with the prestigious **National Award**. This recognition not only celebrated his exceptional artistic talent but also acknowledged his significant contribution to preserving and promoting the cultural heritage of Kashmir through his intricate wood carvings.

Beyond Dar's awards and accolades lies a profound commitment to nurturing the next generation of artisans. **His passion for mentoring aspiring wood carvers and engaging in community initiatives to preserve traditional crafts in Kashmir is truly inspiring.** Today, his exquisite wood carvings captivate audiences, gracing homes, galleries and museums both nationally and internationally.





## FO Nirmal Jit Singh Sekhon

**F**lying Officer Nirmal Jit Singh Sekhon was born on 17<sup>th</sup> July 1945 in Issewal, Ludhiana, Punjab. Inspired by his father, a retired Honorary Flight Lieutenant in the IAF, Nirmal developed a passion for aviation from a young age, influenced by the nearby Air Force base in Halwara. He attended Khalsa High School in Ludhiana and joined Dayalbagh Engineering College in Agra in 1962 but left to join IAF. He was commissioned as a fighter pilot on 4<sup>th</sup> June 1967 and joined the No. 18 Squadron, "Flying Bullets," in October 1968. During the Indo-Pak War of 1971, he flew Gnat jets and shot down a Pakistani Sabre over the Srinagar Airfield.

**Nirmal Jit Singh Sekhon was the first IAF member to be awarded the highest gallantry award in India.**

### Challenges faced by the valorous flying officer

Until the outbreak of hostilities with Pakistan, no air defence aircraft were located in Srinagar, adhering to an international agreement established in 1948. This left Flying Officer Sekhon facing the formidable challenge of an unfamiliar landscape and the high altitude of Srinagar, compounded by the biting cold and fierce winds of the Kashmiri winter. Despite these daunting circumstances,

he and his comrades valiantly confronted wave after wave of invading Pakistani aircraft from the conflict's onset, embodying courage and dedication that upheld the Gnat aircraft's esteemed reputation.

On 14<sup>th</sup> December 1971, a wave of six enemy Sabre aircraft launched a fierce attack on Srinagar Airfield. FO Sekhon faced obstructive dust clouds from a departing aircraft, delaying his take-off. By the time the runway cleared, the enemy planes loomed overhead, bombarding the airfield. Undeterred by the imminent dangers and overwhelming odds, Sekhon bravely took to the skies and engaged two attacking Sabres without hesitation.

In the ensuing combat, he demonstrated remarkable skill and resilience at tree-top height, holding his ground against formidable opposition. Although ultimately outnumbered, his courageous stand forced the enemy to abandon their assault, sparing the town and the airbase. **Flying Officer Sekhon's selfless sacrifice epitomized valour, unwavering commitment and extraordinary grit, setting an inspiring benchmark for Air Force traditions.**

SERVICE NUMBER	10877 F(P)
RANK	Flying Officer
NAME	Nirmal Jit Singh Sekhon
SON OF	Trilok Singh
RESIDENT OF (Village/District/State) / DOMICILE	Ludhiana, Punjab
UNIT/REGIMENT/CORPS	No 18 SQUADRON
SERVICE	Indian Air Force
DATE OF ENROLMENT/ COMMISSION	04 June 1967
AWARD/DATE OF ACTION	Param Vir Chakra (Posthumous) 14 December 1971
WAR/BATTLE/OPERATION	1971 Indo-Pak War



# Bhojpatra

## The Himalayan wonder

The *Bhoj Patra* tree, also known as the Himalayan Birch (*Betula utilis*), is a medium-sized tree found abundantly in the Himalayan range. Revered for its historical, medicinal and cultural significance, it is distinguished by its smooth, paper-like bark, which ranges from white to brownish hues. The bark peels off in thin, almost transparent strips, making it easily recognizable. The tree typically grows up to 65 feet and belongs to the *Betulaceae* family.

In ancient India, before the invention of paper, the bark of the Bhoj Patra was extensively used for writing texts, including horoscopes and scriptures. Known as *lekhya patra*, meaning “leaf for writing,” it served as a durable medium for



storing information. The bark’s association with knowledge and spirituality made it a valuable resource in ancient times.

The *Bhoj Patra* is also celebrated for its medicinal properties. Its bark contains essential oil and betulin, which have therapeutic applications. According to the *Charak Samhita*, the bark is used in powdered or decoction form to treat various ailments. **It is particularly effective in addressing skin disorders, ear infections, epilepsy, hysteria and convulsions.** The decoction of *Bhoj Patra* is used to cleanse wounds, alleviate earaches and aid in difficult childbirth by facilitating placenta expulsion. Additionally, the herb has astringent properties, **helps control obesity, checks nosebleeds, and treats diarrhoea and dysentery.**

Flowering occurs between April and May when young leaves begin to emerge. The tree bears

male flowers in hanging catkins and female flowers in solitary spikes. By autumn, these flowers mature into fruits. Its leaves, ovate in shape and irregularly saw-toothed, are fine-pointed and hairy when young.

