SURESH' 360°

Nari Adalat
Women's Court

- **USA Returns to UNESCO**
- **NARI Adalats**
- **Kui Language**
- **Silva Pasture System**
- **Urea Gold**
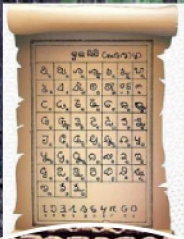
TNPSC தேர்வுகளில் வெற்றி பெறுவதற்கான முக்கிய ஆலோசனைகள்...

1. தேர்வுகளில் வெற்றி பெறுவதற்காக சாத்தியமாகக் கூடிய கால அட்டவணையை முதலில் தயாரித்து, அதை உறுதியாகப் பின்பற்ற வேண்டும்.

2. TNPSC தேர்வுக்கான பாடத்திட்டம் என்ன என்பதை முழுமையாக அறிந்துகொண்டு, அதில் எந்தப் பகுதியையும் விடாமல் படிக்க வேண்டும்.

3. முதன்மை ஆதாரங்கள் அல்லது நூல்களில் இருந்து தரமான குறிப்புகளைத் தயாரித்து வைத்துக்கொள்ள வேண்டும்.

4. TNPSC தேர்வு எழுதுவதற்கான அறிவுத் திறனை அடுத்த நிலைக்கு மேம்படுத்த எஸ்.சி.இ.ஆர்.டி (SCERT) எனப்படும் மாநிலக் கல்வியல் ஆராய்ச்சி மற்றும் பயிற்சி நிறுவனக்குழு தயாரிக்கும் பாட நூல்களில் இருந்து அவற்றின் அடிப்படைத் தத்துவத்தை புரிந்துகொள்ள வேண்டியது மிகவும் முக்கியமாகும்.

5. பாடங்களில் இருந்து எவ்வாறு வினாக்கள் எழுப்பப்படும் என்பதை அறிந்து கொள்வதற்காக அவற்றின் தத்துவங்கள், உண்மைகள் போன்றவற்றை தேர்வுக்கானக் கோணத்தில் இருந்து புரிந்துகொள்ள வேண்டும்.

6. முந்தைய ஆண்டின் வினாக்களை நன்றாகப் படித்து, அவற்றை ஆய்வு செய்ய வேண்டும்.

7. அத்தியாயங்கள் வாரியாகவும், பாடங்கள் வாரியாகவும் பயிற்சித் தேர்வுகளை எழுதிப் பார்க்க வேண்டும். அவ்வாறு செய்வதன் மூலம் உண்மையான தேர்வு எவ்வாறு இருக்கும் என்பது குறித்த அனுபவம் நமக்குக் கிடைப்பதுடன், தவறுகளைத் திருத்திக் கொண்டு மேம்படுத்திக் கொள்ளவும் முடியும்.

8. கடந்த ஆண்டுக்கான பொது அறிவு வினாத்தாள்களுக்கு விடை அளிக்க முயற்சி செய்ய வேண்டும். உங்களின் பலவீனம் என்ன என்பதை தெரிந்து கொள்ள அது உதவும். நீங்கள் எந்த அளவிற்குத் தேர்வுக்கு தயாராகி இருக்கிறீர்கள்? உங்களின் அறிவுத் திறன், விடை அளிக்கும் வேகம், துல்லியம் ஆகியவற்றை அளவிடுவதற்கும் இது உதவும்.

9. பாடங்களை ஒருமுறையாவது திருப்புதல் செய்து பார்ப்பது கட்டாயம் ஆகும்.

10. அனைத்துப் பாடங்களையும் ஒருமுறை திருப்புதல் செய்து பார்ப்பதும், தயார் செய்து வைக்கப்பட்டுள்ள குறிப்புகளை மூன்றாவது முறையில் படித்துப் பார்ப்பதும் சிறப்பாகும்.

11. தேர்வுக்கு முந்தைய ஒரு மாதத்தில் புதிய பாடங்களைப் படித்து ஆராய ஒருபோதும் முயற்சி செய்ய வேண்டாம். அந்த ஒரு மாதமும் ஏற்கனவே படித்த பாடங்களை திருப்புதல் செய்து பார்ப்பதற்கு மட்டுமே ஒதுக்கப்பட வேண்டும். அந்த ஒரு மாதம் முழுவதும் திருப்புதல், திருப்புதல், திருப்புதல் என்பதே மந்திரமாக இருக்க வேண்டும்.

12. செய்திகளையும், நாட்டு நடப்புகளையும் தொடர்ச்சியாகப் படித்து வரவேண்டும். பாடங்களையும், தேசிய மற்றும் சர்வதேச நிகழ்வுகளையும் நன்கு அறிந்துகொள்ள வேண்டும்.

13. அடுத்த நாள் தேர்வு நடக்க இருப்பதாகக் கருதிக் கொண்டு அதற்கேற்ற வகையில் தேர்வுக்குத் தயாராகுவதற்கான உத்தி வகுக்கப்பட வேண்டும். அந்த அளவுக்கான தயாரிப்பு அவசியமாகும்.

14. ஒவ்வொரு நாளும் உறங்கச் செல்வதற்கு முன் அந்த நாள் முழுவதும் படித்த பாடங்களை ஒருமுறை நினைவுபடுத்திக் கொள்ள வேண்டும். அது உங்களின் நினைவுத் திறனை வலுப்படுத்தும்.

15. முதல்நிலைத் தேர்வுக்கான பொது அறிவு முதல் தாளுக்கான தயாரிப்பு முதன்மைத் தேர்வையும் மனதில் கொண்டு தொடரப்பட வேண்டும்.

Competitive Exam Monthly Magazine

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1. Economy

2. Socio Economic Issue

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I. Profile of State

Chhattisgarh

Location

- Located in East Central India

Background

- During the Maratha rule the region was known as Chattisgarh.

- This name was first used in 1995 in government records.
- On 1 November 2000, Chhattisgarh became a separate state.
- It is the 26th state of India

Boundary partition

- East : Jharkhand
- West : Madhya Pradesh, Maharashtra
- North : Uttar Pradesh, Jharkand
- South : Andhra Pradesh

Political reference

Headquarter	Raipur
Districts	33
Governor	Anushya Uikey
CM	Boobesh Pahal
Legislature	91 Members
Parliamentary Constituencieas	Lok Sabha - 11, Rajya Sabha - 5
Area	1,35,195 km^2
Rank of Area	9th place
Official Language	Hindi
Regional Language	Chhattisgarh
Literacy	77.3%

State Emblems

1. Chattisgarh State Emblem

- The emblem of Chattisgarh state is in Circular state
- 36 fonts are engrowed on the outside of this circular shape.
- In the center of it is the Ashoka Pillar, the national emblem of India. Below it is engraved the slogan satyameve Jayate and the golden rays of the state crop, paddy.
- In it the rivers of Chattisgarh state are outlined in the form of waves with the tricolour of the national flag,
- On both sides of the river emblem,the symbol of energy is inscribed in blue.

2. State Animal (Wild Buffalo)

- Wild Buffalo is one of the endangered species of Chattisgarh.
- It's scientific name is Bubalus Arnee
- At present bison are mainly found in Indrawati National Park and Udanti Sanctuary in Thandewada district.

3. State Bird : Hill Myna (Gracula Reliosa Penisularis)

- The existence of Hill Myna is also threatened.
- For this reason, it is protected in the Kangar Valley National Park.
- The Hill Myna can talk like a parrot and imitate the voice of a human whose an ability has become a threat to its existence.

4. State Tree : Sal tree

- The State Government has adopted the sal tree (Shorea Robusta) as the State tree
- One third of the forest area of Chhattisgarh state is covered by Sal forest.
- Most of the forests are found in Basdar district of Chattisgarh.
- For this reason the district of Basdhar is known as the island of of sal forests.

5. State Flower : Ladies Slipper

- It is a orchid flower
- It is found only in North Eastern region of India and Arunachal Pradesh and Chhattisgarh State

6. Official Language : Chhattisgarhi

- A bill to this effect was introduced in the Chhattisgarh Legislative Assembly on 25th November 2007.
- Bandi : Bandi is a popular folk dance of Chattisgarh. It is performed various festivals and events.

7. Famous Festival : Bastar Dussehra

- Bastar Dussehra is a famous festival is Chattisgarh.
- While Dussehre is a significant festival celebrated across the country, Baltar Dussehra Witnessess a completely different celebration.

8. Economy

- Chhattisgarh's economy is primarily dependent on mining, agriculture and energy production.
- 80% of the State's population depended on agriculture.
- Maize, Oils, groundnuts and other crops are grown.

9. Handicrafts

- The state is also known for handicrafts
- These people are skilled in making various handicrafts

10. Geographical structure

- The state of Chattisgarh consist mostly of plateaus with the satpuras in the north, the Mahanadi and its tributaries in the central plains and the bastar plateau in the south.
- Bhats (hills) form major river systems like Mahanadi, Hasteo, Shivanath and Indravati.

11. Clothing culture

Men

- Men wear a Jurta and sometimes a Pajama

Women

- They love to wear colorful sarees and dresses in Chattisgarh. In this stage women wear Knee - length dresses.

Some more information

- Infiltration of Maoists is seen more in this state
- There is a railway track manufacturing plant in India
- Silver ore - only found here in India.

II. National Symbol

National flag

Design

- The design of the India tricolour is largely attributed to pingali Venkaya an India freedom figher.

Pingali Venkayya design

- He proposed a basic design of the flag consisting of two red and green bands to symbolise the two major communities, Hindus and muslims.

- He passed away in 1963 and was posthumously honoured with a postage stamp in 2009 for his contribution towards Indian freedom struggle.

- In 2014, his name was also proposed for the Bharat Ratna.

Mahatma Gandhi suggestion

- Mahatma Gandhi arguably suggested adding a white band to represent peace and the rest of the communities living in India, and a spinning wheel to symbolise the progress of the country.

Historical fact

- 1906 - First national flag of India hoisted on 7th August 1906 in Kolkata, at the parsee Bagan Square (Green park)

- 1907 - Madam Cama and her group of exiled revolutionaries hoisted an Indian flag in Germany First Indian flag to be hoisted in a foreign land.

- 1917 - Dr. Annie Besant and lokmanya Tilak adopted a new flag as part of the Home rule movement.

- 1931 - The congress committee met in Karachi and adopted the tricolour (that of Pingali Venkayya) as India's national flag.

Constitutional and legal Aspect

- The constituent Assembly adopted the motion of national flag on 22nd July 1947.

- The motion proposed that the National flag of India shall be horizontal tricolour of deep saffron(Kesari), White and dark green in equal proportion.

- The white band was to have a wheel in navy blue (The charkha being replaced by the chakra), which appears on the abacus of the Sarnath Lion Captial of Ashoka.

- One of the minor committees of the constituent Assembly, the Ad- hoc committee on the National flag was headed by Dr. Rajendra prasad.

- Part IV - A of the constitution (Which consists of only one Article 51-A) Specifies the eleven fundamental duties.

- According to Articles 51A (a), it shall be the duty of every citizen of India to abide by the constitution and respect its ideals and Institutions, the National flag and the National Anthem.

Legal Aspect

- A person who is covicted for the offence under the prevention of insults to National honour Act of 1971 is disqualified to contest in the elections to the Parliament and state legislature for 6 years.

Facts

1. The National flag of India was designed by Pingali Venkayya. He was an Indian freedom fighter from Andhra Pradesh.

2. According to the law, the National flag of India is to be made by Khadi which is hand - spun Wool / Cotton / Silk Khadi cloth.

3. Karnataka Khadi Gramodyoga samyukta sangha is the only unit in India that is acredited to supply and manufacture the flag of India.

4. The Khadi development and village industries commission have the manufacturing right to make the National flag of India.

5. The national flag is known as Tiranga in hindi and it-consists of three colors and Asoka chakra in its middle.

(i) The saffron colors - courage and sacrifice

(ii) White - Truth, Peace and purity.

(iii) The green colour - Prosperity.

(iv) Asoka chakra represents the laws of Dharma.

(v) The size of the Asoka Chakra was not defined in the flag code.

6. The width to length ratio of the National flag of India is 2 : 3. The three strips of the flag should be equivalent in width and length.

Do You Know

- On May 29, 1953, Edmund Hillary and Sherpa Tenzing Norgay conquered the mount everest and raised the Indian flag on mount Everest, along with the national flag of the United Kingdom of Great Britain and Northern Ireland and the Nepalese National flag.

- The largest Indian flag was hoisted in Indo - Pak Attari Border. Nation's largest flag measures 110 meters in length, 24 meters in width and 55 tons in weight.

- During the Indo - Soviet joint space flight in April 1984, the National flag of India flew into space as an emblem on the spacesuit worn by cosmonaut wing commander Rakesh Sharma.

III. Eminent Person's and Places, Sports, Book Authors, Awards
1. Eminent Person's and Places

2023 List of Great Immigrants

- Ajay Banga, the President of the World Bank, has been recognised on the Carnegie Corporation of New York's annual "Great Immigrants" list.

- He is an Indian-born American business executive.

- He is lauded for his contributions and efforts in enriching America and its democracy.

Veteran photographer K. Jayaram

- Acclaimed nature photographer K. Jayaram, who is regarded as a pioneer in macro photography in India passes away recently.

- He won his first prize in a photography competition in 1963, a plastic cased Agfa Click-III.

- He won the International Salon of Photography's gold and silver medals at Los Angeles in 1970.

- Jayaram became an Associate of the Royal Photographic Society, UK (ARPS) in 1978.

- He was awarded the

distinction of Excellence from the International Federation of Photographic Art, Europe (EFIAP) in 1983

- It is followed by Master Honour EFIAP in 1986.

- He co-authored Some South Indian Butterflies and another book on Silent Valley.

- The frog Raorchestes jayarami and the spider Myrmarachne jayaramani are named after him.

- 'Insects to Infinity' is a documentary on Jayaram and his works.

125th Birth Anniversary of Alluri Sitarama Raju

- The Alluri Sitarama Raju statue was unveiled to mark the 125th birth anniversary of Alluri Sitarama Raju at Bhimavaram of West Godavari district of Andhra Pradesh.

- Alluri Sitarama Raju was popularly known as 'Manyam Veerdu' (Hero of the Forest).

- He organised local Adivasis in forest areas of Visakhapatnam and East Godavari districts into a potent force, for launching a frontal attack.

- He kept fighting for the rights of the tribal society till his martyrdom.

- In 1924, he was captured by the British and executed.

Aswin Sekhar

- The International Astronomical Union (IAU) has honoured Indian astronomer Aswin Sekhar by naming a minor planet after him.

- The minor planet named after Aswin will now be known as (33928) Aswin Sekhar = 2000LJ27.

- Only five Indians have been conferred this honour before him.

- They are
  - Nobel laureates CV Raman & Subramanya Chandrasekhar;
  - The great mathematician Srinivasa Ramanujan;
  - Prominent physicist & astronomer Dr. Vikram Sarabhai;
  - Great astronomer & past president of IAU Manali Kallat Vainu Bappu, co-discoverer of the Wilson-Bappu Effect.

- There are two naming systems followed for naming Minor Planets – ceremonial and non-ceremonial.

