

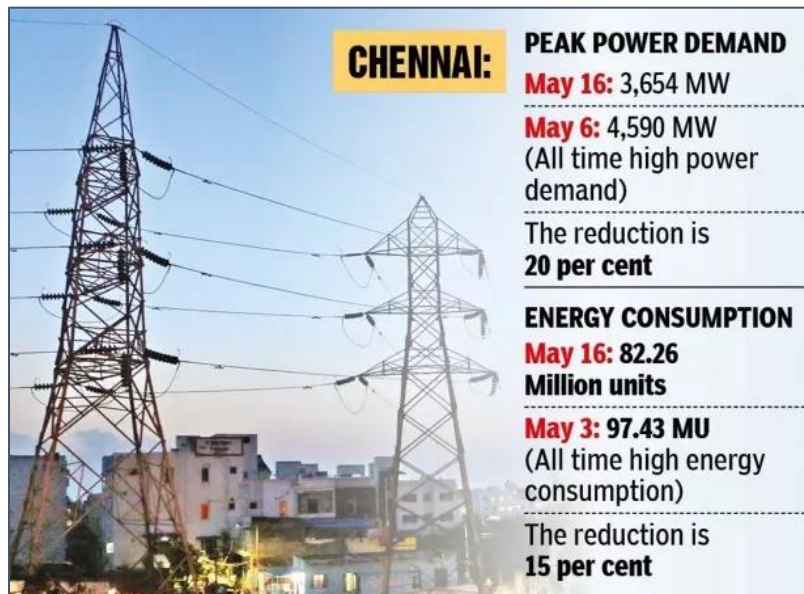
October - 18

## TNPSC BITS

- ❖ The Tamil Nadu government is introducing help desks at all primary health centres (PHCs) to improve patient guidance, operational efficiency and improve patient satisfaction.
- ❖ Inflation in India's wholesale prices increased to 1.84% in September from 1.31% in August.
  - This is due to the food prices surging 9.5% from a 10-month low of 3.3% in August as vegetables became nearly 49% costlier than last year.

## TAMIL NADU

### Power demand in first half 2024-25



- ❖ Tamil Nadu's power demand increased 6.2% to 68,967 million units (MU) in the first half of the financial year 2024-25.
- ❖ It was 64,958 MU in the same period last year.
- ❖ During the April-September period in 2024, the State saw a peak power demand of 20,784 MW as against 19,045 MW in the comparable period last year.
- ❖ The State has the highest number of factories, accounting for 15.66% of the total number of factories in India (2,53,334).
- ❖ During summer this year, the State's power demand hit a new record, touching an all-time-high of 20,830 MW on May 2.

- ❖ The daily consumption hit a new high of 454.32 MU on April 30.
- ❖ Tamil Nadu's total installed power capacity was 41,126.68 MW, as on September 30, 2024.

### **Expert for wildlife forensics**



- ❖ The Advanced Institute of Wildlife Conservation (AIWC) in Vandalur has become the first institution from southern India to be officially recognised as a government scientific expert.
- ❖ This institution was set up by the Tamil Nadu Forest Department in 2017.
- ❖ With this tag, the institute can support the Tamil Nadu Forest Department and assist the forest and wildlife departments of neighbouring States with forensic analysis, enhancing wildlife law enforcement in the region.
- ❖ So far, four organisations in India were equipped for analysis of biological specimens:
  - The Wildlife Institute of India (WII),
  - The Zoological Survey of India,
  - The BOTANICAL Survey of India, and
  - The Indian Council of Forestry Research and Education.

## **NATIONAL**

### **10-point plan to strengthen India-ASEAN relations**

- ❖ The 21st ASEAN-India Summit was held in Vientiane, Laos.
- ❖ The theme of the vent was 'Enhancing Connectivity and Resilience'

- ❖ During the event India announced a 10-point plan to mark a decade of India's Act East Policy.

