

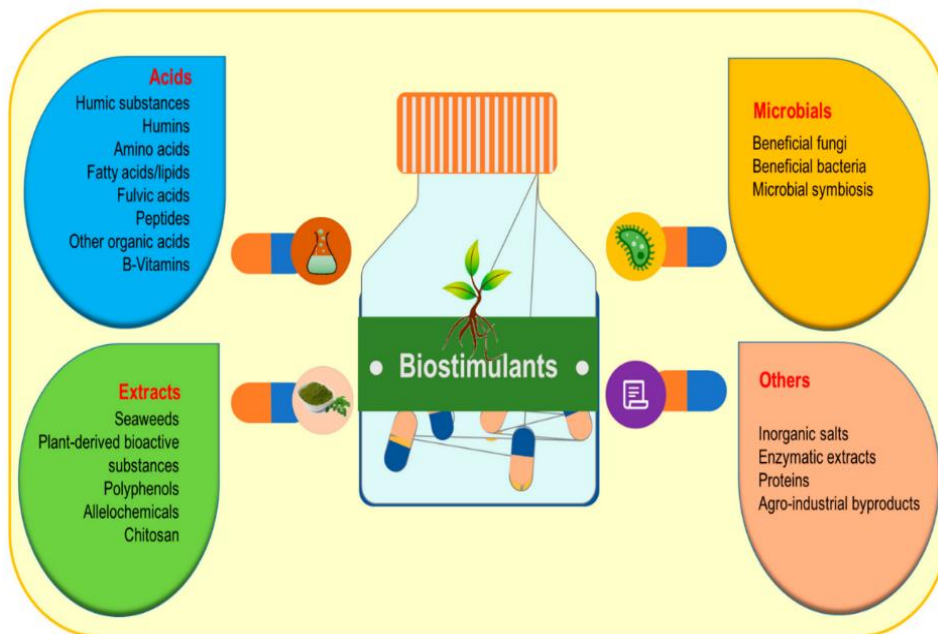
July - 26

TNPSC BITS

- ❖ The Indian Navy has launched the Yard 3034 Ajay, the eighth and final ship of the Anti-Submarine Warfare Shallow Water Craft (ASW SWC) series.
- ❖ Comet, an AI-first web browser, was recently released by Perplexity.

NATIONAL NEWS

India's Bio-stimulant Regulation 2025

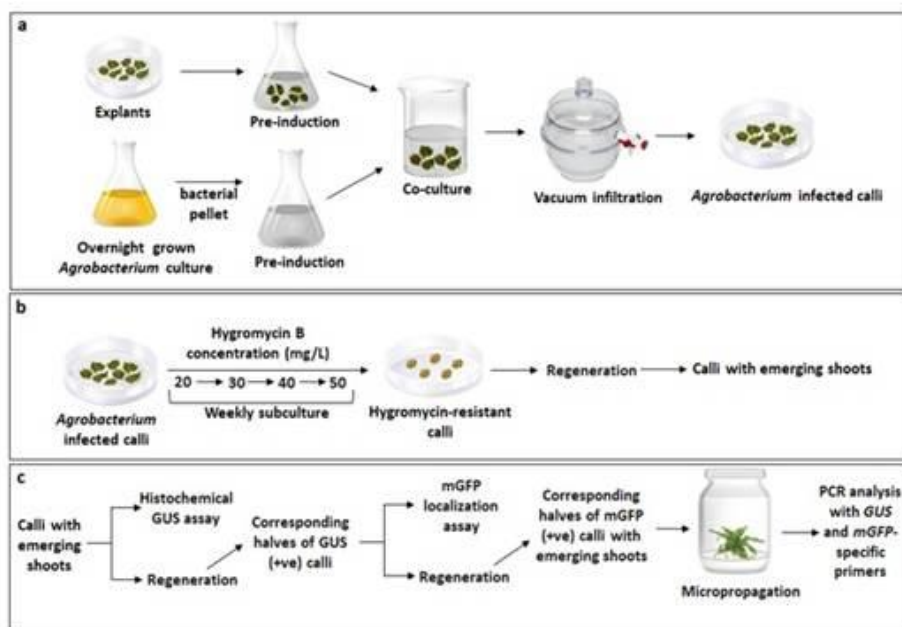


- ❖ The Centre has directed states to stop forcing farmers to buy bio stimulants with subsidised fertilisers.
- ❖ Generally, retailers are not selling subsidised fertilisers like urea and diammonium phosphate (DAP) to farmers unless they purchase bio stimulants.
- ❖ Bio stimulants are substances, that stimulate physiological processes in plants and help enhance the yield from a harvest.
- ❖ Plant-derived waste materials and seaweed extracts are at times used in their production.
- ❖ The Indian bio stimulants market size was valued at USD 355.53 million in 2024.
- ❖ The market is projected to grow from USD 410.78 million in 2025 to USD 1,135.96 million by 2032.