- A Ceremonial naming is similar to award of honorary doctorates to celebrities- Tagore, Gandhi, Pandit Jasraj, Viswanathan Anand and Kailash Satyarthi.

- Non-ceremonial naming system is intended to honour scientists for outstanding work in their respective fields.

Forbes' 100 richest self-made women list

- Four Indian-origin women, including Jayshree Ullal and Indra Nooyi, have made it to Forbes' list of America's 100 most successful self-made women.

- Jayshree Ullal, president and CEO of computer networking firm Arista Networks, ranked 15th on the list.

- Neerja Sethi, co-founder of Syntel has been ranked 25th on the list.

- Narkehe, co-founder of cloud company Confluent, is ranked 50th on the list.

- The former chair and CEO of PepsiCo Indira Nooyi ranked 77th on the Forbes list.

- Building supply distributor Diane Hendricks, retained the top spot for the sixth year in a row.

Honorary doctorate to N. Sankaraiah

- Freedom fighter and Communist leader N. Sankaraiah will be conferred an honorary doctorate by the Madurai Kamaraj University.

- He was elected to the Tamil Nadu Assembly in the 1967, 1977 and 1980 elections.

- The State government, in 2021, conferred on him the Thagaisal Tamil award when he completed 100 years.

- But he donated the prize money

to the Chief Minister's Relief Fund.

Former Kerala CM Oommen Chandy

- Former Chief Minister of Kerala Oommen Chandy has passed away.
- Chandy served as the state's chief minister from 2011 to 2016, and from 2004 to 2006.

Neeraj Chopra

- He is the reigning Olympic champion, World Championships silver medallist and the Diamond League champion in the javelin throw. He is the first Asian athlete to win an Olympic gold medal in men's javelin throw. He is the first track and field athlete to win a gold medal for India at the Olympics
- With his recent win in Lausanne, he is now at the top of the Diamond League list and well on his way to qualifying for the 2023 Finals.

- However, he remains grounded and true to his identity, embodying the values of humility and authenticity. From his early days as a young athlete, Neeraj demonstrated a quiet self-belief that has guided him through

- He had also served as the Opposition leader in the Kerala Assembly from 2006 to 2011.
- He was the longest-serving legislator in the Kerala Assembly.
- He had represented the Puthuppally Assembly constituency from 1970 successively until his death.
- With the winning of 2021, it

2. Sports

both successes and failures.

- Moreover, Neeraj has used his platform to support and motivate fellow athletes, emphasizing the importance of recognizing and highlighting their achievements.
- Beyond his athletic prowess, Neeraj has shown integrity and compassion off the field. He has been vocal in supporting fellow athletes and addressing relevant issues within the sporting community.
- As a role model, he has inspired aspiring athletes not only to excel in their respective sports but also to strive for personal growth and be better individuals.

Novak Djokovic

- Following a challenging defeat in the 2010 French Open, Novak Djokovic, a renowned tennis grand slam winner ranked No. 3 globally, contemplated quitting tennis. Overwhelmed by the pressures of rankings

was his 12th consecutive win from the same seat.

- He is the only Indian chief minister to achieve award for public service from the United Nations in 2013.
- He also served as general secretary of the All-India Congress Committee for Andhra Pradesh from 2018 until his death.

and external expectations, he confided in his coach, Marián-Vajda.

- In response, Vajda posed a crucial question to Djokovic: Why did he start playing tennis in the first place?
- Reflecting on his early memories, Djokovic realized his love for a mini tennis racket and soft foam ball, which ignited his passion for the sport.

- Encouraged by Vajda, Djokovic chose to prioritize the joy of playing over external demands.
- From that moment on, he embraced the sheer pleasure of playing for its own sake. The subsequent season witnessed Djokovic's remarkable

transformation. He achieved one of the greatest seasons in sports history, securing 43 consecutive victories, claiming three Grand Slam titles, including his first Wimbledon win, and culminating as the world's top-ranked player.

- By reconnecting with his genuine passion for tennis, Djokovic played with newfound freedom, rediscovering the pure joy of being a carefree kid on the court. This inner connection paved the way for his phenomenal success.

- Learnings from his life: Balancing Ambition with Enjoyment, Embracing a Playful Mindset, Being True to Yourself, Focusing on Intrinsic Rewards, Authenticity and Self-Awareness and Passion and Love for the thing you are doing

Wimbledon: Carlos Alcaraz

- Carlos Alcaraz defeated Novak Djokovic in a thrilling five-set final to win his first Wimbledon title.

What is Wimbledon?

- It is one of the four major tennis tournaments known as Grand Slam events. It is held annually in London, England, and is the oldest tennis tournament in the world. The other three Grand Slam tournaments are the Australian Open, the French Open, and the US Open. They feature singles, doubles, and mixed doubles matches, and determine the champions in each category.

- Grand Slam refers to the accomplishment of winning all four major championships of Australia, France, Britain (Wimbledon), and the United States in the same calendar season

- Significance: The result sparks speculation about a potential generational shift in men's tennis.

- Where will be Wimbleton Tennis take place?

  a) France

  b) America

  c) England

  d) Australia

  Ans : (c)

- Who won the Wimbledon Women's Title 2023?

  a) Marketa Vondrousova

  b) Elena Rybakina

  c) Barbora Krejicikova

  d) Liv Hovde

  Ans : (a)

- Who has won Men's-Wimbledon Title?

  a) Carlos Alcaraz

  b) Novak Djokovic

  c) Marketa Vandrousova

  d) Casper Rood

  Ans : (a)

World Cup trophy in space

- The International Cricket Council (ICC) unveiled the ODI World Cup 2023 trophy in a very unique way.

- It was launched into the space stratosphere, at an altitude of 1,20,000 feet above the Earth.

- The temperature at that altitude was -65 degree Celsius.

- The trophy has been brought back to the host country India and will now be taken across 18 countries.

- The ODI World Cup 2023 will be played between October and November.

FIFA World Rankings

- The Indian men's football team has climbed to number 100 in the latest FIFA World Rankings.

- This is the fourth best ranking achieved by the Indian men's football team in the history.

- The team's rank came up to 94th rank in 1996, 99th in 1993 and 96th rank in 2017 to 2018.

- Pakistan stands at number 195.

Asian Kabaddi Championship 2023

- The Asian Kabaddi Championship 2023 featured six nations: India, Iran, the Republic of Korea, Japan, Chinese Taipei, and Hong Kong.

- The Indian men's kabaddi team won the title by beating Iran in the final.
- It was the Indian men's kabaddi team's eighth Asian Kabaddi Championship crown in nine editions.

AIFF Men's Footballer of the Year award for 2022-23

- Lallianzuala Chhangte, the talented footballer from Mizoram, has been crowned the All-India Football Federation (AIFF) Men's Footballer of the Year for the 2022-23.
- He was becoming only the second player from Mizoram to claim the AIFF Men's Footballer of the Year award.
- Manisha Kalyan was named the AIFF Women's Footballer of the Year.
- Akash Mishra and Shilji Shaji were honoured as the AIFF Men's and Women's Emerging Footballers of the Year
- The Men's Coach of the Year award went to former India player Clifford Miranda.
- Priya Parathi Valappil was named Women Coach of the Year.
- Which is correct regarding Women's World Cup Football?
  - A) Women's World cup Football conducted by FIFA
  - B) 9th edition of FIFA WorldCup women Football competition for the first time 34 teams will be participated.
  - C) Australia and Newzeland conduct in the 9th edition of FIFA Women's Football Worldcup

Ans : (A)

World Archery Youth Championships 2023

- India won 11 medals at the World Archery Youth Championships 2023 in Limerick, Ireland.

Asian athletics championships 2023

- India recorded a fine show at the 2023 Asian Athletics Championships over the last five days to finish with 27 medals - six gold, 12 silver and nine bronze.
- In terms of medals won, this campaign is India's best ever away from home.
- Japan finished on top with 37 medals, including 16 gold medals.
- China finished second with 22 medals, including 8 gold medals.
- India was third place, ahead of Sri Lanka at 4th.
- Jyothi Yarraji and Parul Chaudhary won medals in two events.

- A total of 11 includes six golds, one silver and four bronzes.
- Six were bagged in the U21 category - four gold and two bronze.
- The remaining five medals were claimed in the U21 category - two gold, one silver and two bronze.
- It finished second behind Korea, which collected six golds and four silvers.

- Where is held 25th Asian Athletic championship?
  - a) Bankok
  - b) Laos
  - c) Jakartha
  - d) Malaysia

Ans : (a)

- Which is correct regarding Asian Athletics Championships 2023?
  - A) It is held at Bangkok, Thailand
  - B) India secured IIIrd place in the list
  - C) Japan topped the taple with 37 medals, including 16 Golds.
  - D) Next competition will be held in South Korea, 2025.

Ans : All are correct

3. Book Authors

Elizabeth Longford Prize 2023

- Historian and writer Ramchandra Guha's book 'Rebels Against the Raj: Western
- Fighters for India's Freedom' has won the Elizabeth Longford Prize for Historical Biography 2023.
- Guha has been awarded £5,000 (Rs.5 lakhs approximately) and a bound copy of Elizabeth Longford's memoir.
- The books, Gandhi Before India (2013), Gandhi: The Years That Changed the World (2018) and India after Gandhi (2007), are written by him.
- The American Historical Association (AHA) has conferred its Honorary Foreign Member prize for the year 2019 on Ramchandra Guha.
- The Government of India honoured him with the Padma Bhushan award in 2009.

The Opium Wars

- Context: AmitavGhosh's new book "Smoke and Ashes" explores the historical significance of opium as a powerful agent that has shaped and continues to shape the world's history.
- The book focuses on the Opium Wars (1839-42 and 1856-60), which were waged by European colonial powers on China.

The Opium Wars:

- The wars were a result of Britain's increasing consumption of tea, which led to a trade deficit with China. To address this, the British East India Company promoted the opium trade, leading to a significant increase in opium production in India for export to China.
- As opium addiction spread in China, it caused severe socio-economic crises and weakened the Qing dynasty's governance. The Chinese attempts to crack down on opium smuggling resulted in conflict with the British, leading to two Opium Wars.

About Opium Wars (1839-42 and 1856-60):

Aspect	First Opium War (1839-42)	Second Opium War (1856-60)
Parties Involved	China vs. British Empire	China vs. British Empire and France
Primary Cause	British exporting opium from India to China	Renewed tensions and hostilities over the opium trade
Trigger	Chinese crackdown on the opium trade	Seizure of a British ship by Chinese officials
Major Battles	Battle of Canton	Battle of Palikao
Outcome	Treaty of Nanking (1842)	Treaty of Tientsin (1858) and Treaty of Peking (1860)

Key Provisions	China cedes Hong Kong to Britain	Legalization of the opium trade in China
	Opening of five Chinese ports to foreign trade	China pays indemnity to Britain and France
	British citizens gain extraterritorial rights in China	More ports opened to foreign trade
	Reparations to Britain for war expenses	Religious freedom for Christian missionaries in China
	Most-favored-nation status for Britain	Diplomatic presence in Beijing (Peking) for foreign powers
Impact	Weakened Qing Dynasty, loss of sovereignty	Further erosion of China's autonomy and territorial losses
	Opening of China to increased foreign influence and its long-term effects on Chinese society and culture	Continued social and economic crises in China

Impacts on India during the 19th century:

- **Increased Opium Cultivation:** With the success of the opium trade in China during and after the Opium Wars, there was a significant rise in opium cultivation in India.
  - This led to the exploitation of Indian farmers and increased dependence on opium cultivation, often to the detriment of other crops.
- **Economic Repercussions:** As opium production grew, it diverted resources and labour away from other productive activities. The emphasis on opium also had adverse effects on India's trade and led to a distortion of the Indian economy.
- **Social Consequences:** The increased cultivation and trade of opium contributed to the addiction and widespread use of opium within certain regions of India, leading to social problems and health issues.
- **British Control:** As Britain emerged victorious in the Opium wars, it further solidified British control over its colonies, including India.
- **Shift in British Policies:** The revenue generated from the opium trade played a significant role in financing British colonial activities in India, including the maintenance of their military and administrative apparatus.

Charter Act Regulations:

- **Charter Act of 1813:** The Act granted a monopoly of the opium trade to the British East India Company, allowing the Company to control and regulate the opium business in India.
- **Charter Act of 1833:** The Company continued to maintain its monopoly on the production and sale of opium in India, particularly for export to China.
- **Charter Act of 1853:** It did not address the opium trade directly. The British East India Company still retained control over opium cultivation and trade in India during this period.

AmitavGhosh's argument:

- Opium played a central role in sustaining colonialism in Asia, bringing immense profits to colonial powers at the expense of Indian labour and the well-being of the Chinese population. The book suggests that opium, with its addictive properties, has had a profound impact on societies across classes and continues to shape history.

4. Awards

BhoomiSamman" 2023 awards

Context

- Recently, the President of India presented the "BhoomiSamman" 2023 awards to State Secretaries and District Collectors along with their teams who excelled in achieving saturation of the core components of the Digital India Land Records Modernization Programme (DILRMP).

Grand Cross of the Legion of Honour

Context

- Prime Minister ShriNarendraModi was conferred with the Grand Cross of the Legion of Honour, France's highest award today by, the President of the Republic of France.

About Legion of Honour:

- The Legion of Honour is the highest French decoration given to the most deserving citizens in all fields of activity.
- Established by former French emperor Napoleon Bonaparte in 1802, the Legion of Honour is divided into five degrees (lower to higher) – Knight, Officer, Commander, Grand Officer and Grand Cross. The PM was awarded the fifth honour.
- The colour of the ribbon is red and the badge is a five-armed Maltese asterisk hung on an oak and laurel wreath. On the obverse is the effigy of the Republic and on the reverse two tricolour flags surrounded by the motto 'Honor and Fatherland' written in French.
- Although the membership to Legion of Honour is restricted to French nationals, foreign nationals who serve France or uphold its ideals may also be given a distinction of the Legion.
- Other personalities who received this honour include former South African President Nelson Mandela, King Charles – the then Prince of Wales, Former German Chancellor Angela Merkel, Former United Nations Secretary-General Boutros Boutros-Ghali, and Russian President Vladimir Putin.

Guinness World Record Created for Lambani Art

- Women of the nomadic Lambani community of Hampi in Karnataka have set a new Guinness World Record for producing the highest number of embroidery patches.
- At the G20 Culture Working Group meeting, around 450 Lambani artisans showcased their exceptional skills and craftsmanship.
- They created an astounding collection of over 1,755 unique patches.
- Lambani embroidery is a vibrant and intricate form of textile embellishment characterised by colourful threads, mirror work, and a rich array of stitch patterns.
- It is practised in several villages of Karnataka such as Sandur, Keri Tanda, Mariyammanahalli, Kadirampur, Sitaram Tanda, Bijapur, and Kamalapur.

Chevalier Award

- The Carnatic vocalist Aruna Sairam and flautist Shashank Subramanyam were conferred with the prestigious Chevalier award by the French government.
- The award was given in recognition of their contribution to the music field and development of Indo-France relations.
- The award was intended to honour personalities for their creativity in cultural spheres and their works that formed the wealth of the cultural heritage.
- Ms. Sairam has received several honours, including the Padma Shri and Sangita Kalanidhi from The Music Academy.
- Mr. Subramanyam too has been awarded with several titles, including the Tamil Nadu gov-

ernment's Kalaimamani for his prowess in instrumental music.