21st ASEAN-India Summit	21st ASEAN-India Summit
<b>Prime Minister's 10-point plan to strengthen ASEAN-India Comprehensive Partnership:</b>	<b>Prime Minister's 10-point plan to strengthen ASEAN-India Comprehensive Partnership:</b>
<ol style="list-style-type: none"> <li>1. Celebrating the year 2025 as ASEAN-India Year of Tourism for which India would make available USD 5 million towards joint activities</li> <li>2. To celebrate a decade of Act East Policy through several people centric activities including Youth Summit, Start-up Festival, Hackathon, Music Festival, ASEAN-India Network of Think Tanks and Delhi Dialogue</li> <li>3. To organise ASEAN-India Women Scientists Conclave under ASEAN-India Science and Technology Development Fund</li> <li>4. Doubling the number of scholarships at Nalanda University and provision of new scholarships for ASEAN students at Agricultural Universities in India</li> </ol>	<ol style="list-style-type: none"> <li>5. Review of ASEAN-India Trade in Goods Agreement by 2025</li> <li>6. Enhancing Disaster Resilience for which India would make available USD 5 million</li> <li>7. Initiate a new Health Ministers' track towards building Health Resilience</li> <li>8. Initiate a regular mechanism of ASEAN-India Cyber Policy Dialogue towards strengthening Digital and Cyber Resilience</li> <li>9. Workshop on Green Hydrogen</li> <li>10. Invited ASEAN Leaders to join Plant a Tree for Mother campaign towards building climate resilience</li> </ol>

## INTERNATIONAL

### Gender-Responsive Climate Policies



- ❖ There has been a rise in gender-responsive climate policies and actions globally.
- ❖ Around 81 per cent of the Parties to the Paris Agreement referred to gender in their Nationally Determined Contributions (NDC).
- ❖ Till that date, the total number of NDCs of 195 Parties was 168.
- ❖ 62.3 per cent described efforts to strengthen institutional mechanisms for mainstreaming gender considerations across climate action.
- ❖ Some 11.5 per cent described initiatives aimed at increasing the gender balanced groups engaged to support monitoring and evaluation of adaptation action.
- ❖ Around 55.7 per cent affirmed their commitment to gender equality.
- ❖ Women farmers currently account for 45-80 per cent of all food production in developing countries depending on the region.

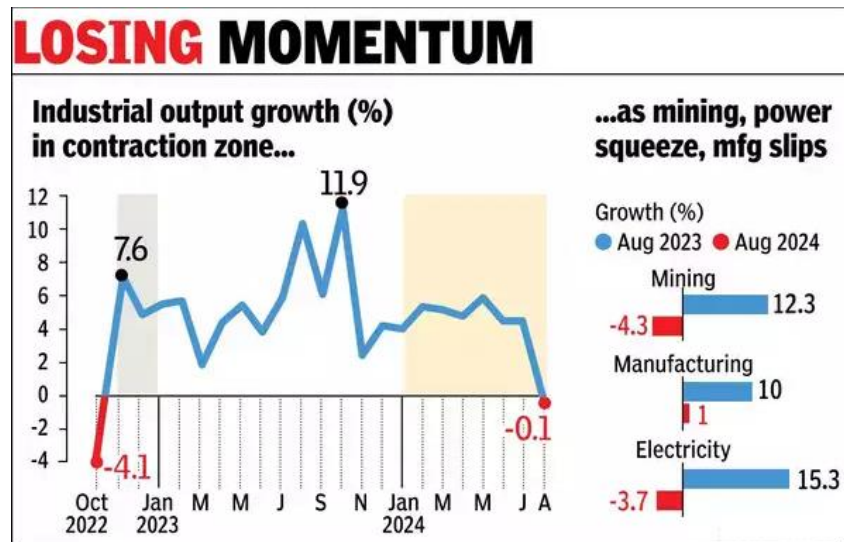


- ❖ About two-thirds of the female labour force in developing countries and more than 90 per cent in many African countries are engaged in agricultural work.