- ❖ In India, the fertilisers and pesticides are governed by the 1985 Fertiliser Control Order and the Insecticides Act of 1968, respectively.

Fungal-Tolerant Pineapple

- ❖ The Researchers in India at the Bose Institute of Kolkata have created a pineapple resistant to fungi by enhancing the AcSERK3 gene.
- ❖ It provides an eco-friendly approach to combat Fusariosis, a very harmful fungal disease.
- ❖ Fusariosis results in the distorted stems, darkened foliage, and internal decay of fruit, leading to significant harvest reductions.



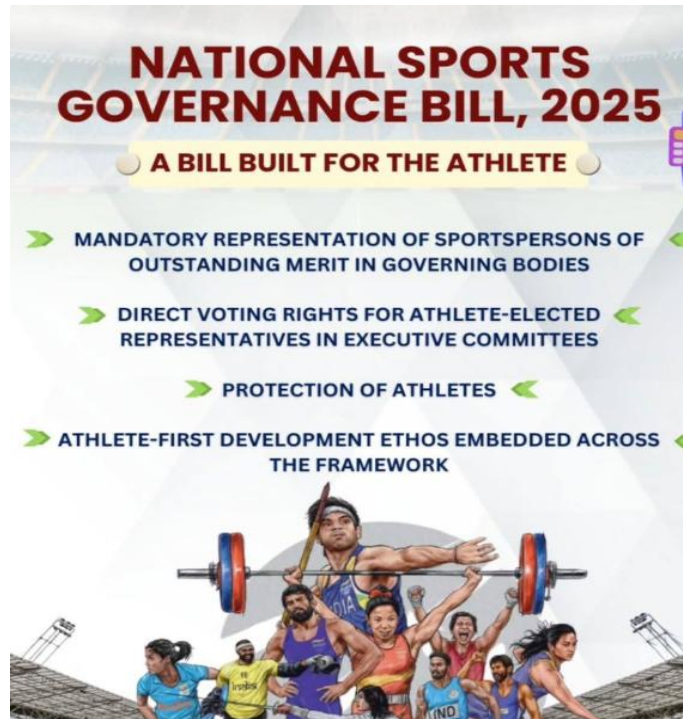
National Sports Governance Bill 2025

- ❖ The Sports Minister, Mansukh Mandaviya, has introduced the National Sports Governance Bill in the Lok Sabha.
- ❖ It aims to improve transparency and accountability in sports administration.
- ❖ It targets the national sports bodies including the Board of Control for Cricket in India (BCCI).
- ❖ It aims to establish a robust regulatory framework to govern sports federations and promote athlete welfare.
- ❖ It has provisions for a National Sports Board (NSB) to create a stringent system of accountability.



- ❖ All National Sports Federations (NSFs) will have to attain NSB's recognition for access to central government funding.
- ❖ The NSB will comprise a chairperson.
- ❖ And its members will also be appointed by the central government from "amongst persons of ability, integrity and standing."
- ❖ The Board's constituents will also be expected to possess "special knowledge or practical experience in the field of public administration, sports governance, sports law and other related fields."
- ❖ The appointments would be done based on the recommendations of a search-cum-selection committee.
- ❖ The selection committee would be made up of the Cabinet Secretary or the Secretary of Sports as chairperson.
- ❖ It also comprises an eminent sportsperson.
- ❖ The eminent sportsperson will be a Dronacharya, Khel Ratna or Arjuna awardee.
- ❖ The NSB will have the mandate to de-recognise a national body that fails to hold elections for its Executive Committee or has committed "gross irregularities in the election procedures."
- ❖ Failure to publish annual audited accounts or "misappropriated of public funds" would also be liable for action.
- ❖ Another striking feature is the proposal for a National Sports Tribunal.
- ❖ It will have the powers of a civil court and decide disputes ranging from selection to election involving federations and athletes.
- ❖ Once instituted, the Tribunal's decisions can only be challenged in the Supreme Court.
- ❖ The bill makes some concessions on the issue of the age cap for administrators.
- ❖ It will allow those in the bracket of 70 to 75 to contest elections if the concerned international bodies' statutes and byelaws allow for it.
- ❖ It is a departure from the national sports code that capped the age limit at 70.
- ❖ All recognised national sports bodies would also come under the ambit of the Right to Information (RTI) Act.
- ❖ The BCCI has vehemently opposed, since it is not dependent on the government funding.
- ❖ The ministry has insisted that the BCCI, which is now a very part of the Olympic movement following cricket's inclusion in the 2028 Los Angeles Olympics Games roster, will have to comply with the provisions of the bill once it becomes an act.
- ❖ The bill also provides for a National Sports Election Panel consisting of the former members of the Election Commission of India or the State Election Commission

