

July - 17

## TNPSC BITS

- ❖ Senior Indian Police Service (IPS) officer Sonali Mishra has been appointed as the first woman Director General of the Railway Protection Force (RPF).
- ❖ Alyssa Carson (24) from the USA is aiming to be one of the first humans on Mars and has completed all NASA Space Camps and advanced space training programs.
- ❖ The Ministry of Culture launched a two-year celebration marking the 125<sup>th</sup> birth anniversary of Dr. Syama Prasad Mookerjee for his contributions to India's political, cultural, educational, and industrial development.
- ❖ The Centre announced three key appointments—Kavinder Gupta as Lieutenant Governor of Ladakh, Ashok Gajapathi Raju as Governor of Goa, and Ashim Kumar Ghosh as Governor of Haryana.
- ❖ Energy Storage Week (IESW), a premier international conference and exhibition, was held in New Delhi.
- ❖ Himachal Pradesh made a significant jump in the National Achievement Survey (NAS) 2025 of the Ministry of Education, rising from 21st position in 2021 to the top five nationally.

## TAMIL NADU NEWS

### Ungaludan Stalin program

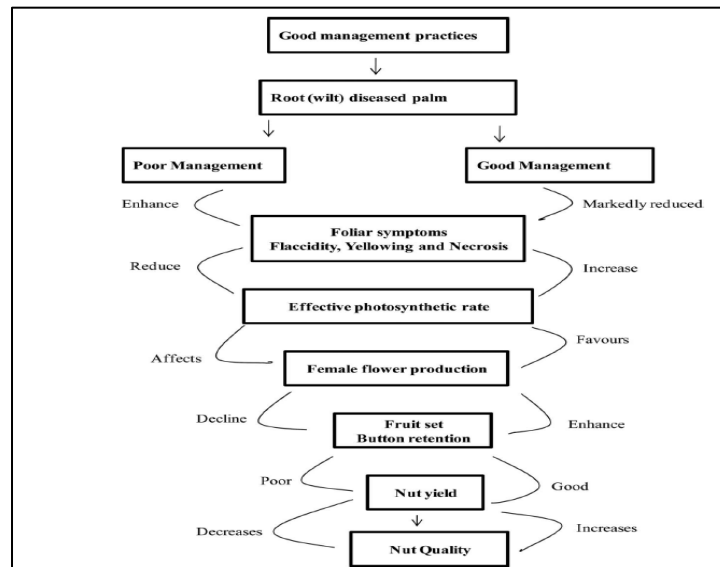


- ❖ Tamil Nadu Chief Minister M.K. Stalin has launched the Ungaludan Stalin programme in Chidambaram.

- ❖ This program will bring the applications to homes and get the issues resolved.
- ❖ A total of 10,000 camps would be organised as part of the programme.
- ❖ It aims to benefit those who are not in town, or are unavailable or unaware of other initiative camps.

### Climate sensors to tackle coconut disease

- ❖ For the first time in Tamil Nadu, coconut farmers in Pollachi (Coimbatore district) have installed real-time climate monitoring systems to assess crop suitability amid rising Root wilt disease threats.
- ❖ This was developed by Bengaluru-based Phytect.
- ❖ These low-cost solar-powered sensors track temperature, humidity, rainfall, and solar radiation, aiming to guide future crop planning and diversification.
- ❖ Root wilt disease, caused by a phytoplasma and spread by vectors like whiteflies and leafhoppers, has severely impacted coconut trees in the region.
- ❖ Over 10 lakh trees across Anamalai, Pollachi North, and the South blocks are affected, with one lakh already removed.

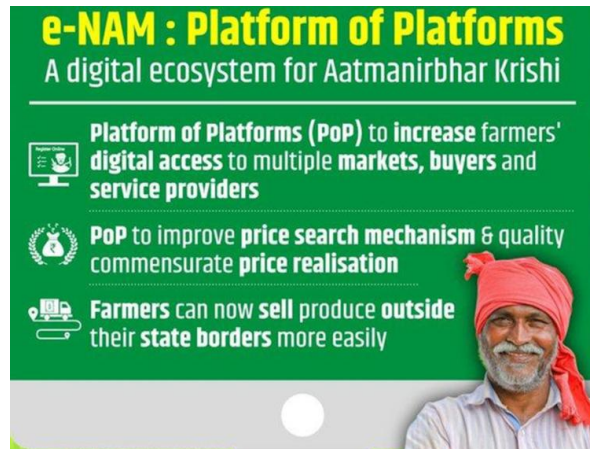


## NATIONAL NEWS

### 7 new farm products to e-NAM

- ❖ The Centre has added seven new agricultural products to the Electronic National Agriculture Market (eNAM) platform.