- Which one of the following is the Highest Military & Civilian Award in France?
  a) Order of the cross of vytis
  b) The Grand cross of the Legion of Honour
  c) Medal of Military merit
  d) Order of the tower and sword

  Ans : (b)

- Who is the first Indian Prime Minister to Receive France's Highest Military & Civilian Award?
  a) Jawaharlal Nehru
  b) Indira Gandhi

  c) Manmohan Singh
  d) Narendra Modi

  Ans : (d)

RSL Christopher Bland Prize 2023

- Actor-author Paterson Joseph has won the RSL Christopher Bland Prize 2023.
- This is awarded for his debut novel 'The Secret Diaries of Charles Ignatius Sancho'.
- The book is a historical fiction about Charles Ignatius Sancho, who was the first Black man to vote in England.
- Recently, he has been officially installed as Chancellor of Oxford Brookes University.

2022 UNESCO Asia pacific award

- Mumbai's historic Byculla Railway Station was bestowed with the prestigious UNESCO Asia Pacific Cultural Heritage Award.
- It celebrates the station's significant role in conserving cultural heritage.
- The 169-year-old Byculla railway station in Mumbai is one of the oldest living railway stations in India.
- The station's history is intrinsically tied to the arrival of the first locomotive in Mumbai in 1852.

IV. History – Historical events

National Maritime Heritage Complex (NMHC) (Lothal, Gujarat)

- The government has announced the development of a National Maritime Heritage Complex (NMHC) in Lothal, Gujarat under the Sagarmala program (under the Ministry of Ports, Shipping, and Waterways (MoPSW)). The project aims to showcase India's maritime heritage from ancient to modern times.
- It will include world's highest light house museum, world's largest open aquatic gallery, India's largest naval museum. It is funded by MoPSW (Ministry

of Ports, Shipping and Waterways) and Ministry of Culture

Hul Diwas

Context

- Hul Divas is observed annually on June 30 in memory of tribal

through National Culture Fund by way of.

leaders — Sidho and Kanhu Murmu — who led the Santhal hul (rebellion) on June 30, 1855, at Bhognadih in Sahebganj district (now Jharkhand)

About Santhal Rebellion:

What is Santhal Rebellion?

- Santhal rebellion (also known as 'Hul') (1855-1856) was a revolt against both the British East India Company and the zamindari system by the Santhal. The rebellion was led by the four sibling Brothers – Sidhu, Kanhu, Chand and Bhairav.

Santhals and their Migration

- The Santhal people migrated from the Birbhum and Manbhum regions of Bengal to modern-day Santhal Pargana. The British relocated them to the forested area of Damin-i-Koh as part of their revenue collection strategy.

Reasons behind the Hul

- The Santhals rebelled against the British due to extortions, oppressive extractions, dispossession of property, false measurements, and other illegalities.

Organization of the Hul

- Contrary to popular belief, the Hul was a well-planned and organized political war. Preparations included guerrilla formations, military teams, detectives, secret bases, logistics, and a network of message carriers for coordination. Non-Adivasi Hindu castes also participated in the rebellion.

Contribution of Women

- Phulo-Jhano, two sisters, led an army of 1,000 women who played crucial roles in the rebellion. The East India Company's army was defeated twice during the uprising.

End

- After the rebellion started, martial law was proclaimed by the East India Company which lasted until January 3, 1856, when martial law was suspended and the rebellion was eventually suppressed by the Presidency armies.

Lasting Impact of the Hul

- The Santhal rebellion inspired future uprisings, such as the Santhal involvement in the 1857 mutiny. It symbolized resistance against British colonialism and laid the foundation for subsequent movements in Jharkhand.

Dharma Chakra Day

Context

- President of India (at the Dharma Chakra Pravartan Divas celebrations) highlighted the importance of Buddha's teachings and called upon the youth to draw inspiration from them.

Key highlights

- The president emphasized the significance of following Sheel, Sadhachar, and Pragya to empower the younger generation and create a positive impact on society.
- The construction contract for the India International Centre for Buddhist Culture and Heritage in Lumbini, Nepal was also awarded.

Dharma Chakra

- The dharma chakra or wheel of dharma is a widespread symbol used in Indian religions such as Hinduism, Jainism, and especially Buddhism. In Buddhism, the Dharma Chakra is widely used to represent the Buddha's Dharma (Buddha's teaching and the universal moral order)

About Dharma Chakra Day:

- Dharma Chakra Day is celebrated to commemorate Buddha's first teaching after attaining enlightenment. It is observed on the full moon day of Asadha in the Indian sun calendar. It is also observed as Guru Purnima, a day to honour spiritual teachers, by both Buddhists and Hindus.

Date

- 4th July 2020

Organized by

- Ministry of Culture in partnership with the International Buddhist Confederation (IBC)

Tankai method

- The Ministry of Culture and the Indian Navy have signed a Memorandum of Understanding (MoU) to revive the ancient stitched shipbuilding method, also known as the Tankai method.

Tankai Method

- The Tankai method is an ancient shipbuilding technique that involves stitching wooden planks together to construct ships, rather than using nails. This method offers flexibility and durability to the ships, making them less susceptible to damage from shoals and sandbars.

- This 2000-year-old shipbuilding technique will be preserved and brought back to life.

- **Significance:** The revival of the stitched shipbuilding method is vital for preserving India's rich maritime heritage and cultural history. Furthermore, it aims to promote cultural memories and strengthen ties with Indian Ocean littoral countries.

Tribute to NawabWajid Ali Shah, the Last King of Awadh

- Kolkata is all set to celebrate the bicentenary year of NawabWajid Ali Shah, the last king of Awadh who was deposed by the British and exiled to Metiabruz, a suburb of Kolkata, where he spent his final years.

- NawabWajid Ali Shah was a fine connoisseur of art, music, dance, poetry and cuisine, and he supported many artists and performers in his court.

- Although Wajid Ali Shah's pen-name was "Qaisar", he used pseudonym "Akhtarpiya" for his numerous compositions.

120th Birth Anniversary of ThiruKumaraswami-Kamaraj

- Recently, the Prime Minister of India paid tribute to Thiru-KumaraswamiKamaraj on his Jayanti (15 July 1903 – 2 October 1975), acknowledging his significant contributions to India's development.

- Thiru K. Kamaraj actively participated in the Salt March in 1930, earning a two-year prison sentence.

- He faced imprisonment again from 1942 to 1945 due to his prominent involvement in the Quit India campaign against British rule.

- He was a freedom fighter, politician, and social reformer who served as the Chief Minister of Madras State (now Tamil Nadu) for nine years and as the President of the Indian National Congress for four years. He was known as the "Kingmaker" for choosing LalBahadurShastri and Indira Gandhi as Prime Ministers of India after the death of Jawaharlal Nehru and Shastri, respectively.

- He was also a champion of education and poverty alleviation, introducing schemes like free school uniforms, textbooks, midday meals, and scholarships for poor students in Tamil Nadu.

- He was awarded the Bharat Ratna, India's highest civilian honor, posthumously in 1976.

Oppenheimer: The Father of the Atomic Bomb

- J. Robert Oppenheimer, an American theoretical physicist is known for his pivotal role in the creation of the atomic bomb.

- As the head of the Los Alamos Laboratory and leader of the Manhattan Project, Oppenheimer and his team harnessed advancements in nuclear physics to develop the first atomic bomb.

- The dawn of the Atomic Age occurred on July 16, 1945, with the Trinity Test, marking the successful detonation of the first atomic bomb. Subsequently, the United States dropped atomic bombs on Hiroshima and Nagasaki in Japan, resulting in devastating destruction and the loss of hundreds of thousands of lives, primarily civilians.

- These bombings concluded World War II in the eastern theater and initiated a nuclear arms race, with the Soviet Union, Britain, France, and China developing their own atomic weapons.

- Oppenheimer, plagued by doubts about the implications of bestowing humanity with the means for its own

annihilation, sought solace and reflection in the philosophy of the Bhagavad Gita. Oppenheimer's contemplation of the Bhagavad Gita allowed him to reconcile his actions, comparing his role in developing the atomic bomb to the moral dilemmas faced by Arjuna in the epic.

Sangam-age stud, bead unearthed in Tamil Nadu

Context

- Archaeologists conducting excavations at Porpanaikottai in Tamil Nadu, India, have discovered several artefacts, including a gold stud, a bone point, and a carnelian bead.

- These findings provide insights into the culture and trade during the Sangam Age, a period in ancient Tamil history.
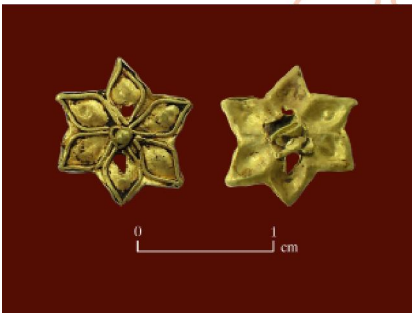
Key findings:

- The carnelian bead, a round-shaped red stone, was also discovered at the site. Similar beads have been found in other parts of Tamil Nadu, indicating a system of domestic trade. Carnelian stones were commonly sourced from Gujarat.

- In addition to these artefacts, the excavation has revealed a three-course brick structure and over 150 other antiquities, such as potsherds, glass bangles, beads, a terracotta lamp, a coin, a spindle whorl, and rubbing stones.

- Overall, these discoveries shed light on the material culture, trade networks, and social organization during the Sangam Age in Tamil Nadu.

About Sangam Age:

- Sangam Age refers to the period of the history of ancient Tamil Nadu, Kerala spanning from the 6th century BCE to c. 3rd century CE.

Sangam literature

Context

- The Tamil Nadu Text Book and Education Services Corporation has published a collection of ten idylls called Patthuppattu, one of the earliest Sangam poetry collections.

- The publication pays tribute to Ve. Swaminathalyer, dedicated himself to finding ancient palm leaf manuscripts containing Tamil literary works.

About Sangam Period

- The Sangam period or age, particularly referring to the third Sangam period, is the period of the history of ancient Tamil Nadu, Kerala and parts of Sri Lanka (then known as Tamilakam), spanning from 6th century BCE to c. 3rd century CE.

- Historians and Ideologists regard the Sangam period as the 'classical age' of the Tamils analogous to the age of the classics in Greece and Rome and to that of the Renaissance of later period in Europe.

- The term 'Sangam' literally means 'confluence'

- Sangam age span refers to
  a) 6th century BCE to 4th century CE
  b) 7th century BCE to 4th century CE
  c) 5th century BCE to 4th century CE
  d) 3th century BCE to 3th century CE

Ans : (d)

Fusion of rock art at Rudragiri Hillock

Context

- The Rudragiri hillock in Andhra Pradesh features a unique combination of prehistoric rock paintings from the Mesolithic period and exquisite artwork from the Kakatiya dynasty, dating back to around 1300 AD.

- The site includes five naturally formed rock shelters that served as living quarters during the Mesolithic age, around 5000 B.C.

- The Kakatiya-era paintings display scenes from the epic Ramayana and are adorned with a variety of colours derived

from white kaolin and different pigments.

- One of the caves depicts a fierce battle between the Vanara brothers Vali and Sugriva, with Rama shooting arrows at Vali. Another cave features a grand sketch of Hanuman carrying the Sanjivani hill in his right hand, symbolizing his mission to save Lakshmana's life.

About Kakatiya Dynasty:

- Kakatiyas is an Andhra dynasty that flourished in the 12th century CE. The Kakatiya dynasty ruled from Warangal (Telangana) from CE 1083-1323.
- They were known for the construction of a network of tanks for irrigation and drinking water and thereby gave a big boost to the overall development of the region.
- There are hundreds of Hindu temples built under the patronage of Kakatiya kings like Ganapati Deva, Rudrama Devi and Prataparudra in the Kakatiya dynasty. E.g.,Thousand Pillar Temple or RudreshwaraSwamy Temple, Telangana. It is a star-shaped, triple shrine (Trikuta-layam) dedicated to Vishnu, Shiva and Surya.

Neolithic age celt in Dharmapuri

- Archaeological excavations in Poothinatham, Dharmapuri district have yielded a celt belonging to the Neolithic age.

- This is the second celt discovered at the site.
- It could have been used for cutting trees or hunting.

- The celt, made of Doloraid, was also used as a plough and axe.
- A celt is a long, thin, prehistoric stone or bronze tool.

Tamil Nadu iron age period

- As per new evidences, an iron age civilisation existed in Tamil Nadu parallel to the Indus Valley civilization.
- Recent dating has established that objects excavated from Sivakalai in Tuticorin district are from 2,500 BCE to 3,000 BCE.
- Indus Valley civilisation lasted from 3,300 BCE to 1,300 BCE.
- A previous dating of samples from Mayiladumparai in Krishnagiri district showed them to be from 2,172 BCE.

Flagpole at Fort St. George

- The State government is refurbishing the rampart and the flagpole in Fort St.
- George at Chennai for the 77th Independence Day celebrations.
- The 148-feet flagpole was the

tallest in the country at the time of Independence.

- The fort was named after St. George since it was the first factory within the fortified enclosure completed on April 23, 1640.
- It was the East India Company's principal settlement until 1774, when Calcutta was declared to be the seat of the government.
- The national flag was hoisted by Governors till 1974.
- The former Chief Minister M. Karunanidhi persuaded the Centre to grant the right to hoist the flag to Chief Ministers on Independence Day celebration.

Clay doll at Vembakottai

- The Tamil Nadu State Department of Archaeology (TNSDA) recently found a clay doll at the Vembakottai excavation site in Virudhunagar district.
- It is a clay doll of a male figure which was painted with black color.
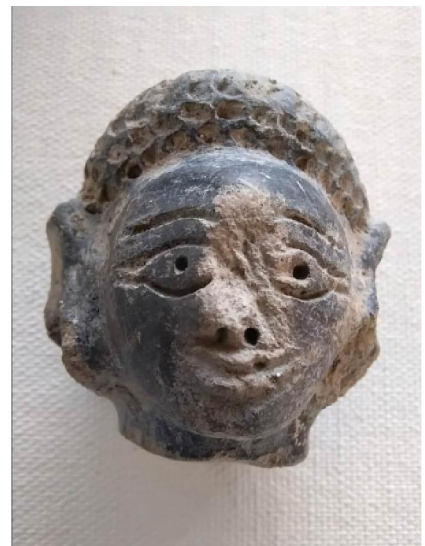
- The headdress and the lip smile are polished.

- The eyes and their blows are drawn in the shape of a kayal.

- The second phase of archaeological excavation in Vembakottai has led to the discovery of over 800 artefacts.

- It includes terracotta era lobes, smoking pipe, spindle whorl, copper coin and glass beads.

- In which district Vembakottai excavation site is taking place?

  a) Virudhunagar

  b) Thoothukudi

  c) Tirunelveli

  d) Sivagangai

  Ans : (a)

- Tulkarpati excavation is found on which river bank?

  a) Nambiyaru

  b) Porunai

  c) Vaigai

  d) Periyar

  Ans : (a)

Pazhayarai temple gopuram

- The dilapidated gopuram of the Somanathar temple at Pazhayarai near Kumbakonam will be renovated by the Hindu Religious and Charitable Endowments (HR&CE) Department.