Beyond its medicinal value, *Bhoj Patra* holds cultural significance. It has been used as a protective charm against evil spirits, with sages using its bark as part of their attire. Pilgrims visiting sacred sites like Badrinath, Kedarnath and Gangotri tie the bark under their feet for comfort during their journey.

*Bhoj Patra*’s association with divinity and its location in the sacred Himalayan region make it a symbol of auspiciousness. Where its presence is felt, it is believed that negative energies dare not intrude. **Bhoj Patra is more than just a tree; it is a testament to the harmony between nature and human civilization, offering a blend of utility, spirituality and healing.**





## Nobel Prize 2024 – Physics

The Nobel Prize for physics for 2024 has been jointly awarded to **John Hopfield** and **Geoffrey Hinton** for their foundational discoveries and inventions that enable machine learning with **artificial neural (ANN) networks**. The foundations of artificial intelligence (AI) are based on neural networks developed by these Nobel laureates.

### What are artificial neural networks?

Artificial neural networks modelled on how a human brain works. Human brain consists of billions of neurons which are interconnected. Information is passed from one neuron to another through a complex network of neurotransmitters. Donald Hebb, a Canadian psychologist postulated a neuro psychological theory that

neurons become more efficient if they talk, interact with each other. John Hopfield developed an artificial neural network (ANN) whose nodes used Hebb's postulate to learn by association. ANN is arranged in a series of layers each consisting of a few dozen nodes or a million, depending on the complexity of the task. Information or inputs pass through these layers. The nodes assess the information and produce the desired output. It is important to train these networks with training data. ANN learn from this data set and later identify patterns using this stored information.

### Geoffrey Hinton's contribution

Hinton's share of the Nobel Prize was his effort in developing the first deep learning machines. Hinton and his colleagues developed

an artificial network with a tendency to move towards some outcomes over others. This is the beginning of deep learning. They developed a concept of hidden nodes, which interacted with visible nodes setting the stage for deep learning, machine learning and eventually artificial intelligence. It can be safely argued that deep learning is a subset of machine learning which is a subset of artificial intelligence.

### Technology feeds on itself

Technologies evolve and leapfrog on successive levels of abstraction. In other words, one technological invention acts as the fodder for the newer one. Artificial intelligence developed, grew on the concepts of ANN, deep learning and machine learning. **Large Language Models (LLM)** of artificial intelligence evolved from the development of transformer architecture that revolutionized AI. Emergent capabilities are what a computer AI was not designed for but machine learning made it possible. Artificial Intelligence has the potential to alter and bring efficiency to every sector. In spite of its nascent stage, AI is thought of as a disruptive technology but if harnessed responsibly, AI can bring in unimaginable efficiencies of scale.



