



December - 22

# **TNPSC BITS**

- The second edition of Kashi Tamil Sangamam was inaugurated at 'Namo Ghat' in Varanasi.
  - The event served as a platform to strengthen the emotional and creative ties between the ancient city of Kashi and the southern state of Tamil Nadu.
- Prime Minister inaugurated the world's largest meditation centre Swarved Maha mandir in Varanasi.
- Geologists have discovered 10 new species of trilobite in a relatively unstudied area of Thailand.
  - These extinct sea creatures were hidden for 490 million years and are helping scientists create a new map of the animal life during the late Cambrian period.
- Haryana created history by winning their maiden Vijay Hazare Trophy 2023 against Rajasthan.
  - It was originally known as the Ranji One-Day Cricket Trophy.

# TAMIL NADU

## Makkaludan Mudhalvar scheme



- \* Tamil Nadu Chief Minister launched 'Makkaludan Mudhalvar', a scheme.
- It is aimed at disposing off grievances or petitions filed by people on merit within 30 days.





- The special camps will be conducted in phases in all 38 districts in the state to collect petitions from people concerning various departments and issues.
- The first phase will cover the rain-hit districts of Chennai, Tiruvallur, Kanchipuram, and Chengalpattu.

# **Record rainfall in south Tamil Nadu in 2023**

- The southern districts of Tamil Nadu recorded with an unprecedented amount of rainfall on Sunday, December 17, 2023.
- ✤ As many as 39 regions witnessed extremely heavy rainfall.
- \* Kayalpattinam in Thoothukudi district received a whopping 95 cm of rainfall.
- Tiruchendur and Srivaikuntam in Thoothukudi district received 69 cm and 62 cm respectively.
- Manjolai in Tirunelveli district got 55 cm and Moolaikaraipatti recorded 61 cm.
- This is the second-highest rainfall of since Kakkachi (Manjolai) received 96.5 cm in 1992.
- ✤ Rainfall over and above 21 cm is graded as extremely heavy.
- ♦ Between 12 and 20 cm, it is very heavy and from 7 to 11 cm heavy.

South Tamil Nadu	Rainfall recorded (in cm)
Kayalpattinam (dist. Thoothukudi)	95
Tiruchendur (dist. Thoothukudi)	69
Srivailkuntam (dist. Thoothukudi)	62
Moolaikaraipatti (dist. Tirunelveli)	62
Manjolai (dist. Tirunelveli)	55

# NATIONAL

## The Telecommunications Bill, 2023

- The Telecommunications Bill, 2023 introduced in the Lok Sabha proposes the first comprehensive rewrite of telecommunications law in 138 years.
- ✤ It will replace the Telegraph Act of 1885.





- The Bill requires telecom customers to undergo "biometric authentication", the form of which will be notified later.
- Provisions on lawful interception, or surveillance of telecom communications, have been retained as per the earlier Act.
- The Bill allows the Union government to take over the operations of a telecom network on the grounds of public emergency or safety issues.
- The Bill opens the door for spectrum allotments to satellite internet providers such as Bharti-backed OneWeb and US-based firms, including SpaceX's Starlink.



## **National Geoscience Data Repository Portal**



Ministry of Mines launched the National Geoscience Data Repository (NGDR) Portal in New Delhi.





- NGDR is a comprehensive online platform for accessing, sharing, and analyzing geospatial information across the nation.
- This is a significant leap forward in democratizing critical geoscience data, empowering stakeholders across industries and academia with unprecedented access to invaluable resources.



#### Kakrapar Atomic Power Project Unit 4

- The fourth unit of the Kakrapar Atomic Power Project (KAPP-4) in Gujarat, became critical.
- The 700 MWe units are the largest indigenous nuclear power reactors to be built by the Nuclear Power Corporation of India Limited.
- The reactor's first criticality was ascertained after it met all the conditions set out by the Atomic Energy Regulatory Board.
- The NPCIL presently operates 23 nuclear electricity reactors with a total capacity of 7,480 MWe.