- The Somanathar temple is situated on the banks of the Thirumalairajan river, a tributary of the Cauvery.

- Decades of neglect has earned it the name, 'mottai gopuram'.

- There is adequate evidence for Pazhayarai to be the capital of the Cholas once.

- It existed even in the 5th Century.

- Pazhayarai lost its importance with the capital shifted to Thanjavur.

- The National Institute of Technology (NIT), Tiruchi, has submitted a report after studying the gopuram and the soil around the temple.

USA returns to UNESCO

- The United Nations Educational, Scientific and Cultural Organisation (UNESCO) announced that the United States will rejoin it in July.

- It will rejoin four years after it left the agency (along with Israel), alleging that UNESCO was biased against Israel.

- The move to rejoin will face a vote by UNESCO's member states.

- The decision to return was also due to China filling the gap left by the US in UNESCO policy making.

- The United States previously pulled out of UNESCO under the Ronald Reagan administration in 1984 and rejoined in 2003 under then President George Bush.

- Where is located UNESCO's Headquarters?

  a) Paris

  b) Newyork

  c) Washington

  d) Geneva

  Ans : (a)

Indian Dickinsonia Fossil

- Researchers claimed that, A rare 550-million-year-old fossil discovered in 2021 from Bhimbetka rock shelters, Bhopal.

- Now the Indian scientists have proved that the fossil was actually a left-over impression of a fallen beehive and not a genuine fossil.

- Earlier, US Researchers believed as they have found the first-ever fossil in India of a Dickinsonia—the Earth's 'oldest animal', dating back 570 million years.

V. Polity – Political Parties and Political system in India

Report on Panchayat Development Index (PDI)

Context

- The Union Minister of State for Panchayati Raj released the Report on Panchayat Development Index (PDI) recently.

About Panchayat Development Index (PDI):

What is PDI?

- A computation score based on local indicators measuring the progress of Panchayats in India.

Focus

- Nine themes related to the Localization of Sustainable Development Goals (LSDGs).

Themes

- Poverty-free, Healthy, Child-friendly, Water-sufficient, Clean and green, Self-sufficient, Socially just and secure, Well-governed, and Women-friendly.

Aim

- Promote outcome-oriented development, encourage healthy competition, and facilitate evidence-based planning for Gram Panchayats

Ranking

- Based on scores (0-100), categorized into A (75-90%), B (60-75%), C (40-60%), and D (under 40%).

Ministry

- Ministry of Panchayati Raj.

Significance

- Will help in Policymaking, planning, monitoring, evaluation, and learning. Identifies strengths/weaknesses, allocates resources, promotes peer learning, and facilitates citizen engagement and social accountability.

LSDGs

- Localization of Sustainable Development Goals aligns national and global goals with local context and priorities.

Can a governor dismiss a minister?

Context

- The Governor of Tamil Nadu (RN Ravi) has dismissed a Minister (V. Senthilbalaji) in the Council of Ministers of TN and later backtracked on his decision keeping the dismissal order in abeyance.

About the minister and his dismissal:

- The minister was facing serious criminal proceedings in a number of cases of corruption and was arrested by the ED earlier.

- He was dismissed on the pretext that he will adversely impact the due process of law, including a fair investigation that may eventually lead to the breakdown of the Constitutional machinery in the State.

Criticism of this unprecedented act of the governor:

- Dismissing a Minister of a government which enjoys an absolute majority in the State legislature, without the recommendation of the Chief Minister of the State, is going to set a dangerous precedent.

- It has the potential to destabilise State governments putting the federal and whole constitutional systems in danger.

Power of the Governor to dismiss a minister:

- **The Government of India Act 1935:** The appointment, summoning, determination of their salaries and the dismissal of Ministers shall be exercised by the Governor at his discretion.

The Indian Constitution says

- According to Article 164 of the Constitution, the CM is appointed by the Governor (without any advice from anyone) and the individual Ministers are appointed by the Governor only on the advice of the CM.

- This implies that the Governor cannot appoint an individual Minister according to his discretion.

- So the Governor can dismiss a

Minister only on the advice of the CM.

The reason is simple

- The CM alone has the discretion to choose his Ministers. He also decides who will not remain as a Minister in his Council.

- This is a political decision of the CM, who is ultimately answerable to the people.

- The Governor is a mere constitutional head and there is no executive function which a Governor can perform independently under the Constitution. (BR Ambedkar)

- **Article 163:** A Council of Ministers (led by the CM) shall assist and advise the Governor in the discharge of his duties, except when the Governor is compelled to exercise his discretion under this Constitution.

- The pleasure doctrine is a formal act: This has been brought into the Constitution of India from the Government of India Act 1935.

- But these words simply refer to issuing the order of dismissal (by the Governor), but only on the advice of the CM.

Judicial clarification:

- In Shamsher Singh vs State Of Punjab (1974), the SC declared the President and Governor as the custodians of all executive powers, who exercise these powers in accordance with the advice of their Ministers (except in exceptional situations).

- In Nabam Rebia vs Deputy Speaker (2017), the SC reaffirmed the law laid down in Shamsher Singh and the discretionary powers of the Governor are limited to the postulates of Article 163(1).

- The Court also set aside the decisions in the Mahabir Prasad Sharma (1968) and Pratapsingh Raojirao Rane (1999) cases, where it was held that the Governor can exercise power under Article 164 in an unfettered manner.

- Which of the following are the discretionary powers given to the Governor of a State?

  1. Sending a report to the President of India for imposing the President's rule
  2. Appointing the Ministers
  3. Reserving certain bills passed by the State Legislature for consideration by the President of India
  4. Making the rules to conduct the business of the State Government

- Select the correct answer using the code given below.

  a) 1 and 2 only
  b) 1 and 3 only
  c) 2, 3 and 4 only
  d) 1, 2, 3 and 4

  Ans : (b)

- Which committee recommended abolition of Governor's post?

  a) Ragamannar committee
  b) Sarkariya committee

  c) Vengata chellaiya Committee
  d) Punchhi committee

  Ans : (b)

eSARAS mobile app

Context

- The Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM) has launched the eSARAS mobile app to support the marketing of products made by women in self-help groups (SHGs).

- The app aims to provide a platform for the marketing of authentic handicrafts and handlooms. The initiative aims to promote local products and enhance livelihood opportunities for SHG members.

- The push for a Uniform Civil Code is raising concerns about religious rights and personal laws, as the Supreme Court's inquiry on religious freedom remains unresolved.

Article 355 and Article 226

Context

- A High Court, under Article 226 (its writ jurisdiction) of the Constitution, does not have the power to issue a direction to the Centre to invoke Article 355.

Article 355 of the Indian Constitution

- [Part XVIII (Article 352-360) – "Emergency Provisions"]

Description

- It shall be the duty of the Union to protect every state in India against external aggression and internal disturbances and to issue directions to any state to ensure compliance with the Union's laws and regulations.

Significance

- The provision is designed to ensure that the government can act swiftly and decisively in the event of any disturbance or threat to the peace and security of the state/country. Recently, it was invoked in Manipur.

Article 355 vs 356

- Article 356 empowers the President to impose President's Rule in a state in case of a failure or breakdown of constitutional machinery in a state.
- Under Article 356, all of the state machinery is taken under the centre's jurisdiction. However, under Article 355, only the state's law and order (a state subject) is taken under the centre's jurisdiction (duration not specified in the Constitution).

Recommendations to prevent misuse

- S.R. Bommai's case (1994), which held that the power of the President to dismiss a State government (under Article 356) is not absolute.
- Sarkaria Commission Report, which had explained a whole range of actions on the part

of the Centre possible under Article 355.

Writs in the Indian Constitution:

- **Meaning:** It is a legal document issued by the court that orders a person or entity to perform a specific act or to cease performing a specific action.
- **Constitutional provisions:** Issued by the Supreme Court under Article 32 and by the High Court under Article 226 of the Constitution of India.
- **Types:** Habeas Corpus (to have a body of), Mandamus (we command), Quo Warranto (by what warrant(, Certiorari (to certify) and Prohibition.
- Article 32 vs 226

The ruling:

- The Madras HC passed the ruling while dismissing a writ petition which claimed that the constitutional machinery had broken down due to the attack on IT officials by a mob.
- The HC held that Article 355 appeared to have been inspired both by the US and the Australian Constitution.
- The scope of Article 355 enables the Union to render all assistance, even if the State Government has not made any specific request.
- The incident of IT officials being mobbed would not qualify as an internal disturbance under the purview of Article 355.
- The expressions
  - 'internal disturbance' could

only refer to a sense of domestic chaos (could take the colour of a security threat) and
  - 'external aggression' would require a large-scale public disorder (endangering the security and administration of the State).

- With reference to the writs issued by the Courts in India, consider the following statements:
  1. Mandamus will not lie against a private organisation unless it is entrusted with a public duty.
  2. Mandamus will not lie against a Company even though it may be a Government Company.
  3. Any public-minded person can be a petitioner to move the Court to obtain the writ of Quo Warranto.
- Which of the statements given above are correct?
  a) 1 and 2 only
  b) 2 and 3 only
  c) 1 and 3 only
  d) 1, 2 and 3
  Ans : (c)

Plea to make Scheduled Caste status 'religion-neutral'

- Context: The SC has taken on board a plea to stop using religious identity as a criterion to afford or deny communities a place within the Scheduled Caste bracket.

The petition:

- Has challenged the Constitution (Scheduled Castes) Order 1950 issued under Article 341(1) of the Constitution.
  - Article 341 (1) authorises the President to declare certain castes and classes as Scheduled Castes in a State (after consultation with the Governor) or a UT.
  - The 1950 Order mandates that anybody who is not a Hindu, Sikh or Buddhist cannot be granted Scheduled Caste status.

- Since the word 'religion' does not even exist in Article 341(1), the ban concerning Christians and Muslims in the 1950 Order should be deleted.

Scheduled caste status for Dalit converts:

- The Justice Ranganath Mishra Commission (2007) recommended that Scheduled Caste reservation be provided for Dalit converts to Christianity and Islam. The Centre had rejected the report.

- A new Commission (under G. Balakrishnan) was established in 2022 to report on the question of granting SC status to persons who have historically belonged to the SC but have converted to religions other than Hinduism, Buddhism and Sikhism.

- Article 355 is related with?
  a) It empowers the Union government to protect every state in India against external aggression and internal disturbances
  b) It deals with National Emergency
  c) It deals with state emergency
  d) It seals with Financial Emergency

  Ans : (a)

Due process clause and the basic structure doctrine

Context

- The Supreme Court of India provided two safety devices for the natural rights of the citizenry – namely, the due process clause and the basic structure doctrine.

The due process of law:

- **Taken from:** The due process clause is an American

- Based on natural laws: The term 'law' in the due process clause stands for natural law. Natural law, as higher law, renders state-made laws invalid when the state-made laws are contrary to natural law.

- **Meaning:** No person shall be deprived of life, liberty, or property, without due process of law. Due process has two aspects –
  - Substantive due process: It anticipates that the substantive/ fundamental provisions of any legislation should be rational and not arbitrary in nature, and
  - Procedural due process: It refers to the general procedures that must be followed before a person's life, liberty, or property can be taken from him.

The debate in the Constituent Assembly of India:

- The leading members of the Assembly agreed on the idea that the due process clause must be incorporated into the Constitution.

- However, the prominent opposers (like GB Pant) of the clause believed that the clause would be a hurdle in the implementation of social reform laws such as the abolition of the zamindari system.

- The drafting committee dropped the due process clause from the draft and replaced it with 'except according to procedure established by law' – a term borrowed from the Japanese Constitution of 1946.

- The resurrection of due process: In Maneka Gandhi vs Union of India (1978), the SC held that when 'personal liberty' under Article 21 was affected by any law, courts would seriously interrogate and probe the purpose, rationale, and legitimacy of the law.

Significance of the judgement:

- The Court has not used 'due process' to invalidate social

welfare legislation (which the Constitution makers fear).

- In fact, the Court has used due process doctrines to protect the interests of vulnerable sections of society such as pavement dwellers and prisoners.

The basic structure doctrine:

- It is a judicial creation enunciated by the SC in the KesavanandaBharati case (1973).

- A 13-judge Constitution Bench of the SC (with a 7-6 majority) redefined the relationship between Parliament and the Constitution by ruling that the "basic structure" of the Constitution is inviolable, and cannot be amended by Parliament.

- While the Parliament had vast powers to amend the Constitution, certain parts ("basic structure") are so inherent and intrinsic to the Constitution that even Parliament cannot touch it.

- While parliamentary democracy, fundamental rights, judicial review, and secularism are all held by courts as basic structures, the list is not exhaustive (decided by the court on a case-by-case basis).

- The basic structure doctrine (origins are found in the German Constitution) has formed the bedrock of judicial review of all laws passed by the Indian Parliament.

Comparing the two doctrines:

- Unlike the basic structure doctrine, the due process clause was duly discussed by the Constituent Assembly.

- The due process clause has a splendid place in the constitutional history of the world.

- It is the due process clause, not the basic structure doctrine, that offers a surer guarantee for the citizen's natural rights.

- Hence, the due process clause must be firmly embedded in the constitutional architecture of India and incorporated into the constitutional text.

Data Protection Bill: Content, concerns

Context

- The Union Cabinet cleared the Digital Personal Data Protection (DPDP) Bill.

Background:

- With the Union Cabinet's approval, the Centre has made a 2nd attempt at framing legislation for the protection of data.

- The Bill is expected to be tabled in Parliament's Monsoon Session that begins on July 20.

- The Bill, once it becomes law, will play a crucial role in India's trade negotiations with other nations, especially regions like the EU, whoseGeneral Data Protection Rules (GDPR) are among the world's most exhaustive privacy laws.

The Digital Personal Data Protection Bill:

- It will apply to the processing of digital personal data within and outside (if it is done for offering goods or services or for profiling individuals) India.

- It requires entities that collect personal data/ data fiduciaries to maintain the accuracy of data, keep data secure, and delete data once their purpose has been met.

- It is expected to allow "voluntary undertaking", which means that organisations who violate its rules can bring it up to the data protection board — an adjudicatory body that will deal with privacy-related grievances and disputes.

  ○ The board may decide to stop legal action against the organisation by accepting settlement payments.

  ○ Higher financial penalties may be imposed for similar offences committed repeatedly.

- The highest penalty — to be levied for failing to prevent a data breach — has been prescribed at Rs 250 crore per instance.

What changes are likely from the original version (proposed in Nov 2022)?

- Cross-border data flows to international jurisdictions: Moving from a 'whitelisting' (where personal data of Indian citizens can be transferred) approach to a 'blacklisting' mechanism.

- A provision on "deemed consent" could be made stricter for

private entities, while allowing government departments to assume consent while processing personal data on grounds of national security and public interest.

What is the significance of privacy law?

- Considering the dramatic expansion of the digital economy in the country, bringing in a robust data protection architecture is of critical importance.