**I**

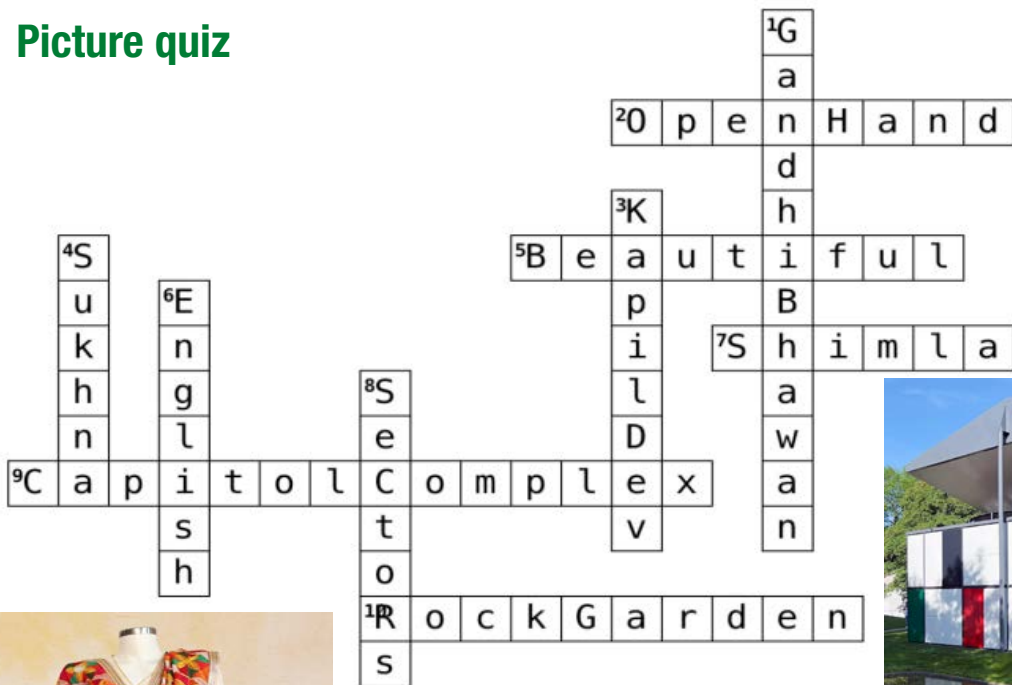
**Quick five!**

1. Punjab and Haryana
2. Le Corbusier, a Swiss-French architect
3. 1966
4. Shivalik Range
5. Hindi and Punjabi



**II**

**Picture quiz**



**III**

What am I ? Hidden word :  
**PHULKARI**

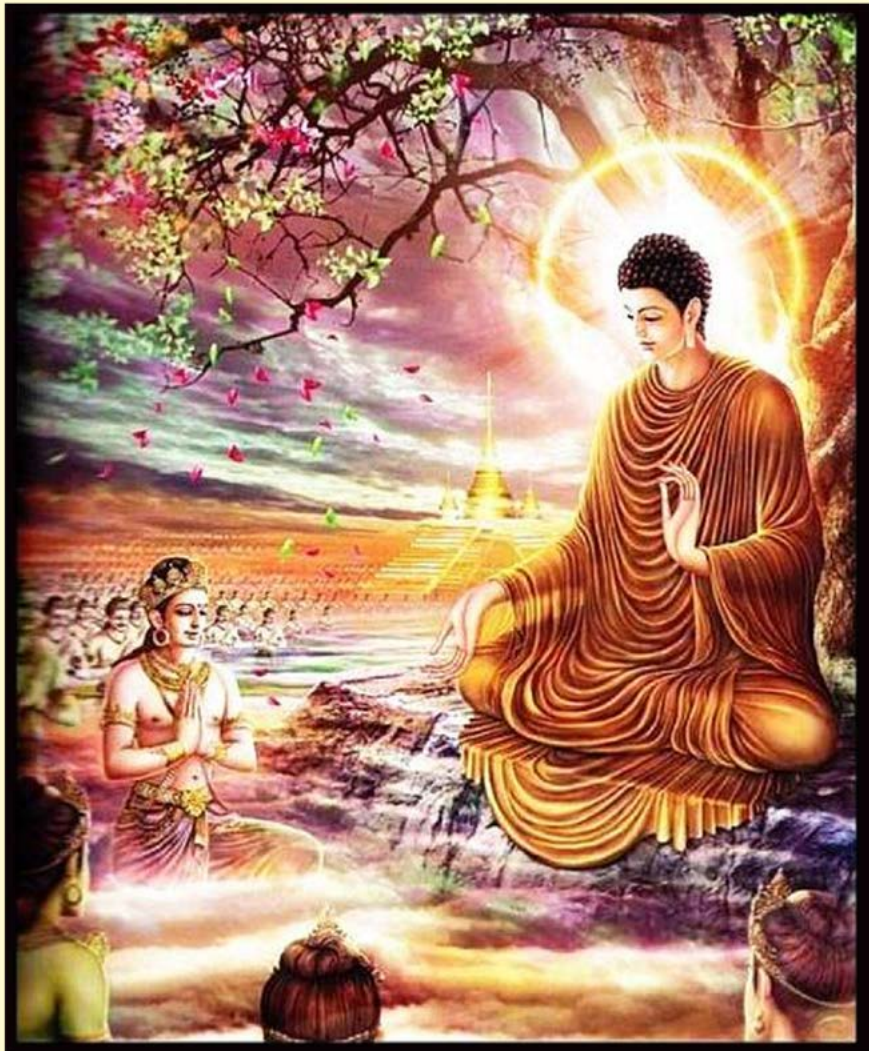


# International Abhidhamma Divas



**Recognition of Pali as a classical  
language**

**17<sup>th</sup> October**





# National Security Guard Raising Day

**16<sup>th</sup> OCTOBER**

**&**

# ITBP RAISING DAY

**24<sup>th</sup> OCTOBER**



The ITBP is a Central Armed Police Force that was established in 1962 during the India-China War. The force is responsible for border guarding, internal law enforcement, and disaster management.