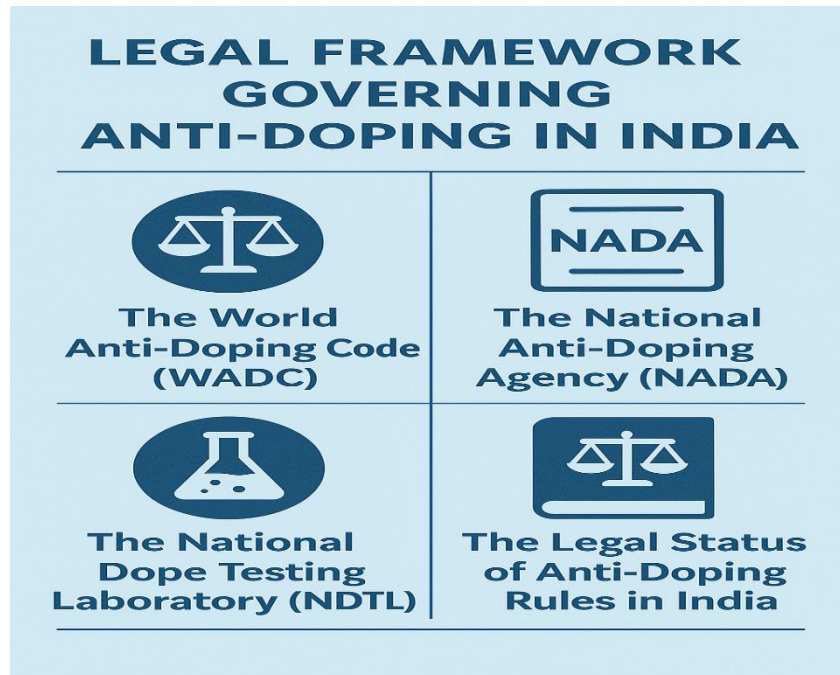
or the former Chief Electoral Officers of the States or the Deputy Election Commissioners.



National Anti-Doping (Amendment) Bill 2025

- ❖ The Sports Minister Mansukh Mandaviya introduced the National Anti-Doping (Amendment) Bill 2025.
- ❖ It seeks to incorporate the changes sought by the World Anti-Doping Agency (WADA)
- ❖ The WADA had objected to “government interference” in the functioning of the country’s Anti-Doping Agency (NADA).
- ❖ The act was originally passed in 2022.
- ❖ But its implementation had to be put on hold due to objections raised by WADA.
- ❖ It objected to the institution of a National Board for Anti-Doping in Sports.
- ❖ That was empowered to make the recommendations to the government on anti-doping regulations.
- ❖ The Board was to comprise a chairperson and two members appointed by the central government.
- ❖ It was also authorised to oversee the National Anti-Doping Agency (NADA) and even issue directions to it.

- ❖ WADA had rejected this provision as government interference in an autonomous body.
- ❖ In the amended bill, the Board has been retained.
- ❖ But it was without the powers to oversee the NADA or the advisory role it was previously assigned.