- The Bill is a crucial pillar of the overarching framework of technology regulations, which also includes the Digital India Bill, the draft Indian Telecommunication Bill 2022, and a policy for non-personal data governance.

What are the concerns around the draft Bill?

- Largely retained the contents of the original version.

- Wide-ranging exemptions for the central government and its agencies, were among the most criticised provisions of the previous draft.

- The central government can exempt "any instrumentality of the state" from adhering to the provisions on account of national security, relations with foreign governments, maintenance of public order, etc.

- The control of the central government in appointing members of the data protection board and determining the terms and conditions of their service.

- The definition of "per instance" is subjective and is open to interpretation by the data protection board on a case-by-case basis.

- The law could dilute the Right to Information (RTI) Act, as the personal data of government functionaries is likely to be protected under it.

- Comparing India's proposal with other countries:

- According to the UNCTAD, 137 out of 194 countries have put in place legislation to secure the protection of data and privacy.

- Africa and Asia show 61% (33 countries out of 54) and 57% (34 countries out of 60) adoption respectively.

- Only 48% of Least Developed Countries (22 out of 46) have data protection and privacy laws.

NariAdalats

- The Indian government is launching a unique initiative to establish women-only courts (known as NariAdalats) at the village level as an alternative dispute resolution forum for issues such as domestic violence and property rights.

Nari Adalat
Women's Court

- The pilot project will start in 50 villages each in Assam and Jammu and Kashmir in August and will later be expanded to the rest of the country.

- **Composition:** The NariAdalat of each village would have 7-9 members – half of which (NyayaSakhis [legal friends]) would be the elected members of the gram panchayat and the other half women with social standing like teachers, doctors and social workers – who would be nominated by the villagers.

- The head of NariAdalat called the Mukhya Nyaya Sakhi [chief legal friend] will be chosen among the NyaySakhis.

- **Tenure of Head:** The tenure of the head will be generally six months after which a new one will be selected.

- **Aim**: The courts aim to address individual cases, raise awareness about social schemes, and provide accessible and affordable justice through alternate dispute resolution, counselling, and grievance redressal.

- **Part of Mission Shakti:** The initiative is part of the Sambal sub-scheme of Mission Shakti (Ministry of Women and Child Development), which focuses on strengthening women's safety, security, and empowerment.

- The scheme draws inspiration from the ParivarikMahilaLokAdalats, which were run by

the National Commission for Women until 2014-15 and addressed family and matrimonial disputes.

- **Implementation:** Collaboration between the Ministry of Women and Child Development, Ministry of Panchayati Raj, Ministry of Rural Development and Common Service Centers operated by the Ministry of Electronics and Information Technology.

Kui language

Context

- The state cabinet of Odisha has approved the recommendation to include the Kui language in the eighth schedule of the Constitution of India.

Kui Language

- Kui language is a vernacular tribal language of Odisha.
- It is also referred to as Kandh, Khondi, Kanda, Kodu, Kuinga.
- It is a South-Eastern Dravidian language mainly spoken by the Kandhas or Kondhs.
- It is written in the Odia script.
- According to information available on the UNESCO site, the Koi language status situation is potentially vulnerable.

Significance of inclusion in the 8th schedule

- The inclusion of the Kui language in the 8th schedule will help in the preservation, promotion and propagation of this language and associated culture.

Senior advocates in the SC

Context

- The SC has published new guidelines for the designation of senior advocates practising mainly in the Apex Court.

- **Background:** The new guidelines come after the SC's ruling seeking modification in the guidelines issued by the SC (in 2018) aftermath of its Indira Jaisingh ruling (2017).

How were advocates designated before the 2017 ruling?

- The Advocates Act 1961 states two classes of advocates – senior advocates and other advocates.

- A senior advocate must be a deserving candidate [by virtue of his ability, standing at the Bar, or special knowledge or experience in law] in the opinion of the SC or an HC].

- It was the Chief Justice and the judges who designates an advocate as a 'senior' advocate.

What did the court decide in the Indira Jaising case?

- Indira Jaising (India's first woman Senior Advocate) challenged the existing process as opaque,

arbitrary and fraught with nepotism.

- The SC (in 2017) decided to lay down guidelines for itself and all HCs on the process of designating senior advocates.

- It decided the setting up of a permanent committee and a permanent secretariat.

- Permanent secretariat –
  - Is a body tasked with receiving and compiling all applications for designation.
  - Published the proposal for designation on the official website of the concerned court, inviting suggestions and views.
  - Forward these suggestions to the permanent committee for scrutiny.

- The committee then interview the candidate and made an overall evaluation based on a point system that gave marks for –
  - years of practice
  - pro-bono work undertaken
  - judgements
  - publications and
  - a personality test

- Once a candidate's name was approved, it was forwarded to the Full Court to decide on the basis of the majority.

- The Full Court could also recall the designation of a senior advocate.

- The SC had acknowledged (in its 2017 ruling) that the guidelines are not exhaustive and left

them open for consideration by this Court.

- The Guidelines to Regulate the Conferment of Designation of Senior Advocates 2018:
- These were released to bring greater transparency to the designation process.
- The guidelines discouraged the system of voting by secret ballot, except in cases where it was unavoidable.
- A permanent committee was created and empowered with powers of conferment.

  ○ The CJI-chaired committee was to consist of two senior-most SC judges, the Attorney General of India, and a member of the Bar nominated by the chair and other members.

  ○ The Committee was to meet at least twice a year.

- The CJI or any other judge could recommend the name of an advocate for designation.

- Alternatively, advocates could submit their applications to the Permanent Secretariat.

Issues with the 2018 guidelines:

- The point-based system (which awarded 40% weightage to publications, personality and suitability) is subjective, ineffective and dilutes the esteem and dignity of the honour being conferred traditionally.
- The rampant circulation of bogus journals could be published by paying a nominal amount.
- Discontinuation of a secret ballot disincentivises the judges from expressing their views about the suitability of any candidate.

New vs Old guidelines

Dimensions	2023 guidelines	2018 guidelines
Minimum age to apply for the senior advocate designation	45 years	No minimum age
How can the CJI/ a judge recommend a name?	The CJI along with any Judge of the SC may recommend in writing the name of an advocate for the designation	The CJI along with "any judge" can recommend an advocate's name for designation
Relaxation in age limit	Can be given by the Committee/ the CJI or an SC judge if they have recommended an advocate's name	-
Points for publication	Only 5 marks will be given for the combined – publication of academic articles, the experience of teaching in the field of law, and guest lectures delivered	15 marks were set aside for publications
Weightage given to reported and unreported judgements (excluding orders that do not lay down any principle of law)	50 points	40 points

With reference to India, consider the following statements:

1. Government law officers and legal firms are recognized as advocates, but corporate lawyers and patent attorneys are excluded from recognition as advocates.

2. Bar Councils have the power to lay down the rules relating to legal education and recognition of law colleges.

- Which of the statements given above is/are correct?
  a) 1 only
  b) 2 only
  c) Both 1 and 2
  d) Neither 1 nor 2
  Ans: (b)

- Which of the following Article says about appointment of Judges of supreme court by President of India?
  a) Article 124
  b) Article 148
  c) Article 128
  d) Article 143
  Ans : (a)

Digital time voucher system for political parties

Context

- The Election Commission of India (ECI) has introduced a digital time voucher system for political parties to access government-owned electronic media, such as Doordarshan and All India Radio, during elections.

What is the Digital time voucher system?

- The digital time vouchers serve as permissions or allocations of specific time slots for political parties to broadcast or telecast their campaign messages on these media platforms. This system streamlines the process, eliminates the need for physical collection, and enhances accessibility and convenience for political parties participating in election campaigns.

Significance:

- This move reflects the ECI's commitment to leveraging technology for a smoother electoral process.

- The scheme aims to provide equitable access to electronic media for campaigning, with base time allotted to each national and state party, and additional time based on their poll performance.

Rules:

- In India, the rules regarding political parties' access to government-owned electronic media, such as Doordarshan and All India Radio, are governed by the Election Commission of India (ECI) and the PrasarBharati Act.

- Allotment of Airtime: During elections, the ECI mandates that Doordarshan and All India Radio allocate a certain amount of free airtime to recognized political parties for broadcasting their messages.

- Time Slots: The ECI determines the time slots for political parties based on factors like their previous electoral performance and representation in the legislature. Parties are allocated fixed time slots for their broadcasts.

- Other aspects of rules are mandated under the Representation of the People Act, 1951

The Jan Vishwas (Amendment of Provisions) Bill 2023

Context

- The Jan Vishwas (Amendment of Provisions) Bill 2023 is set to be taken up during the ongoing Monsoon Session of the Parliament.

Objective of the Bill:

- To redefine the regulatory landscape of the country with decriminalisation of minor offences under 42 Acts.

- To reduce compliance burden and promote ease of living and doing business in the country.

More about the Bill:

- The Bill was tabled in Parliament by the Union Ministry of Commerce and Industry (December 2022) and then referred to a Joint Parliamentary Committee.
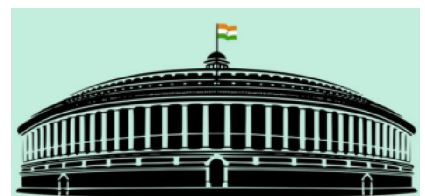
- As per reports, most recommendations of the JPC have been approved by the Union Cabinet, clearing the way for its passing.

Salient provisions of the Bill:

- Decriminalising: 180 offences across 42 laws governing environment, agriculture, media, industry and trade, etc.
- Completely remove/ replace imprisonment clauses: With monetary fines.
- Compounding of offences in some provisions.
- Removes all offences and penalties under the Indian Post Office Act, 1898.
- Changes in grievance redressal mechanisms: Appointment of one or more Adjudicating Officers for determining penalties.
- A periodic revision of fines and penalties: An increase of 10% of the minimum amount every 3 years for various offences in the specified Acts.

Some key laws covered in the Bill:

- The Air (Prevention and Control of Pollution) Act, 1981
- The Environment (Protection) Act, 1986
- The Indian Forest Act, 1927
- The Agricultural Produce (Grading & Marking) Act, 1937
- The Information Technology Act, 2000
- The Copyright Act, 1957
- The Motor Vehicles Act, 1988

- The Cinematograph Act, 1952
- The Food Safety and Standards Act, 2006, etc

Need for the Bill:

- A large number of compliances govern doing business in India:
  - Currently, there are 1,536 laws which translate into around 70,000 compliances that govern doing business in India.
  - Among these, 26,134 have imprisonment clauses as a penalty for non-compliance.
- Lengthy processing times for the needed approvals: Escalating costs and dampening the entrepreneurial spirit.

Implications:

- Excessive compliances have proved burdensome for business enterprises, especially MSMEs.
- Creating barriers to the smooth flow of ideas and the creation of jobs, wealth and GDP.

Significance of the Bill:

- Reducing the compliance burden gives impetus to the business ecosystem and improves the well-being of the public.
- Smoother processes will attract more investment.
- It will reduce judicial burden, as settlement by compounding method, adjudication and administrative mechanism will save time, energy and resources.
- In short, the Bill seeks to bolster

'trust-based governance' – promoting ease of doing business and ease of living.

Constitution (STs) Order (5th Amendment) Bill

Context

- The Parliament has passed the Constitution (Scheduled Tribes) Order (Fifth Amendment)
- Bill, 2022, with the RajyaSabha giving its approval after the LokSabha had already passed the Bill.
- The purpose of the Bill is to amend the Constitution (Scheduled Tribes) Order of 1950. It aims to make several changes:
- **Inclusion of Communities**: The Bill includes the Dhanuhar, Dhanuwar, Kisan, Saunra, Saonra, and Binjhia communities in the list of Scheduled Tribes in Chhattisgarh.
- **Synonyms Inclusion:** The Bill adds Bhuinya, Bhuiyan, and Bhuyan communities as synonyms for the BhariaBhumia community.
- **Devanagari Versions:** Three Devanagari versions of the name of the Pando community are also included.
- July 27, 2023 /27 July 2023, Constitution (STs) Order (5th Amendment) Bill, GS2, Polity, Scheduled Tribes, Today's Article

No Confidence Motion

Context

- The current No-Confidence

Motion (NCM) against the Indian government was brought by the opposition to demand a statement from Prime Minister NarendraModi on the situation in Manipur. However, given the government's significant majority in the LokSabha, the motion is unlikely to succeed.

About NCM

- **What is NCM? :** A No Confidence Motion is a parliamentary procedure used to test the government's support and majority in the legislature. In India, it is introduced in the LokSabha, and if accepted, it leads to a discussion on the government's performance. If the motion is passed, the government must resign from office.

- **Floor Test :** The government can retain power by demonstrating its strength through a floor test.

- **Principle of Collective Responsibility :** According to Article 75 of the Constitution (and Article 164 for states), the council of ministers is collectively responsible to LokSabha. The ministry remains in office as long as the majority of LokSabha members trust it. LokSabha Rule 198 specifies the procedure for a motion of no-confidence.

- **Procedure for Moving Motion :** The member must submit a written notice before 10 AM, supported by at least 50 members. The Speaker sets a date for discussion within 10 days.

- **Examples :** 27 no-confidence motions have been introduced in LokSabha since independence.

- **Difference from Censure Motion :** The no-confidence motion seeks to ascertain the confidence of the LokSabha in the Council of Ministers, while a censure motion censures specific policies and actions of the Council of Ministers.

- If a no-confidence motion is passed, the council of ministers must resign, while a censure motion does not require resignation.

- **Significance :** The no-confidence motion is a crucial legislative tool used to hold the government accountable, although it is rare for the opposition to defeat the ruling party with greater numbers.

- How many members of the Lok Sabha need to support a motion of no confidence in the Lok Sabha?

   a) 50

   b) 100

   c) 25

   d) 10

   Ans : (a)

- Which is correct regarding No-confidence motion?

   A) In 1963 Aachariya Kirubalini brought No-confidence motion against Nehru.

   B) There were many times brought No-confidence motion against Indira Gandhi

   C) Under Lok shaba official rule 198 No-confidence motion has brought against current union government

   D) Congress MP Mr.Gourav kohoi has brought No-confidence motion against Modi government.

   Ans : All the above

National Commission for Women (NCW)

Context

- The cases of molestation and rape of women in Manipur have brought the functioning of Women's commissions in India into focus.

National Commission for Women (NCW):

- It is a statutory body of the Government of India that was founded on January 31, 1992, by the National Commission for Women Act, 1990.

- Its mandate is to:

   ○ Review the Constitutional and Legal safeguards for women;

   ○ Recommend remedial legislative measures;

   ○ Facilitate redressal of grievances and

○ Advise the Government on all policy matters affecting women.

Functions:

- Investigate and examine all issues concerning the protection provided to women under the Constitution and other legislation.

- Report on the effectiveness of those safeguards to the Central Government.

- Make recommendations in such reports for the effective application of those protections.

- Propose corrective legislative actions to address any flaws in laws.

- Investigate complaints and take suomoto action in cases involving the denial of women's rights.

The Manipur State Commission for Women (MSCW):

- Each state also has its own commission and MSCW was constituted in 2006 as a statutory body under the Manipur State Commission for Women Act, 2006.

- It is mandated to safeguard the interests of women with a wide mandate that covers all aspects of women's development.