- ❖ They are: sugarcane, Marcha rice, Katarni rice, Jardalu mango, Shahi litchi, Magahi paan, and Banarasi paan.
- ❖ The total number of products on the eNAM platform has now increased to 238.
- ❖ The digital trading platform eNAM was launched in 2016 to promote transparent, quality-based, and tech-driven agri-trade in India.



### **New members to the Rajya Sabha**



- ❖ President Droupadi Murmu has nominated four distinguished individuals to the Rajya Sabha under Article 80(3) of the Indian Constitution.
  - Ujjwal Nikam - service in the field of law and social justice.
  - Sadanandan Master - Recognised for grassroots-level work in social service.
  - Harsh Vardhan Shringla - Former Foreign Secretary of India

- Dr. Meenakshi Jain - Scholarly contributions to Indian history and literature.
- ❖ The nominations were made by the President on the recommendation of the Council of Ministers under sub-section (a) of clause (1) of Article 80.
- ❖ It allows up to 12 nominations of individuals with special knowledge or practical experience in literature, science, art, or social service.
- ❖ The Rajya Sabha (Council of States) consists of up to 238 elected members at maximum.

## INTERNATIONAL NEWS

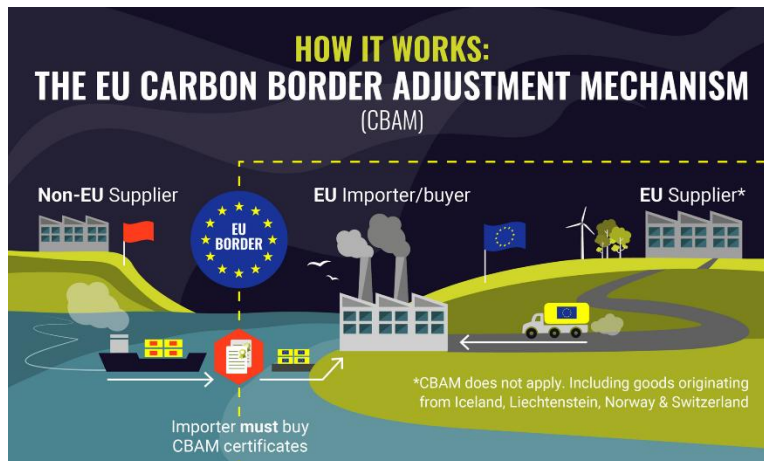
### India - EFTA trade deal

- ❖ Switzerland has ratified the India-European Free Trade Association (EFTA) Trade and Economic Partnership Agreement (TEPA), set to launch in October 2025.
- ❖ TEPA aims to reduce trade barriers, simplify customs, and open Indian markets to Swiss and EFTA exports.
- ❖ The EFTA bloc (Iceland, Liechtenstein, Norway, and Switzerland) will invest \$100 billion in India over 15 years.
- ❖ This investment is expected to create 1 million jobs in India, marking a major economic boost.
- ❖ Switzerland is currently the 12th-largest investor in India.



## EU's Carbon Border Adjustment Mechanism

- ❖ The BRICS nations have strongly condemned the European Union's (EU) Carbon Border Adjustment Mechanisms (CBAMs) and are calling them very unfair and discriminatory.
- ❖ CBAMs are the carbon-based import taxes imposed by the EU on goods from countries with less stringent emissions norms.
- ❖ It aimed at preventing 'carbon leakage'.
- ❖ BRICS declared that such unilateral environmental trade restrictions violate the 1994 United Nations Framework Convention on Climate Change (UNFCCC) principles.
- ❖ The declaration was issued during the BRICS annual summit held in Brazil.
- ❖ BRICS also demanded that developed countries honour their UNFCCC commitments by providing at least US\$100 billion annually in climate finance, rising to US\$300 billion by 2035.
- ❖ Developing countries estimate that US\$1.3 trillion per year is needed for effective climate action.
- ❖ BRICS called for a doubling of adaptation finance by 2025.



## SCIENCE AND TECHNOLOGY NEWS

### STELLAR Model 2025

- ❖ The Central Electricity Authority (CEA) launched STELLAR.
- ❖ It was developed in collaboration with The Lantau Group (TLG) and supported by the Asian Development Bank (ADB).
- ❖ STELLAR means the state-of-the-art, totally indigenously developed Resource adequacy model.