## ECONOMY

### Industrial output contracts

- ❖ India's factory output, as measured by the Index of Industrial Production (IIP), contracted by 0.1 per cent in August for the first time after a gap of 21 months.
- ❖ This data was released by the National Statistical Office (NSO).
- ❖ The overall industrial output had grown by 4.7 per cent in July and 10.9 per cent in August 2023.
- ❖ Mining output has recorded a contraction of 4.3 per cent in August as against a growth of 3.8 per cent in July and 12.3 per cent in the year-ago period.
- ❖ Electricity output also posted a contraction of 3.7 per cent in August compared with 7.9 per cent in July and 15.3 per cent in the year-ago period.
- ❖ Sectorally, as per the IIP data, 11 out of the 23 sectors in the manufacturing registered contraction in August 2024.

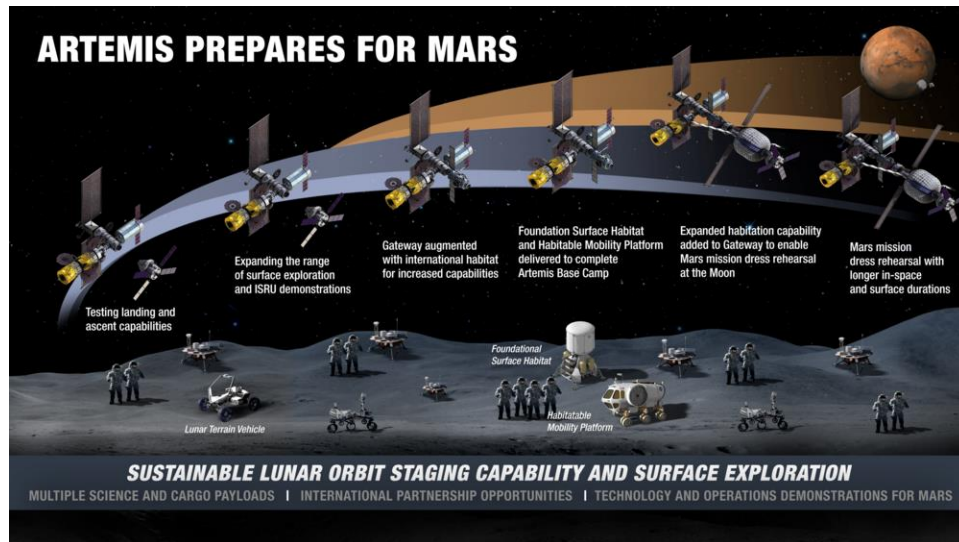


## SCIENCE AND TECHNOLOGY

### Artemis Mission 2035

- ❖ NASA is planning to send humans to our closest extraterrestrial neighbour – Mars by 2035.

- ❖ The trip to Mars is expected to take anywhere between 6 to 7 months and will cover a distance of about 402 million kilometers.
- ❖ Mars was formed 4.6 billion years ago, the same time our solar system came into existence.
- ❖ This red planet was very Earth-like in the sense it had an abundance of liquid water and a denser atmosphere.



## TDP1 enzyme

### The first step towards targeted chemotherapy

IACS researchers have discovered a new target for killing cancer cells

- The new target that has been discovered is used by cancer cells to regulate DNA repair during cell division

- Cancer cells can develop resistance to treatment by using intrinsic DNA repair mechanism

- A combinatorial targeting of two key molecules — the CDK1 protein and the TDP1 enzyme — may lead to novel anti-cancer therapeutics

- Currently, anti-cancer drugs target a molecule (Top1) involved in DNA replication and transcription

- While drugs that target Top1 can disrupt its activity leading to the death of cancer cells, cancer cells can activate their repair mechanisms to counteract the drug effects

- Targeting another protein (CDK1) that disrupts the Top1-mediated repair process can potentially kill the cancer cells



IACS researchers are currently using mouse models to test the combination drug therapies using in vivo tumours

- Combining CDK1 inhibitors with Top1 inhibitors can prove lethal for cancer cells

- ❖ The Scientists from the Indian Association for the Cultivation of Science (IACS), Kolkata, have identified a new therapeutic target by activating a DNA repair enzyme called Tyrosyl-DNA phosphodiesterase 1 (TDP1).