Major Issues around the Working of Women Commission:

- Financial assistance provided to the Commissions is extremely less to cater to its needs.

- Their members are appointed by the government and therefore lack the independence to work without the influence of the government.

- They lack concrete legislative power. For example, its reports are only recommendatory.

Implications of the above:

- These commissions at the national and state levels have become toothless tigers, failing to prioritise field visits over paperwork.

- Most of the commissions are afraid to criticise the governments.

Case of Manipur:

- The NCW had received a large number of complaints about the violation of women's rights in the state.

- The NCW forwarded them to the state. The state police or its other wings probably ignored the forwards or did not have time to do justice to each of them.

- In which year National Commission for Women was formed?
  a) 1990
  b) 1991
  c) 1992
  d) 1995
  Ans : (c)

Parliamentary Panel on Inter-Services Organisations (Command, Control and Discipline) Bill 2023

Context

- The Parliamentary Standing Committee on Defence has backed the Inter-Services Organisations (Command, Control and Discipline) Bill 2023.

About the Bill:

- It was introduced in the LokSabha (March 2023) and was referred to the Standing Committee on Defence by the Speaker.

- It seeks to empower the Union government to –
  ○ Notify the setting up of inter-services organisations, including joint services commands, and
  ○ Give powers to heads of such organisations to act against personnel from any of the three services to ensure discipline and effective discharge of duties.

Salient features of the Bill:

- Inter-services Organisation (ISO):
  ○ The central government may constitute a Joint Services Command.
  ○ Existing ISOs (A&N Command, Defence Space Agency, NDA) will be deemed to have been constituted under the Bill.

- Superintendence and Command/Control of ISOs:
  ○ The superintendence of an ISO will be vested in the central government.
  ○ While command and control over the personnel serving

in or attached to such an Organisation will be vested in the Commander-in-Chief or the Officer-in-Command of an ISO.

- Eligibility to be appointed as the Commander-in-Chief or Officer-in-Command:
  - A General Officer of the regular Army (above the rank of Brigadier),
  - A Flag Officer of the Navy (rank of Admiral of the Fleet, Admiral, Vice-Admiral, or Rear-Admiral), or
  - An Air Officer of the Air Force (above the rank of group captain).

- Commanding Officer: A Commanding Officer –
  - Will be in command of a unit, ship, or establishment and perform duties assigned by the Commander-in-Chief or Officer-in-Command of the ISO.
  - Will be empowered to initiate all disciplinary or administrative actions over the personnel appointed, deputed, posted, or attached to that ISO.

- **Significance of the Bill:** The bill is crucial because theaterisation, a long-overdue military reform that will make the best use of the military's resources to fight future wars, is currently under debate.

Problems in the current system:

- The personnel in an ISO are currently governed by the respective laws of the three services – the Army Act 1950, the Air Force Act 1950, and the Navy Act 1957.

- When it comes to tri-services matters, the current legal framework has its limitations because officials from one service are not permitted to exert disciplinary/ administrative actions over members of another service.

- For instance, a three-star general heading a joint command cannot act against air force or navy personnel serving under him.

- As a consequence, the personnel serving in ISOs need to be reverted to their parent service units for any disciplinary/ administrative action.

- This is not only time-consuming but also has financial implications relating to the movement of the personnel.

The panel's recommendations:

- The bill be passed without any amendments and be enacted as a statute to promote tri-services integration and jointmanship in ISOs.

- The proposed law will improve the functioning of ISOs as they will be able to work with greater independence.

- The bill will enable expeditious disposal of cases, thereby affecting the standard of discipline.

ED's powers to arrest and seek custody

Context:

- The Madras High Court upheld the legality of Tamil Nadu Minister V. Senthilbalaji's arrest by the Enforcement Directorate (ED) in a money-laundering case linked to a cash-for-jobs scam.

HC observations in the case:

- ED can subject any person accused in a case booked under the Prevention of Money Laundering Act (PMLA) to custodial interrogation

- ED officials are not police officers as per the law laid down by the Supreme Court in Vijay MadanlalChoudhary v. Union of India (2022)

- Previously, In Central Bureau of Investigation v. Anupam J. Kulkarni (1992), the Supreme Court laid down the law that no police custody can be allowed beyond the first 15 days from the date of arrest; any further remand during an investigation can only be in judicial custody.

- However, SC (in April this year) said that money laundering is an independent offence; if an arrest is possible then seeking custody for further investigation is permissible. Also, SC has said previously that interim protection granted against CBI action cannot operate against the ED even if the underlying allegations are similar.

What is Custodial interrogation?

- It refers to the questioning of a suspect or accused by law enforcement authorities while they are in their custody or under arrest. Under the Indian Constitution and the Indian Penal Code (IPC), custodial interrogation is permissible, but it must be carried out in accordance with the rights and protections granted to individuals under Article 20(3) of the Constitution and Section 161(2) of the IPC, which safeguard against self-incrimination during questioning.

Difference between Police and Judicial Custody:

Aspect	Police Custody	Judicial Custody
Definition	The accused is held in custody under the police's authority and supervision.	The accused is held in custody under the order of a judicial authority (court).
Purpose	Police custody is primarily for investigation and interrogation purposes.	Judicial custody is for the period between trial hearings or during the trial.
Duration	In India, police custody generally lasts for a maximum of 15 days, as per the Supreme Court's ruling.	Judicial custody can last until the conclusion of the trial, depending on the case's complexity and duration.
Role of Magistrate	A magistrate's approval is not required for police custody.	A magistrate's approval is necessary to extend judicial custody beyond a certain period.
Example	In a murder case, the accused is arrested by the police and taken into police custody for interrogation.	After the police complete their initial investigation, the accused is presented before a magistrate, who remands them to judicial custody until the trial begins.

Way forward:

- While the ED has been given expansive powers under PMLA, there must be a balance between these powers and adherence.

National Human Rights Commission and UN Human Rights Council

- Recently, the National Human Rights Commission (NHRC) has called for an action taken report from the Odisha government regarding the Balasore train accident.

- Simultaneously, India recently voted in favor of a draft resolution tabled in the United Nations Human Rights Council, condemning and strongly rejecting acts of desecration of the Holy Quran.

- The draft resolution, titled 'Countering religious hatred constituting incitement to discrimination, hostility or violence,' gained support from multiple nations, including Bangladesh, China, Cuba, Malaysia, Pakistan, Qatar, Ukraine, and the UAE. The resolution emphasizes the condemnation of acts of religious hatred and calls for accountability according to international human rights law.

What is the National Human Rights Commission (NHRC)?

- About:
  - Ensures protection of rights related to life, liberty, equality, and dignity of individuals.
  - Rights guaranteed by the Indian Constitution and

international covenants enforceable by Indian courts.

- Establishment:
  - Established on October 12, 1993, under the Protection of Human Rights Act (PHRA), 1993.
  - Amended by the Protection of Human Rights (Amendment) Act, 2006, and Human Rights (Amendment) Act, 2019.
  - Established in conformity with the Paris Principles, adopted for promoting and protecting human rights.

- Composition:
  - The Commission consists of a chairperson, five full-time Members and seven deemed Members.
  - Chairman is a former Chief Justice of India or a Supreme Court judge.

- Appointment and Tenure:
  - Chairman and members appointed by the President on the recommendations of a six-member committee.

- Committee consists of the Prime Minister, Speaker of the LokSabha, Deputy Chairman of the RajyaSabha, leaders of the Opposition in both Houses of Parliament, and the Union Home Minister.
  - Chairman and members hold office for a term of three years or until they reach the age of 70.

- Role and Function:

- Possesses powers of a civil court with judicial proceedings.

- Empowered to utilize services of central or state government officers or investigation agencies for investigating human rights violations.

- Can investigate matters within one year of their occurrence.

- Functions are primarily recommendatory in nature.

- Limitations:
  - The Commission cannot inquire into any matter after one year from the date of the alleged human rights violation.
  - Limited jurisdiction in cases of human rights violations by armed forces.
  - Lacks authority to act in cases of human rights violations by private parties

What is the United Nations Human Rights Council?

- About:
  - An inter-governmental body within the United Nations responsible for promoting and protecting human rights worldwide.
  - Established in 2006 by the United Nations General Assembly, replacing the former United Nations Commission on Human Rights.
  - The Office of the High Commissioner for Human Rights

(OHCHR) serves as the Secretariat and is based in Geneva, Switzerland.

- Membership:
  - It consists of 47 United Nations Member States elected by the UN General Assembly.
  - Membership based on equitable geographical distribution, with seats allocated to different regions.
  - Members serve for three-year terms and are not eligible for immediate re-election after two consecutive terms.

- Procedures and Mechanisms:
  - Universal Periodic Review (UPR) assesses human rights situations in all UN Member States.
  - The Advisory Committee provides expertise and advice on thematic human rights issues.
  - Complaint Procedure allows individuals and organizations to bring human rights violations to the Council's attention.
  - UN Special Procedures monitor and report on specific thematic issues or human rights situations in countries.

- Issues:
  - The composition of membership raises concerns, as some countries accused of human rights abuses have been included.

○ Disproportionate focus on certain countries, such as Israel, has been criticized.

- India's involvement:
  ○ In 2020, India's National Human Rights Commission submitted its as a part of the third round of the Universal Periodic Review (UPR) process.
  ○ India was elected to the Council for a period of three years beginning 1st January 2019.

- Other than the Fundamental Rights, which of the following parts of the Constitution of India reflect/reflects the principles and provisions of the Universal Declaration of Human Rights (1948)?
  1. Preamble
  2. Directive Principles of State Policy
  3. Fundamental Duties

- Select the correct answer using the code given below:
  (a) 1 and 2 only
  (b) 2 only
  (c) 1 and 3 only
  (d) 1, 2 and 3

- Ans: (d)

- Consider the following
  1. Right to education
  2. Right to equal access to public service
  3. Right to food.

- Which of the above is/are Human Right/Human Rights under "Universal Declaration of Human Rights"?
  (a) 1 only
  (b) 1 and 2 only
  (c) 3 only
  (d) 1, 2 and 3

- Ans: (d)

The Multi-State Cooperative Societies (Amendment) Bill 2023

Context

- The Multi-State Cooperative Societies (Amendment) Bill 2023 was passed by the LokSabha.

Cooperatives in India and issues faced by them:

- Meaning: Co-operatives are voluntary, democratic, and autonomous organisations controlled by their members who actively participate in its policies and decision-making.

Efforts to promote them

- After independence, the first five-year plan (1951-56) emphasised the adoption of co-operatives to cover various aspects of community development.

- 97th Amendment (2011): It inserted Article 43B in the DPSP of the Indian Constitution inserted,
  ○ As per Article 43B. States shall endeavour to promote voluntary formation, autonomous functioning, democratic control and professional management of cooperative societies.

Issues faced by the co-operatives:

- Inadequacies in governance
- Politicisation and the excessive role of the government
- Inability to ensure active membership
- Lack of efforts for capital formation
- Inability to attract and retain competent professionals
- Elections to co-operative boards have been postponed indefinitely

What are Multi-state Co-operative Societies?

- Regulated by the Multi-State Co-operative Societies Act 2002, these are societies that have operations in more than one state (like FPOs).

- Part IXB (also inserted by the 97th amendment) of the Indian constitution is applicable only to multi-state co-operative societies (as per an SC verdict), as states have the jurisdiction to legislate over state co-operative societies.

- About the Multi-State Cooperative Societies (Amendment) Bill 2023: It seeks to amend the Multi-State Co-operative Societies Act 2002.

Key features	2002 Act	2023 Bill
Election of board members	Elections to the board are conducted by its existing board.	Co-operative Election Authority: The central government will establish the Authority to conduct such elections. It will consist of a chairperson, VC, and up to 3 members appointed by the central government on the recommendations of a selection committee.
Amalgamation of co-operative societies	Amalgamation and division by passing a resolution at a general meeting with at least two-thirds of the members present and voting.	Allows state co-operative societies to merge into an existing multi-state co-operative society, subject to the respective state laws.
Fund for sick cooperative societies	-	Co-operative Rehabilitation, Reconstruction and Development Fund: Multi-state co-operative societies that are in profit for the preceding three financial years shall finance the Fund.
Restriction on redemption of government shareholding	The shares held in a multi-state co-operative society by certain government authorities can be redeemed based on the bye-laws of the society.	Any shares held by the central and state governments cannot be redeemed without their prior approval. Co-operative Ombudsman: The central government will appoint one or more such Ombudsman with territorial jurisdiction.
Redressal of complaints	-	They shall complete the process of inquiry and adjudication within 3 months from the receipt of the complaint. Appeals (within a month) - Central Registrar appointed by the central government.

Importance of the Bill:

- By increasing their transparency and implementing a system of frequent elections, it will strengthen cooperatives.
- The Bill aims to address issues with the operation and governance of cooperative societies as well as match its provisions with those in Part IXB of the Constitution.

Issues related to the Bill:

- Imposing a cost on well-functioning societies: Sick multi-state co-operative societies will be revived by a Fund that will be financed through contributions by profitable multi-state co-operative societies.
- Dilute autonomy and independence of co-operatives: By empowering the government to restrict redemption of its shareholding in multi-state co-operative societies.
- Which 5 year plan emphasized the adoption of Co-operatives?
  a) First
  b) Second
  c) Third
  d) Fourth

  Ans : (a)

SC Collegium

- Context: The SC Collegium under CJI DY Chandrachud has quietly and transparently streamlined the appointment process of judges to the constitutional courts.

The Collegium system:

- **About:** The collegium system, which has evolved through judgments of the SC, is the way by which judges of the SC and HCs are appointed and transferred.
- It is a five-member body, headed by the incumbent CJI and comprises the four other senior most judges of the SC at that time.
- **Evolution** – Three Judges Cases:
  - P. Gupta & Others v. Union of India (1981), Advocate on Record Association v. UoI (1993) and re Presidential Reference case (1998).
  - It was established that the recommendation made by the CJI without following the consultation process for the appointment of SC and HC Judges is not binding on the government.
- **Criticism:**
  - The system is non-transparent since it is seen as a closed-door affair with no prescribed norms regarding eligibility criteria, or selection procedure.
  - The system is opaque and not accountable.
  - Judges do not appoint judges all over the world, but in India, they do.
  - Limited role of the government, may object to and seek clarification on the collegium's choices, but if the collegium reiterates the same names, the government is bound to appoint them.
- Efforts to reform the collegium system: NJAC, Memorandum of Procedure (MoP), etc.

How has the appointment process been streamlined recently?

- Adding a balanced mix of merit and seniority through a selection procedure which involves meaningful discussion on and assessment of candidates' judicial acumen.
- Recommendations of the Collegium are now notified within days by the government.
- The requirements for candidates' consideration have been made public by the Collegium's resolutions.

Points under the Collegium's consideration:

- **Quality of judgments of the candidates:** A Judgment Evaluation Committee goes through the judicial work of the candidates.
  - Justice DipankarDutta's name was the first to be cleared for SC appointment by the Collegium in this manner.
- The seniority of Chief Justices and senior puisne Judges in their respective parent HCs as well as overall seniority of the HC Judges.
- The merit, performance and integrity of the judges are under consideration.
- The need to ensure diversity and inclusion in the SC. Diversity and inclusion means –
  - Representation of HC not/ inadequately represented;
  - Appointment of persons from marginalised and backward segments of society;
  - Gender diversity (Justice SunitaAgarwal appointed as the CJ of the Gujarat HC); and

○ Representation of minorities.