- ❖ It is India's first fully indigenous resource adequacy model.
- ❖ It is a next-gen software tool for the integrated planning of power generation, transmission, storage, and demand response.
- ❖ It is aimed at optimising the electricity generation, transmission, and storage planning across states.



## **BatEchoMon**



- ❖ It is India's first automated bat monitoring, detection system.
- ❖ It has been successfully developed to detect and classify bat species using real-time acoustic analysis.
- ❖ It was developed by the Indian Institute for Human Settlements (IIHS), Bengaluru.

- ❖ It activates at sunset and uses a Raspberry Pi microprocessor to isolate and analyse bat calls.
- ❖ It employs the convolutional neural networks (CNN) to match call structures with known bat species.
- ❖ It is also the world's first integrated unit for real-time bat call recording and classification.

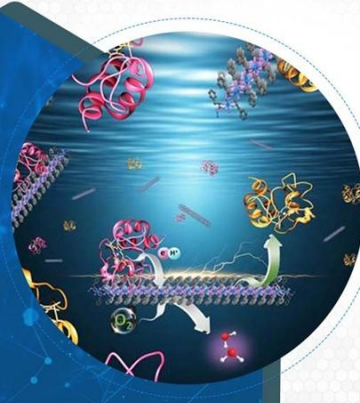
## **Cu-Phen**

- ❖ CSIR-Central Leather Research Institute (CLRI), Chennai, have recently developed specialised Nano-sized particles called Cu-Phen.
- ❖ It mimics the function of natural enzymes in our bodies.
- ❖ The Scientists found that Metallo-nanozymes, or artificial biocatalysts, mimicking natural enzymes, that capable of controlling electron transfer.
- ❖ It is a crucial process for regulating cellular energy.
- ❖ This newly identified property of Metallo-nanozymes seamlessly integrates into biological systems, enabling sustainable energy production, medical inventions, and environmental solutions.

### New Discovery in Metallo-Nanozymes

Smarter Artificial Enzymes

Scientists have built a new kind of nanozyme - tiny tools that act like natural enzymes - to manage how energy flows in our cells



#### The Earlier Problem

- ❖ Older nanozymes weren't precise
- ❖ They leaked energy and created harmful molecules that could damage cells

#### What's New: Cu-Phen

- ❖ A new nanozyme made with copper & amino acids
- ❖ It's built like a lock and key - connecting only with the right cell parts to do its job safely

#### How It Helps

- ❖ Cu-Phen connects with a protein in our cells
- ❖ Passes energy cleanly & avoids making toxic waste

#### Why It Matters

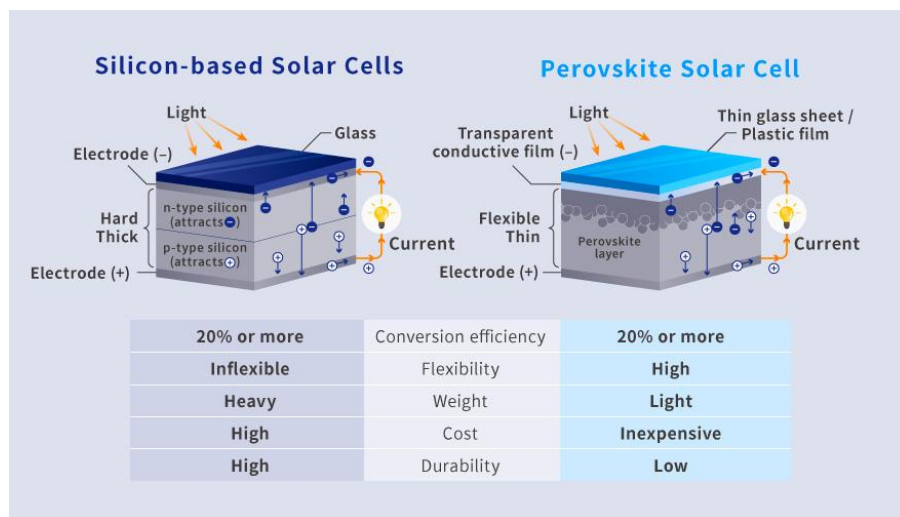
- ❖ Safer medical treatments & Clean energy solutions
- ❖ Eco-friendly tech for the future

What's Next

## **Recycle Toxic Perovskite Solar Cells**

- ❖ The Scientists have developed a green water-based method to recycle the toxic perovskite solar cells.