World's Largest Grain Storage Plan in India

- ❖ India implements the world's largest grain storage plan in the cooperative sector.
- ❖ It is an ambitious initiative aimed at revolutionizing rural agri-infrastructure and empowering Primary Agricultural Credit Societies (PACS) across the country.
- ❖ Approved on May 31, 2023, the plan is currently being rolled out as a pilot project.
- ❖ And it is set to transform grain storage and agricultural logistics at the grassroots level.
- ❖ Minister of Cooperation, Amit Shah, shared these updates in a written reply in the Lok Sabha.
- ❖ The plan focuses on the creation of infrastructure at the PACS level, including godowns, custom hiring centers, food processing units, and Fair Price Shops.
- ❖ These developments are being implemented through the convergence of various government schemes such as the Agriculture Infrastructure Fund (AIF), Agricultural Marketing Infrastructure Scheme (AMI), Sub-Mission on Agricultural

Mechanization (SMAM), and the Pradhan Mantri Formalization of Micro Food Processing Enterprises (PMFME) scheme.

- ❖ As part of the pilot phase, construction of godowns has been completed in 11 PACS across 11 states, including Maharashtra, Uttar Pradesh, Madhya Pradesh, Gujarat, Tamil Nadu, Rajasthan, Telangana, Karnataka, Tripura, Assam, and Uttarakhand.
- ❖ The total storage capacity developed so far stands at 9,750 metric tonnes.
- ❖ States like Maharashtra, Rajasthan, Tamil Nadu, Gujarat, and Uttar Pradesh are leading in the number of PACS onboarded.

ESTIMATED PRODUCTION (in million tonne)

	2023-24	2024-25	Increase
Rice	113.26	119.93	5.89%
Maize	22.24	24.54	10.34%
Pulses	6.97	6.95	-0.29%
Total foodgrains	155.77	164.7	5.73%
Total oilseeds	24.16	25.74	6.54%
Sugarcane	453.16	439.3	-3.06%
Cotton	32.52	29.92	-8%

Strategies for Coal Sector Sustainability and Competitiveness 2025

TECH IN THE MINES

Launch of **Digital Coal platforms** and Integrated Command & Control Centre

Deployment of **AI, 5G, GPS, Drone tracking** across mining operations

Digital twins of coal mines to **enhance operational safety**

India's **first Coal Trading Exchange** on the horizon



- ❖ India is adopting a multi-pronged strategy to modernise the sector, enhance environmental compliance, and reduce dependence on imports.

- Greening Initiatives
 - Energy Efficiency Measures
 - Efficient utilization of mine water
 - Gainful Utilization of Overburden
 - Green Credit Programme
 - First Mile Connectivity
 - Deployment of blast-free technology in coal mining
 - Renewable Energy and clean coal initiatives
- ❖ India has the world's 5th largest coal reserves.
- ❖ And coal accounts for 55% of the country's energy needs.

SCIENCE AND TECHNOLOGY NEWS

AdFalcivax - Malaria Vaccine

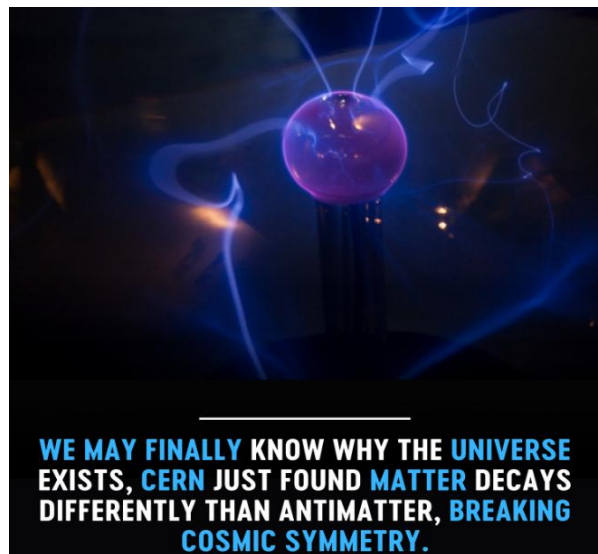
- ❖ India is developing a Multi-Stage Malaria Vaccine named AdFalcivax.
- ❖ The vaccine aims to protect against human infection while also reducing vector-borne community transmission of the parasite.
- ❖ AdFalcivax is the first indigenous recombinant chimeric malaria vaccine.
- ❖ It is specifically designed to target two critical stages of Plasmodium falciparum, the parasite responsible for the most lethal form of malaria.



CP violation

- ❖ The first experimental evidence of the breaking of charge-parity (CP) symmetry in baryons has been obtained by CERN's LHCb Collaboration.