## India's First Winter Expedition to Arctic

India begins its 1st winter expedition to the Ny-Alesund research base in Svalbard, Norway.





- The National Centre for Polar and Ocean Research (NCPOR) has a research station, Himadri.
- The expedition will collect data on atmospheric processes, aurora borealis, atmospheric electricity, and space physics studies.
- ✤ The Arctic Sea ice is declining at a rate of 13% per decade.
- The study of this region is important to understand its impact on Indian monsoons and the tropical climate.
- The NCPOR plans to expand its operations in the Arctic and conduct research activities in the Canadian High Arctic and Greenland.
- In 1990, the National Institute of Polar Research, Japan, was the first to establish a research station in Ny-Ålesund.



# INTERNATIONAL

#### Menopause Drug Veoza – UK

- The drug named Veoza or fezolinetant has been approved by UK's Medicines and Healthcare Products Regulatory Agency.
- ✤ A drug that can potentially offer relief to hundreds of thousands of women battling hot flushes during menopause.
- Currently, hormone replacement therapy (HRT) is the most effective treatment available for hot flushes.





Veoza, which is a non-hormonal menopause drug, directly targets the brain to prevent hot flushes by blocking a protein called neurokinin-3.



# Lithium Reservoir in Salton Sea



- United States Department of Energy, has found promising prospects for lithium extraction from California's Salton.
- The analysis found an estimated 18 million metric tonnes of lithium reserves in the depths of the Salton Sea.





- ✤ Lithium is an element that is essential for electric vehicle (EV) batteries and renewable energy storage systems.
- The substantial find could potentially yield an equivalent of 382 million EV batteries.

# **ECONOMY**

# **Global Remittances 2023**



- The World Bank's latest Migration and Development Brief reveals a continuing growth in remittance flows to low- and middle-income countries (LMICs) in 2023.
- According to the World Bank, the report highlights India's significant position as the top remittance recipient.
- ◆ The Indian economy received USD 125 billion in remittances for the year.
- The top five remittance recipient countries include Mexico (USD 67 billion), China (USD 50 billion), the Philippines (USD 40 billion), and Egypt (USD 24 billion).
- Remittances to LMICs grew by an estimated 3.8 per cent in 2023, reaching a total of USD669 billion.





- South Asia witnessed a 7.2% increase in remittances in 2023.
- ✤ The remittance costs remain persistently high, averaging 6.2% to send USD 200 as of the second quarter of 2023.
- ✤ Banks continue to be the costliest channel for sending remittances, with an average cost of 12.1%.

# **ENVIRONMENT**

#### Disintegration Initiator of tipping cascades of Greenland 65% 29% Ice Sheet Occurrence in tipping cascades Reduction Increased ( + )Ξ freshwater influx of warming 13% Weakening Change in 28% of AMOC (+ precipitation Ð Sea level Salinity gradient increase & fast rise advection of freshwater anomaly Đ Dieback of Amazon Sea level $(\mathbf{+})$ rainforest rise Southern ocean 0% heat accumulation 11% destabilising effect 23% **Disintegration of West** stabilising effect 31% Antarctic Ice Sheet ---- direction unclear

## **Climate Domino Effect: Exploring Teleconnections**

- The links between weather phenomena at widely separated locations on earth, also called climate teleconnections, are increasingly getting stronger globally.
- These teleconnections have affected the southern hemisphere more prominently over the last 37 years.
- Teleconnections describe how climate events such as wildfires and floods in one part of the world can affect weather thousands of kilometers away.
- The region's most vulnerable to teleconnections were in southeastern Australia and South Africa.
- The southern hemisphere is more vulnerable because it is largely covered by oceans.
- It contributes to more stable teleconnections and Rossby wave or planetary wave formation.





- ✤ Rossby waves occur in oceans and the atmosphere.
- They naturally occur due to the Earth's rotation and help transfer heat from the tropics towards the poles and cold air towards the tropics.