- ❖ It was recovering about 99% of the materials and retaining almost full efficiency even after five cycles.
- ❖ It was eliminating the need for toxic solvents like dimethylformamide.
- ❖ The process uses sodium acetate to extract lead safely, while sodium iodide and hypophosphorous acid help regenerate perovskite crystals.
- ❖ The Perovskite solar cells are a class of photovoltaic devices that use perovskite-structured compounds.
- ❖ It typically contains lead, as the light-harvesting active layer.
- ❖ It will enhance the solar energy efficiency and support India's push for greener energy.



## ENVIRONMENT NEWS

### Lotus flowers in Wular Lake





- ❖ Lotus flowers have reappeared in Wular Lake in Jammu & Kashmir after over three decades.
- ❖ Wular Lake is Asia's second-largest freshwater lake.
- ❖ It spread across Baramulla and Bandipora districts, covers 130 sq km and provides 60% of Kashmir Valley's fish production.
- ❖ It is one of 42 Indian wetlands listed under the Ramsar Convention.

### **Zographetus mathewi**

- ❖ A new butterfly species named Zographetus Mathewi has been discovered in the forests of Kerala's Western Ghats.
- ❖ The species belongs to the skipper butterfly family (Hesperiidae).
- ❖ Zographetus Mathewi is the 15th known species in its genus and the fifth recorded from India.
- ❖ The butterfly was named in honour of Indian entomologist George Mathew.



## **REPORTS AND INDICES**

### **The world's largest tourism economies in 2025**

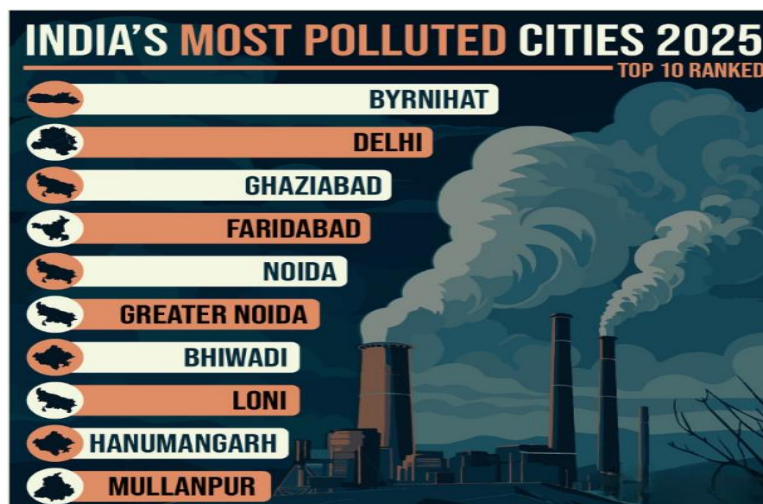
- ❖ India has climbed to 8th place from 10<sup>th</sup> in the list of the world's largest tourism economies in 2025.
- ❖ India is contributing US\$231.6 billion, according to the World Travel & Tourism Council (WTTC).
- ❖ The United States leads the global tourism economy with a US\$2.36 trillion contribution.
- ❖ It is followed by China (US\$1.3 trillion) and Germany (US\$487.6 billion).

- ❖ The global travel and tourism sector contributed US\$10.9 trillion to the world economy in 2023 and is forecast to reach US\$16 trillion by 2034.



### Most polluted cities in 2025

- ❖ Byrnihat, on the Assam–Meghalaya border, recorded the highest air pollution levels in India in early 2025.
- ❖ This data is released by the Centre for Research on Energy and Clean Air (CREA) report.
- ❖ Delhi ranked second with  $87 \mu\text{g}/\text{m}^3$ , over twice the National Ambient Air Quality Standard (NAAQS) of  $40 \mu\text{g}/\text{m}^3$ .
- ❖ Other highly polluted cities included Hajipur, Ghaziabad, Gurugram, Sasaram, Patna, Talcher, Rourkela, and Rajgir.
- ❖ Aizawl (Mizoram) was ranked the cleanest city during the same period.



## SPORTS NEWS

### Wimbledon 2025

- ❖ Polish tennis star Iga Swiatek won her first Wimbledon against American Amanda Anisimova, marking a historic victory.
- ❖ Italian world No. 1 Jannik Sinner has claimed his first Wimbledon men's title by defeating Spain's Carlos Alcaraz.
- ❖ Also, Jannik Sinner became the first Italian man to win Wimbledon.
- ❖ Martina Navratilova of the USA holds the record for most women's singles wins at Wimbledon with 9 titles to her name.