- The need to ensure the better administration of justice: As a result, the Collegium did not bow to the request made by three HC judges against their out-of-State transfers.

- Consider the following statements:

  1. The 44th Amendment to the Constitution of India introduced an article placing the election of the Prime Minister beyond judicial review

  2. Supreme Court of India struck down the 99th amendment to the Constitution of India as being violative of the independence of the judiciary

- Which of the statements given above is/are correct?
  a) 1 only
  b) 2 only
  c) Both 1 and 2
  d) Neither 1 nor 2

  Ans : (b)

Rule 176 vs Rule 267

- The Monsoon Session of Parliament witnessed disruptions due to disagreements between the government and the Opposition on the format of the discussion regarding the Manipur situation.

- The Opposition sought a discussion under Rule 267 to express the sense of the House, while the government proposed a discussion under Rule 176.

- While under Rule 176, there is a short discussion, Rule 267 calls for a longer discussion.

- The Rule 176 calls for a short-duration discussion not exceeding two-and-a-half hours.

- Under the rule 176 and 177, an urgent matter can be taken up for a short-duration discussion immediately, a few hours later or the next day or on a prescribed date and time.

- Rule 267 is suspending a particular rule in relation to a business which is listed in the agenda.

- The Prime Minister doesn't necessarily need to stay in house under Rule 267 as the issue is discussed for long hours.

- Parliamentary records show that there were 11 instances between 1990 up till 2016 that this rule was invoked for various discussions.

- The adjournment motion is governed by Rules 56-63 of the Rules of Procedure and Conduct of Business in Lok Sabha.

Global Parliamentary Pact

- The second Global Parliamentary Summit against Hunger and Malnutrition was held in Chile.

- Parliamentarians from 64 countries signed the Global Parliamentary Pact at the summit.

- They all are committing to push for reforms in the agrifood system to make food sustainable and accessible to all.

- They have formed a new multilateral body to address the issues of poverty, hunger, and malnutrition in the agrifood system.

- In 2021, there were 46 million more people who endured hunger than in 2020.

- Some 2.3 billion people in the world did not have access to adequate food in 2021.

- The first such summit on hunger and malnutrition was conducted in Spain in 2018.

Delimitation in Assam

- The Election Commission (EC) released a draft delimitation document for Assam.

- It was proposing a change in boundaries of several Lok Sabha and Assembly constituencies of the state.

- The delimitation exercise was carried out on the basis of 2001 census.

- The last delimitation was done in Assam in 1976.

- The average population density of the state is 338 persons per sq Km.

- It retained the number of assembly seats in Assam at 126 and the Lok Sabha constituencies at 14.

- The assembly seats reserved for Scheduled Castes be increased from eight to nine and for Scheduled Tribes seats from 16 to 19.

- A parliamentary seat has been proposed to be named Kaziranga.

- It proposes to reserve 19 assembly and two parliamentary seats for STs, and nine assembly and one parliamentary seat for SCs.
- Delimitation based on which census?
  a) 2001
  b) 1971
  c) 2011
  d) 2021
  Ans : (b)

2nd-longest serving CM

- Odisha's Naveen Patnaik became the second longest-serving chief minister in the country.
- He took charge on March 5, 2000, and holds the post for 23 years and 138 days.
- He replaced West Bengal's Jyoti Basu.
- Jyoti Basu served as the chief minister of West Bengal from June 21, 1977 to
- November 5, 2000, which was 23 years and 137 days.
- Former Sikkim Chief Minister Pawan Kumar Chamling still holds the record of being the longest-serving Chief Minister in the country.
- He was the Chief Minister of the Himalayan state from December 12, 1994 till May 27, 2019 more than 24 years.

UCC

- Uniform Civil Code refers to the proposition of having a uniform set of civil laws for all citizens of a country, irrespective of their religious or cultural affiliations.

The principle behind UCC:

- The concept of a UCC is rooted in the idea of equality and uniformity before the law and it aims to replace the personal laws based on religious practices that currently govern matters such as marriage, divorce, inheritance, adoption, and succession.
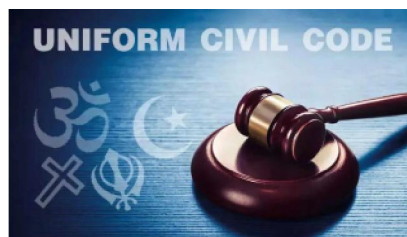
Historical Perspectives on UCC

- **British rule:** There was a lack of uniformity in civil matters as personal laws based on religious customs and traditions were recognized for different communities. The idea of a UCC emerged as a response to this fragmentation and as a means to promote a common civil identity.
- **Portuguese rule:** When Goa was under Portuguese rule until 1961, a Uniform Civil Code based on the Portuguese Napoleonic code was implemented.
- **Nehruvian Vision:** Jawaharlal Nehru envisioned a modern and progressive India and saw the UCC as an essential element of nation-building. He believed that a UCC would help eliminate divisions based on religion and promote equality among citizens.
- **Hindu Code Bill:** The Hindu Code Bill sought to codify and modernize Hindu personal laws relating to marriage, divorce, adoption, and inheritance. It was seen as a step towards a UCC, as it aimed to bring uniformity in personal laws within the Hindu community.
- **Shah Bano Case:** The Supreme Court judgment, in this case, sparked debates on the need for a UCC to ensure gender justice and equal rights for women across religious communities.

Constitutional Perspectives on UCC

- **Constituent Assembly Debates:** During the framing of the Indian Constitution, the debates witnessed diverse viewpoints, with some members advocating for a UCC as a way to promote gender equality and secularism, while others expressed concerns about preserving religious and cultural rights.
- **Directive Principles of State Policy:** Article 44 of the Indian constitution states that the state shall endeavour to secure for its citizens a uniform civil code throughout the territory of India.
- **Secularism:** The Indian Constitution enshrines the principle of secularism, which mandates the separation of religion and the state. A UCC is seen as a

way to promote secularism by ensuring equal treatment of all citizens irrespective of their religious affiliations.

- **Equality and Non-Discrimination:** The Constitution of India guarantees equality before the law under Article 14, and prohibits discrimination on grounds of religion, race, caste, sex, or place of birth. UCC would uphold these principles by ensuring equal rights and equal treatment for all citizens, regardless of their religious backgrounds.

- **Gender Justice:** The Constitution also guarantees the right to equality and the right against discrimination based on gender. A UCC is seen as a means to promote gender justice.

How do Personal laws govern different communities?

- Muslims, Hindus, Jains, Buddhists, Sikhs, Parsis, and Jews are governed by their own personal laws.

- Goa has UCC, which retained its common family law known as the Goa Civil Code after it was liberated from Portuguese rule in 1961. The rest of India follows different personal laws based on their religious or community identity.

All Hindus	Reformed Hindu Personal Law	Applies to Hindus after the enactment of the Hindu Marriage Act, 1955. Renounced Hindus still under Hindu Law
	Hindu Personal Law in Special Marriage Act	Hindus married under the Special Marriage Act, 1954 are still governed by Hindu Personal Law.
Muslims	Muslim Personal Law	Muslims married under the Special Marriage Act, 1954 are no longer governed by Muslim Personal Law.

Argument in favour of UCC:

Benefits of UCC	Explanation
National Integration and Secularism	UCC would create a common identity among citizens, fostering national integration. It promotes secularism by treating all religions equally and reducing communal conflicts.
Gender Justice and Equality	UCC ensures gender justice by removing discriminatory laws and granting equal rights to women in marriage, divorce, inheritance, etc. It empowers women and upholds their fundamental rights.
Simplification and Rationalisation of Legal System	UCC simplifies the legal system by eliminating the complexities and contradictions of multiple laws. It harmonizes civil and criminal laws and enhances accessibility for the common people.
Modernisation and Reform of Outdated Practices	UCC modernizes and reforms outdated practices, aligning personal laws with human rights and constitutional values. It abolishes practices like triple talaq and child marriage.

Argument Against UCC:

Challenges	Explanation
Diverse Personal Laws and Customary Practices	Harmonizing India's diverse laws and practices to establish uniformity is complex, especially when many laws are undocumented or contradictory.
Resistance from Religious and Minority Groups	Some religious and minority groups argue that it could impose majority views and undermine their constitutional rights, particularly under Article 25 guaranteeing freedom of religion.
Lack of Political Will and Consensus	Concerns exist regarding potential communal tensions and conflicts arising from its implementation.
Practical Difficulties and Complexities	Implementing UCC would involve substantial efforts such as drafting, codifying, harmonizing, and rationalizing personal laws and practices.

Law Commission Views:

• 21st Law Commission of India: It said the "issue of uniform civil code is vast, and its potential repercussions, untested in India". It said that " UCC is neither necessary nor desirable at this stage".

• The government had asked the 22nd Law Commission of India to undertake an examination of various issues relating to UCC.

SC-related cases:

• **Shah Bano Case (1985) :** The Supreme Court upheld the right of a Muslim woman to claim maintenance from her husband even after the Iddat period.

  ○ It highlighted the need for a UCC to remove contradictions based on ideologies.

• **Sarla Mudgal (1995) :** The Supreme Court stated that a Hindu husband cannot convert to Islam and marry without dissolving his first marriage.

  ○ It emphasized that a UCC would prevent fraudulent conversions and bigamous marriages.

• **Shayara Bano case (2017) :** The Supreme Court declared triple talaq as unconstitutional and violative of Muslim women's dignity and equality.

  ○ It recommended that Parliament enact a law to regulate Muslim marriages and divorces.

• Consider the following provisions under the Directive Principles of State Policy as enshrined in the Constitution of India: (UPSC 2012)

  1. Securing for citizens of India a uniform civil code
  2. Organising village Panchayats
  3. Promoting cottage industries in rural areas
  4. Securing for all the workers reasonable leisure and cultural opportunities

• Which of the above are the Gandhian Principles that are reflected in the Directive Principles of State Policy?
  a) 1, 2 and 4 only
  b) 2 and 3 only
  c) 1, 3 and 4 only
  d) 1, 2, 3 and 4
  Ans: (b)

• In which State of India is going to be introduced Uniform Civil Code?
  a) Uttarkhand
  b) Uttarpradesh
  c) Gujarath
  d) Maharastra
  Ans :(a)

- In which state of India, Uniform Civil Code Act is in force?

   a) Goa

   b) Uttarkhand

   c) Uttarpradesh

   d) Gujarath

   Ans : (a)

2019 election of Theni MP

- The Madras High Court on Thursday, July 6, 2023 declared as null and void, the election of P. Ravindranath Kumar from the Theni Parliamentary constituency in 2019.

- It has been challenged the MP's election on various grounds including suppression of his sources of income in the election affidavit submitted at the time of filing nominations.

- It also challenged on the grounds of the alleged bribing of voters during the course of campaigning.

Adjournment motion

Context

- During the Monsoon Session, Congress MPs moved adjournment motions in the LokSabha to take up urgent discussion on alleged sexual assault in Manipur.

About the motion:
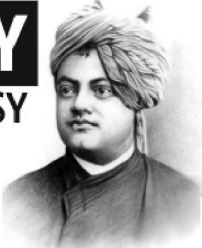
The adjournment motion is a parliamentary procedure used in the Lok Sabha (lower house of the Indian Parliament) to draw urgent attention to a specific matter of urgent public importance. Word 'adjournment' means to suspend a session or meeting till another time or indefinitely	
Introduction	Can be introduced only in Lok Sabha (Rajya Sabha has similar procedure for discussion under rule 176 (short duration); Rule 267 (longer discussion) and Rule 184 (motion with votes)
Origin	The adjournment motion originated from the UK's House of Commons. In India, it was introduced in Lok Sabha under the Government of India Act of 1919.
Censure against government	The motion allows for discussions on pressing issues and can result in strong censure of the government but does not necessitate the government's resignation.
Support needed	Requires support of 50 members
Duration of discussion	Minimum of 2 hours and 30 minutes
Process	Adjournment motion can be moved in the Lok Sabha by any member who seeks the Speaker's consent to discuss a definite matter of urgent public importance. The notice for an adjournment motion must be given before 10 am to the Lok Sabha Secretary-General on the day it is to be raised.
Other similar procedure	Under Rule 193 of the Lok Sabha's rules Short Duration Discussions can take place with speaker's permission

VI. Public Awarness and General Administration

National Sickle Cell Anaemia Elimination Mission

Context

- The PM will launch (today) the 'National Sickle Cell Elimination Mission' today with the target to eradicate the disease by 2047.

From where?

- The mission announced in the Union Budget 2023 will be launched from a public programme in Shahdol in Madhya Pradesh.

- MP is a state with the highest tribal population in terms of absolute numbers as per Census 2011 and also has the highest burden of sickle cell anaemia.

Background:

- Sickle cell disease is a genetic blood disease which affects the whole life of an affected patient.

- It is more common in the tribal population of India but occurs in non-tribals too.

- It not only causes anaemia but also pain crises, reduced growth, and affects many organs like lungs, heart, kidneys, eyes, bones and the brain.

How vulnerable India is?

- Globally, India has the largest density of tribal population [Census 2011: Tribal population – 8.6% of the total population of India/ 67.8 million].

- Sickle cell disease is one of the 10 special problems in tribal health that affect the tribal people disproportionately, thus making intervention necessary.

National Sickle Cell Anaemia Elimination Mission:

- **Mission:** To improve the care of all Sickle Cell Disease patients for their better future and to lower the prevalence of the disease through a multi-faced coordinated approach towards screening and awareness strategies.

- **Vision:** Eliminate sickle cell disease as a public health problem in India by 2047.

Demographic dividend: How can India leverage its biggest strength?

Context

- The next 25 years could be the golden years for the country, provided it makes the best use of its favourable demographic composition.

Demographic dividend

- It is the economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population is larger than the non-working-age share of the population. (UNFPA)

India's demographic dividend:

- India's average age is 29 years, whereas the average age in US, China, France, Germany and Japan is 38, 38, 42, 45 and 48 years, respectively.

- Therefore, India is the youngest among the most populous countries in the world.

Implications:

- India is now in a phase in which its working-age population is rising and the old-age dependency ratio is coming down.

- For example, India's old-age dependency ratio will reach 37% in 2075, whereas the same will be 56% in France, 75% in Japan, 49% in the US, etc.

Success stories:

- Most developed countries today have been able to make use of their phase of favourable demographics for higher growth and standard of living.

- China has already set an example of being a superpower by harnessing its demographic dividend from the early Eighties till 2008-2009.

- Similarly, Japan (between the mid-50s and late 80s), South Korea (from the early 90s till 2015), Malaysia and Singapore have shown consistent growth by engineering structural transformations to utilise their demographic dividend.

What's behind China's success?

- China's early focus on labour-intensive manufacturing and subsequent structural transformation resulted in an almost 10% annual average growth rate over four decades, which is unprecedented.

Opportunities for India

- Most countries are experiencing record low fertility rates (6.77 births per 1,000 people in China) and a shrinking labour force.