- ❖ The result is consistent with the Standard Model of particle physics.
- ❖ The Current models of cosmology say that the Big Bang produced a giant burst of matter and antimatter, the vast majority of which recombined and annihilated shortly afterwards.
- ❖ But the universe appears to be made almost exclusively of matter with very little antimatter in evidence.
- ❖ This excess of matter is not explained by the Standard Model and its existence is an important mystery in physics.
- ❖ In 1964, James Cronin, Valentine Fitch and colleagues at Princeton University in the US experimented on the decay of neutral K mesons.
- ❖ This had showed that the weak interaction violated CP symmetry, indicating that matter and antimatter could behave differently.
- ❖ Fitch and Cronin bagged the 1980 Nobel Prize for Physics.
- ❖ Numerous observations of CP violation have subsequently been made in other mesonic systems.
- ❖ The phenomenon is now an accepted part of the Standard Model is parametrized by the Cabibbo–Kobayashi–Maskawa (CKM) matrix.
- ❖ This describes the various probabilities of quarks of the very different generations changing into each other through the weak interaction – a process called mixing.



Short-Range Ballistic Missiles - Agni-I and Prithvi-II trials 2025

- ❖ The short-range ballistic missiles — Prithvi-II and Agni-I — were successfully test-fired from the Integrated Test Range in Chandipur, Odisha.
- ❖ Prithvi-II and Agni-I are part of India's domestic missile arsenal.

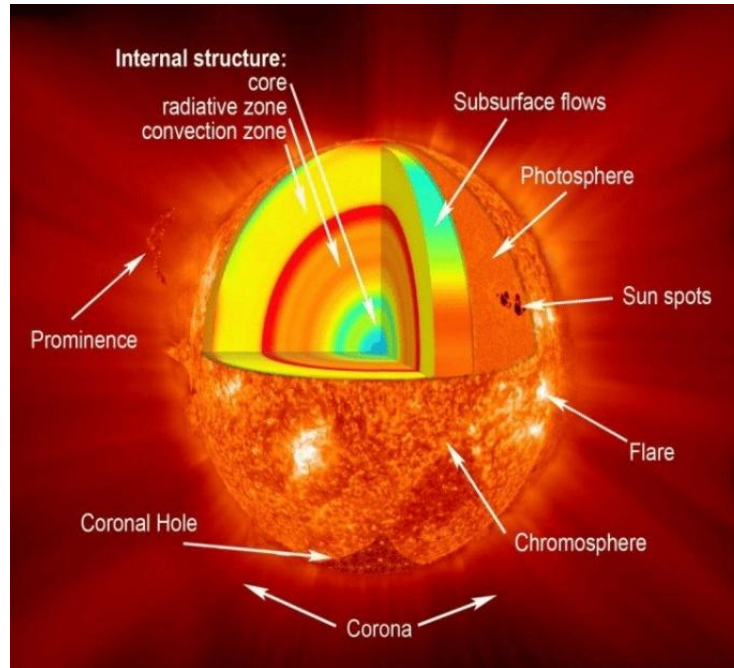
- ❖ It was developed by Defence Research and Development Organisation (DRDO).
- ❖ Prithvi-II is a surface-to-surface short-range ballistic missile with a range of around 250–350 km.
- ❖ It has the liquid propulsion, an advanced inertial navigation and 500 kg warhead capacity.
- ❖ Agni-I is a road and rail mobile missile with a range of 700–900 km and a payload capacity of 1,000 kg.
- ❖ It is a key mid-range deterrence missile.
- ❖ Both are capable of carrying nuclear and conventional warheads and are integral to India's nuclear triad.



SNIFS Experiment

- ❖ NASA, and other international solar physicists, will launch a sounding rocket Solar Eruption Integral Field Spectrograph (SNIFS) experiment from New Mexico.
- ❖ Its sounding rocket is designed to break new ground to probe the most complex region of the solar atmosphere, the chromosphere.
- ❖ SNIFS is the first ultraviolet integral field spectrograph flown to study the Sun.
- ❖ The chromosphere is a thin, reddish layer between the Sun's visible surface (photosphere) and its million-degree corona.

- ❖ It hosts solar flares, plasma jets, and intense energy flows.



ENVIRONMENT NEWS

Ambrosia Beetle - Kerala Rubber Plantations

Ambrosia Beetle *Xylosandrus crassiusculus*

Taxonomy

Kingdom: Animalia
Phylum: Arthropoda
Class: Insecta
Order: Coleoptera
Family: Scolytidae
Genus: **Xylosandrus**
Species: **crassiusculus**

- Scientific Name:

Xylosandrus crassiusculus



- ❖ Rubber plantations in Kerala have been under threat from a beetle-fungus alliance.