- ❖ Current anticancer drugs like Camptothecin, Topotecan, and Irinotecan focus on inhibiting the enzyme Topoisomerase 1 (Top1).
- ❖ Cancer cells often develop resistance to these drugs, leading the researchers to explore alternative treatment strategies.
- ❖ The researchers have discovered that cancer cells can survive Top1-targeted chemotherapy by activating TDP1, which helps repair damaged DNA during cell division.
- ❖ This process allows the cancer cells to counteract the effects of chemotherapy and continue proliferating.

## IMPORTANT DAYS

### World Migratory Bird Day 2024 - October 12

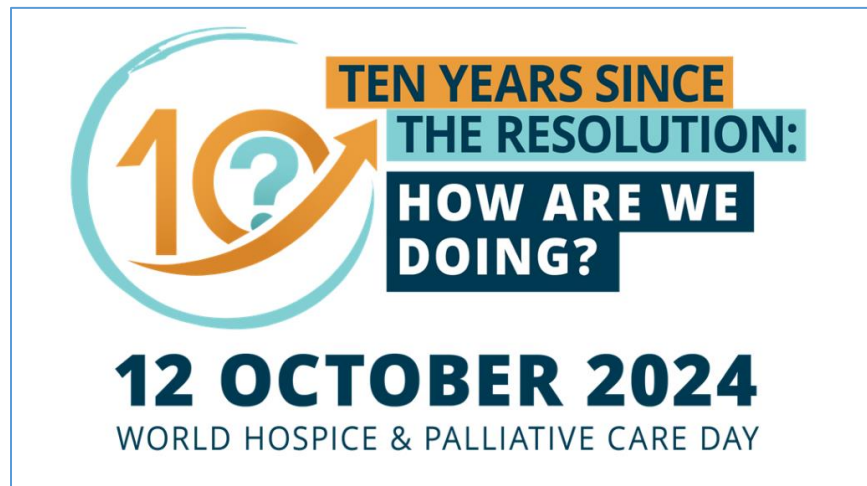


- ❖ This day was celebrated in the Second Saturdays of May and October.
- ❖ The two days of this day serve as a means to reflect the cyclical nature of bird migration, as well as the varying peak migration periods in the northern and southern hemispheres.
- ❖ This year the dates are May 11 and October 12, 2024.

- ❖ It aims to highlight the need for international cooperation to conserve migratory birds.
- ❖ Theme of 2024 is “Protect Insects, Protect Birds”.

### **World Hospice and Palliative Care Day 2024 - October 12**

- ❖ It aims to advocate for People Living with Palliative Care Needs (PLWPCNs) on every second Saturday of October.
- ❖ 2024 marks 10 years of WHO’s, the only stand-alone resolution on palliative care.
- ❖ It was calling for all countries to “strengthen palliative care as a component of comprehensive care throughout the life course.
- ❖ From 2011 to 2017 the number of palliative care services increased from 16,000 to 25,000, caring for 7 million patients.
- ❖ But still only about 12% of the need was met.
- ❖ The theme for 2024 is, “Ten Years Since the Resolution: How are we doing?”.



### **Breast cancer awareness Month 2024 - October 01/31**

- ❖ It aims to raise awareness about breast cancer, one of the most common cancers affecting women worldwide.
- ❖ This month provides an opportunity to educate the public, promote early detection, and encourage fundraising for breast cancer research and treatment.
- ❖ Breast cancer occurs when cells in the breast grow uncontrollably, forming a tumour.
- ❖ About 25.8 per 100,000 women (age adjusted rate) and mortality rates of 12.7 per 100,000 women.

- ❖ With an expected 2.3 million new cases in 2020 (11.7% of all cancer cases), it is the leading cause of global cancer incidence.
- ❖ Between 1965 and 1985 there was a nearly a 50% increase of breast cancer incidence in India.
- ❖ Breast Cancer Awareness Day is celebrated every year on October 13.
- ❖ Theme for 2024 is No-one should face breast cancer alone.