- ❖ Researchers recently identified the parasite to be the ambrosia beetle (*Euplatypus parallelus*).
- ❖ The beetle has been reported to share a mutualistic relationship with two fungal species, *Fusarium ambrosia* and *Fusarium solani*.
- ❖ This is the first report of *F. solani* in association with the adult ambrosia beetles.

New Locomotion in Yellow Anacondas

- ❖ The scientists have documented and modelled a previously unrecorded escape movement used by newborn yellow anacondas.
- ❖ It is dubbed the 'S-start', the motion represents a novel, non-planar locomotion that the snakes employ briefly to flee from perceived threats.
- ❖ The discovery opens new avenues in the study of snake evolution and the design of soft-bodied robots.
- ❖ The S-start is a transient motion, meaning it cannot be used continuously.



REPORTS AND INDICES

Towards Resilient and Prosperous Cities in India

- ❖ This report was released by the World Bank.
- ❖ It was prepared in collaboration with the Union Ministry of Housing and Urban Affairs.
- ❖ It estimates that the total investment needs for new resilient and the green urban infrastructure and services are \$2.4 trillion by 2050 in India.
- ❖ The number of Indians living in cities in India is projected to nearly double to 951 million by 2050 from 480 million in 2020.

- ❖ Indian cities hold tremendous potential as centres of economic growth with 70 % of new jobs coming from them by 2030.
- ❖ However, extreme weather events can lead to billions of dollars in future losses and timely action is needed to deal with it.
- ❖ At the same time, intense heat waves and urban heat island effects are already causing temperatures in city centres to rise by over 3-4 degrees above the surrounding areas.
- ❖ The very rapid growth of built-up areas is also reducing cities' capacity to absorb stormwater, making them more vulnerable to floods.
- ❖ The report studied 24 Indian cities, with a special focus on Chennai, Indore, New Delhi, Lucknow, Surat and Thiruvananthapuram.
- ❖ The report outlined some key recommendations to urgently help Indian cities and support vulnerable populations like implementing programs to address extreme urban heat and flooding, including better regulation of storm water, green spaces, installation of cool roofs, and effective early warning systems.
- ❖ Ahmedabad has developed a Heat Action Plan model which aims to strengthen early warning systems, improve healthcare readiness, increase green cover and shift work schedules for outdoor labourers.
- ❖ Kolkata has adopted a city-level flood forecasting and warning system.
- ❖ Indore has invested in a modern solid waste management system, improving cleanliness and supporting green jobs.
- ❖ Chennai has adopted a climate action plan based on a thorough risk assessment and targeting both adaptation and low-carbon growth.

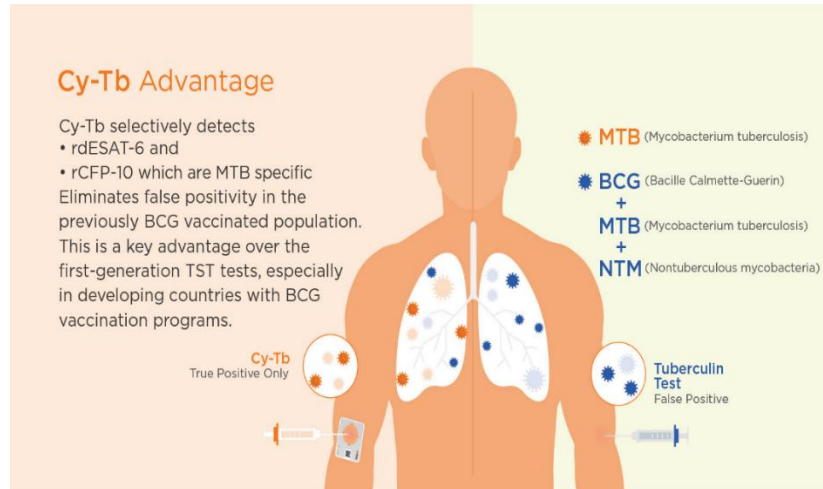


STATES' NEWS

Cy-TB Skin Test - Kerala

- ❖ Kerala has introduced a new intradermal test called Cy-TB for detecting and treating tuberculosis (TB) infection.

- ❖ TB infection is different from active TB disease.
- ❖ A person with TB infection harbours the organism causing TB infection (*Mycobacterium tuberculosis*) in the body.
- ❖ But the organism remains dormant or inactive in the body and the person neither has any TB symptoms nor is he/she contagious.
- ❖ However, if left untreated, 5-10% of these people will progress to developing active TB disease when the body's immune system weakens, allowing the TB bacteria to flare up.



Green Hydrogen Valley Declaration 2025



- ❖ The Andhra Pradesh Chief Minister Chandrababu Naidu has unveiled the Green Hydrogen Valley declaration.
- ❖ It outlines a comprehensive roadmap for building India's largest ecosystem for green hydrogen production, research, and application.



- ❖ The policy aims to make Andhra Pradesh a pivotal hub in India's green economy transition.
- ❖ A central pillar of the declaration is the creation of an indigenous supply chain.
- ❖ It will be 60% of the electrolyser components and storage solutions to be locally manufactured by 2030.
- ❖ The Green Hydrogen Valley will feature India's first Integrated Green Hydrogen Skilling Ecosystem.
- ❖ A major target is to create 5 gigawatts (GW) of the electrolyser manufacturing capacity by 2029.
- ❖ Electrolysers are essential for producing green hydrogen by splitting water using renewable electricity.

PERSONALITIES, AWARDS, AND EVENTS

Handloom Awards 2024

List of Sant Kabir and National Handloom Awardees for the year, 2024

Sl. No.	State	WSC	Year of Award	Name of Award	Applicant Name	Product / Skill
Sant Kabir Awardees						
Sl. No.	State	WSC	Year of Award	Name of Award	Applicant Name	Skill/ Product
1	Odisha	Bhubaneswar	2024	Sant Kabir Handloom Award	Sh. Arindra Meher	SANT KABIR TIE & DYE SILK SAREE
2	Andhra Pradesh	Vijayawada	2024	Sant Kabir Handloom Award	Sh. Lakka Sreenivasulu	Venkatagiri Jamdani Sarees (3 Samples)
3	Maharashtra	Mumbai	2024	Sant Kabir Handloom Award	Sh. Rajendra Sudarshan Ankam	Unique Weaving Art
4	Assam	Guwahati	2024	Sant Kabir Handloom Award (Exclusively women) (KDC)	Ms. Anuradha Kuli	Saree (Mulberry, Eri Spun, Muga)
5	Uttar Pradesh	Varanasi	2024	Sant Kabir Handloom Award (Languishing)	Sh. Mohammad Hanif Ansari	Jamdani Rangkat Saree

- ❖ Three persons from Andhra Pradesh have been selected for the national-level Handloom Awards 2024.
- ❖ It is to be presented by the President Droupadi Murmu during the 11th National Handloom Day celebrations on August 7 in New Delhi.
- ❖ Andhra Pradesh is one of the five States to receive the Sant Kabir Handloom Award.

- ❖ It is given to recognise the outstanding handloom weavers who have significantly contributed to the sector's growth.
- ❖ Lakka Sreenivasulu has been chosen for the Sant Kabir Handloom Award.
- ❖ And the other two, Karnati Murali and Jujare Nagaraju, have been selected for the National Handloom Award for the year 2024.
- ❖ Lakka Sreenivasulu has been selected for his work on Venkatagiri Jamdhani sarees.
- ❖ Meanwhile, Karnati Murali and J. Nagaraju will be receiving the award for their contribution to Multi Diamond Tie and Dye Silk Saree, and Design Development respectively.
- ❖ The Sant Kabir Awardee will receive a cash prize of ₹3.5 lakh, a gold coin, a certificate of recognition and a shawl.
- ❖ The National Handloom Awardees will receive a cash prize of ₹2 lakh, a certificate and a shawl.
- ❖ It was according to the press release from the Ministry of Textiles.

Suhani Shah - First Indian to Win 'Oscar for Magicians' at FISM 2025



- ❖ Suhani Shah from Rajasthan has become the first Indian to win the 'Best Magic Creator 2025' award at the Fédération Internationale des Sociétés Magiques (FISM).
- ❖ It is recognizing her excellence in the online category of magic.
- ❖ It is popularly known as the Oscars for magicians.



- ❖ The award was presented at the prestigious FISM World Championship held in Torino, Italy.
- ❖ The FISM World Championship of Magic is an international competition organized every three years by the Fédération Internationale des Sociétés Magiques.
- ❖ Founded in 1948, FISM is considered the highest global platform for magicians.

MISCELLANEOUS NEWS

10 years of Winter Fog Experiment

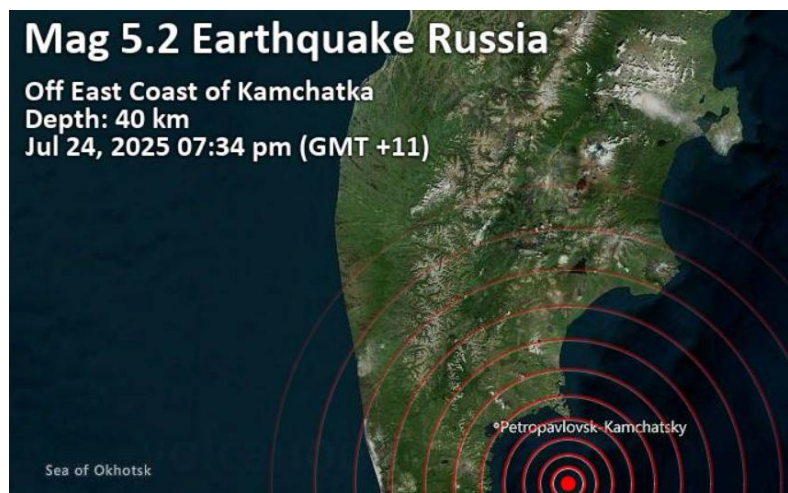
- ❖ The Winter Fog Experiment (WiFEX) was launched in the winter of 2015 at Indira Gandhi International Airport (IGIA), New Delhi.
- ❖ WiFEX is one of the world's few long-term open-field experiments focused solely on fog.
- ❖ It was led by the Indian Institute of Tropical Meteorology (IITM) under the Ministry of Earth Sciences.
- ❖ Now WiFEX is stepping into its next phase — WiFEX-II— which will extend localised, runway-specific fog predictions to more airports in North India.



Kamchatka Peninsula Earthquake 2025

- ❖ A magnitude 6.4 earthquake struck off the east coast of the Kamchatka region in Russia.

- ❖ It is bordered by the Sea of Okhotsk to the west and the Pacific Ocean and Bering Sea to the east.
- ❖ Kamchatka sits at the junction of the Pacific and North American tectonic plates.
- ❖ This makes it a hotspot for earthquakes and volcanic activity.
- ❖ This area is a key part of the Pacific Ring of Fire.
- ❖ It is known for its geological instability.
- ❖ Kamchatka is also home to the Volcanoes of Kamchatka, designated as a UNESCO World Heritage Site.
- ❖ The region contains two main mountain ranges: the Sredinny (Central) Range and the Vostochny (Eastern) Range.



Acquisition of Bitra Island in Lakshadweep

ABOUT BITRA ISLAND

- **Smallest inhabited island in Lakshadweep**
- **Area: 0.57 km in length, 0.28 km in width**
- **Population: 271 (2011 Census)**
- **Located approximately 483 km from Kochi, Kerala**

- ❖ Lakshadweep govt plans to take over Bitra island for defence needs.

- ❖ With this move, Bitra would become the third island in the archipelago with a defence establishment.
- ❖ Among the other two Indian naval bases in the archipelago, INS Dweep prakshak in Kavaratti, the capital, is one.
- ❖ And the other one is INS Jatayu in Minicoy, the southernmost island.
- ❖ With 271 residents, as per the Census 2011, Bitra is the least populated among the 10 inhabited islands in the Lakshadweep.

Replica of the Ashokan Pillar at Waskaduwa Sri Subhuthi Viharaya, Sri Lanka

- ❖ A replica of the ancient Ashokan Pillar has been erected on the premises of a Buddhist temple in Sri Lanka.
- ❖ It symbolizes a deep acknowledgment of Emperor Ashoka's legacy.
- ❖ It also reflects the broader efforts by India and Sri Lanka to foster spiritual and cultural harmony rooted in Buddhism.
- ❖ It has emphasized Ashoka's role in establishing the Buddha Sasana in Sri Lanka through his children, Arhat Mahinda and Arhat Sangamitta.
- ❖ The Ashoka Pillar is a timeless emblem of the Emperor Ashoka's contribution to Buddhism.