What should India do?

- Focus on quality education and health facilities, skilling, reskilling and up-skilling of the labour force to make them more productive and efficient.

- Create opportunities for the existing labour force and the new entrants into the labour market by improving their productivity.

- Shift a major chunk of the 45.5% of the labour force engaged in agriculture with low and negligible labour productivity.

- Focus on labour-intensive manufacturing such as textiles, toys, footwear, auto components, sports goods and agricultural processing, as most of the labour force has limited education and skill sets.

- Reap the benefits of sectors (like restaurants, hotels, mining and construction, healthcare and caregiving services) with huge potential.

- For the manufacturing sector to grow, India needs an accelerated focus on –

  - Infrastructure development to reduce trade and transaction costs,

  - Trade facilitation measures,

  - A better IPR ecosystem,

  - Ease of doing business on the ground, and

  - Further rationalisation of labour laws and the taxation system.

  - MSMEs – the backbone of Indian manufacturing, need support in improving competitiveness, achieving scale, digital infrastructure, technology up-grade and branding to be part of a larger supply chain and the global value chains.

Steps taken:

- Skill development programmes such as the Jan Shikshan Sansthan, the Pradhan Mantri Kaushal Vikas Yojana and the National Apprenticeship Promotion Scheme are welcome steps.

  - They have increased human resources supply in various sectors during 2017-22.

- The Vision 2025 (of the MSDE) aims to improve linkages between education and skill, catalyse demand for formal skills and create a high-skilled ecosystem.

- Ayushman Bharat, Swachh Bharat Mission and PM Bhartiya Janaushadhi Pariyojana have ensured health equity to a great extent.

- The National Education Policy 2020 gives importance to updating knowledge, ensuring productive employment opportunities and decent/dignified work as listed in the UN SDGs 2030.

- Samagra Shiksha programme provides inclusive, equitable and quality education at all levels of school education.

Challenges:

- 93% of the employment in India is absorbed by the unorganised sector, where workers are employed in underpaid jobs.

- High out-of-pocket expenditure

on healthcare, poor quality of education, non-functional schools, reluctant authorities, etc.

- Which is correct?
  A) India's population 142.86 crore
  B) Tamilnadu's population 8.04 crore
  C) Theme of World Population day 2023 is "Unleashing the power of gender equality : uplifting the voices of women, girls to unlock our world's infinite possibilities.

  Ans : All the above

- National Commission for Population works under which Ministry?
  a) Home Ministry
  b) Health Ministry
  c) Defence Ministry
  d) Finance Ministry

  Ans : (b)

Zanzibar (Tanzania)

- India is set to establish its first Indian Institute of Technology (IIT) campus outside the country in Zanzibar, Tanzania. This move aligns with India's National Education Policy 2020 and aims to enhance educational cooperation between the two nations.

- Zanzibar is a Tanzanian archipelago off the coast of East Africa. It is Stone Town, a historic trade centre with Swahili and Islamic influences.

- Tanzania is an East African country known for its vast wilderness areas. They include the plains of Serengeti National Park, populated by the "big five" game (elephant, lion, leopard, buffalo, rhino), and Kilimanjaro National Park, home to Africa's highest mountain.

- Where will be held First campus of Chennai IIT outside India?
  a) Poliviya
  b) Coloumbia
  c) Thansaniya
  d) Java

  Ans : (c)

- Who is Tanzania President?
  a) Jacinda Ardern
  b) Samiya Hazan
  c) Mohammed Shahabuddin
  d) Ram Chandra Padel

  Ans : (b)

Breaking Barriers and Building Inclusivity – Women still minority

Context

- PreetiAghalyam, the first woman to become the Director of an Indian Institute of Technology (IIT), highlighted the underrepresentation of women on IIT campuses.

- Her appointment coincides with a broader effort by various IITs to address the gender imbalance on their campuses.

- The enrolment ratio of men to women in engineering colleges in India has improved over the years. However, the proportion of women in IITs remains low, with some institutes having as little as 5% to 12% female representation in 2014.

- Implications of Underrepresentation of Women in Higher Education in India:

Implications with Examples

- **Limited Access to Opportunities :** Women miss out on educational and career opportunities, limiting their potential for growth and advancement.

- **Gender-Based Stereotyping and Bias:** Stereotypes reinforce gender roles, limiting women's choices in pursuing certain fields of study or careers.

- **Unequal Workforce Representation :** Fewer women in higher education result in a limited pool of qualified female professionals in various sectors, leading to gender imbalance in the workforce.

- **Economic Disparities :** Women's lower participation in higher education can contribute to the gender pay gap and economic disparities between men and women.

- **Lack of Diverse Perspectives :** The absence of women's voices and perspectives in academia

limits the development of inclusive knowledge and hinders innovation.

- **Reinforcement of Social Norms :** The underrepresentation of women in higher education perpetuates traditional societal norms and expectations, hindering progress towards gender equality.

- **Missed Contributions to Research and Innovation :** Society misses out on the unique talents, perspectives, and contributions that women can bring to research and innovation in various fields.

Government Schemes for Women:

- **Digital Gender Atlas :** Ministry of Human Resource Development has prepared a digital gender atlas for advancing girls' education in India.

- **National Scheme of Incentive to Girls for Secondary Education (NSIGSE) :** The objective of the scheme is to establish an enabling environment to reduce dropouts and to promote the enrolment of girl children in secondary schools.

- **NaiManzil :** An integrated education and skilling scheme in partnership with the World Bank, aimed at minority youth without a formal school leaving certificate, providing formal education and skills for better employment and livelihoods. 30% target allocation for women beneficiaries.

- **NayaSavera :** A scheme providing financial support to students from minority communities to prepare for competitive examinations. 30% allocation for women beneficiaries.

- Who is the first Women Director of the Indian Institute of Technology?
  a) Preethi Agalyam
  b) Leena Nair
  c) Devika Bulchandani
  d) None of these
  Ans : (a)

Swachhata Chronicles: Transformative Tales from India

Context

- The Union Minister of Jal Shakti released a compendium titled "Swachhata Chronicles: Transformative Tales from India" at the National Conference of Rural WASH Partners Forum.

- The compendium showcases 75 ODF Plus Best Practices of States/UTs, highlighting innovations, measures to overcome barriers, awareness-raising efforts, and special campaigns in various ODF Plus activities under the SBM-G Phase-II.

Some of the examples are:

- **Innovations :** In Odisha, community participation and leadership at the Block level ensured the ODF Plus Model village status of JitikarSuanlo village in Bhingarpur GP of Khordha District.

- Displaying live models of ODF Plus assets in Shravasti District, Uttar Pradesh, helped in effectively managing solid and liquid waste, leading to ODF Plus status.

- **Overcoming Barriers :** Tamil Nadu tackled significant solid waste management challenges in peri-urban panchayats of Madurai through an innovative mass cleaning initiative, NammaOoruSuperu campaign.

- **Raising Awareness :** Children from government schools in Fatehpur District, Uttar Pradesh, used a magazine called the WASH Vaani to promote positive WASH behaviour in rural areas.

- **Special Campaigns :** Gujarat's SwachhSagar, SurakshitSagar campaign involved regular beach cleaning to protect the environment.

Use of women as weapons of assault in a conflict

Context

- A video of two Kuki women being paraded naked by a mob during the ongoing clashes in Manipur is circulating on social media.

- **The larger question:** Women's bodies have become sites of male violence, especially during communally charged conflicts.

- **Reasons behind this grim reality:** India's social contract [an implicit agreement among

the members of a society to cooperate for social benefits, by sacrificing some individual freedom for state protection] seems to be melting.

Two aspects of this meltdown:

1. The systems of violence in and around Manipur.
2. The structures of silence around it.

1. The systems of violence in and around Manipur:

- The state is witnessing civil strife.
- Social cleavages between Meitei and Zo-Kuki communities have turned into a partition with well over a hundred dead, and thousands displaced.
- Even the state administration stands partitioned. Meitei police officers don't operate in the hills, and Kuki-Zo officers don't operate in the Valley.
- Essentially, India is witnessing fresh partitions and associated armed ethnic mobilisation in Northeast India.
- Such systems of violence are a by-product of Competing desires for regional hegemony – demands for access to resources and power within the Union and vote-bank politics.

2. The structures of silence:

- It relates to what feminist scholars called systemic violence against women in Manipur.
- It took a leaked video and associated public shock for Manipur police to order an investigation.

The issue of gender-based violence in conflicts:

- Unfortunately, the issue has not received adequate attention in the discourse on gender equality and sustainable development.
- Sexual violence in conflict zones has often been regarded as an inevitable by-product of civil strife/ war and the perpetrators of violence have seldom been punished.

What needs to be done?

- Addressing the deeply entrenched patriarchal attitudes of the administration (say, police) to improve reporting and conviction rates.
- Bridging the gap between gender-based violence laws.
- SDG 5 calls for ending violence against women and girls in public and private spheres. As India is committed to the achievement of SDGs, the governments need to take a tough stance against the perpetrators of violence (in scenarios like Manipur).

India's Rice Export Ban

Context

- IMF chief economist Pierre-Olivier Gourinchas stated that India's decision to restrict exports of certain types of rice could contribute to food price inflation and should be reversed.
- Previously, India has implemented restrictions on non-basmati white rice exports to ensure sufficient availability in the domestic market at reasonable prices. The export ban is also intended to support the ethanol-blending program, reduce costly oil imports, and benefit the animal husbandry and poultry sectors by lowering animal feed costs.

India's status in rice exports:

- India is the second-largest producer of rice in the world, after China. India has become the largest rice exporter globally, accounting for nearly 40% of global rice exports in 2022/23. Non-basmati white rice constitutes approximately 25% of the total rice exported from the country.

Impact of the ban:

- IMF predicts a potential rise of 10-15% this year in international rice prices.
- Countries in Asia and Sub-Saharan Africa, which heavily rely on India as a major supplier of rice, may face vulnerability due to potential disruptions in the rice market.

Highest number of suicides of government employees

- The National Crime Records Bureau (NCRB) published the report for 2021.

- Tamil Nadu recorded the highest number of suicides of government employees in the country in these two years.

- Nearly one in every five suicides of government employees reported in the country in 2021 was from Tamil Nadu.

- With 18,925 suicides, the Tamilnadu State is ranked only next to Maharashtra (22,207)

- 2017 – 2021 witnessed the sharp increase in the suicides among those in the PSUs is of particular concern.

Appointment of temple priests

- The Madras High Court refused to stay the operation of a single judge's June 26 verdict.

- The June 26 verdict said caste would have no role to play in the appointment of Archakas (temple priests).

- Also, any person properly trained to perform pujas and other rituals as per the Agama Sastra could be appointed to the post.

- These directions contrary to the law laid down by the Supreme Court in Seshammal's case (1972).

- Karana Agama, as well as the other 27 Saiva Agamas clearly prescribe that only persons belonging to the denomination of Adi Saivars/Sivachariyars/Gurukkals are eligible to become Archakas in temples governed by the 28 Saiva Agamas.

- This custom was upheld by the Supreme Court in Seshammal's case.

Other cases related to this issue

- Srimad Perarulala Ethiraja Ramanuja Jeeyar Swami versus State of Tamil Nadu (1972).

- Adi Saiva Sivachariyargal Nala Sangam versus Government of Tamil Nadu (2016).

Aadhaar authentication allowed for registration for births and deaths

- The Centre has allowed the Office of Registrar General of India to use Aadhaar authentication for birth and death registrations.

- The Ministry of Home Affairs has issued a notification allowing this.

- The move aims to promote ease of living and better access to services.

- However, till now Aadhaar is not mandatory for such registration, and it has been proposed on 'voluntary basis'.

Scheme for minor rape victims

- This special scheme was announced by the Women and Child Development Ministry.

- The "scheme for critical care and support for accessing justice to rape/gang rape survivors or minor girls who get pregnant" will provide shelter, food, safe transportation for court hearings, and legal aid.

- It would operate under the aegis of the Nirbhaya Fund and an amount of Rs.74.1 crore has been allocated for the same.

- Additionally, it leverages the administrative structure of Mission Vatsalya in collaboration with State governments and Child Care institutions [CCIs] to actualise this support to minor victims.

- In the year 2021, the National Crime Records Bureau reported 51,863 cases under the Protection of Children from Sexual Offences (POCSO) Act.

- Mission Vatsalya, launched in 2021, is focused on the protection and welfare of children.

Child Trafficking in India

- The report titled 'Child Trafficking in India: Insights from Situational Data Analysis and the Need for Tech-driven Intervention Strategies' was released recently.

- The new study was conducted by the NGO Games24x7 and the Kailash Satyarthi Children's Foundation (KSCF).

- Uttar Pradesh, Bihar, and Andhra Pradesh are the top three states with the highest number of children trafficked between 2016 and 2022.

- Delhi has experienced a 68 per cent rise in child trafficking cases from pre to post-Covid times.
- The number of reported incidents in the pre-Covid phase (2016-2019) was 267.
- But it rose intensely to 1214 in the post-Covid phase (2021-2022).
- Karnataka witnessed an 18-fold increase, increasing from 6 to 110 reported incidents of child trafficking.
- Jaipur City emerged as the top district in child trafficking, with four other districts in Delhi appeared in the top slots.
- As many as 13,549 children under the age of 18 were rescued during this period.
- Hotels and dhabas employ the maximum number of child labourers (15.6 per cent).
- It is followed by the automobile or transport industry (13 per cent), and garments (11.18 per cent).

Japan's Population Decline

- The population of Japanese nationals fell by about 800,000 people to 122.4 million in 2022 from the previous year.
- This is the loss of 0.65% and witnessing falling for a 14th straight year.
- Japan's total population was 125.41 million, down just over half a million people from a year earlier.
- There was a 10.7% jump in foreign residents with addresses registered in Japan.
- Foreign residents now account for about 2.4% of Japan's population.
- The country saw a record low of 771,801 births last year.

IOM report Child trafficking

- The report titled "From Evidence to Action: Twenty Years of IOM Child Trafficking Data to Inform Policy and Programming" was recently released.
- It is a first of its kind and is based on analysis of extensive, globally sourced data, using the IOM's Victims of Trafficking Database (VoTD).
- As per the report, half of child trafficking victims are trafficked within their own country.
- In cases of international trafficking, children are mostly trafficked to neighbouring, wealthier countries.
- Half of the trafficked children, mostly boys, are subjected to forced labor across various industries like domestic work, begging, and agriculture.
- Sexual exploitation, including through prostitution, pornography, and sexual servitude, is also prominent, affecting 20 per cent of trafficked children, predominantly girls.
- It analysed primary data from more than 69,000 victims of trafficking of 156 nationalities, trafficked in 186 countries.
- Tamilnadu government targets child labour free Tamilnadu by which year?
  a) 2030
  b) 2025
  c) 2050
  d) 2947

  Ans : (b)

Manual scavenging free districts

- A total of 530 districts (out of 766) across the country had so far reported themselves to be free of manual scavenging.
- 100% of districts in States like Bihar, Rajasthan, Tamil Nadu and a few others have declared themselves free of manual scavenging.
- In several States and Union Territories, only about 15% to 20% of the districts have reported so.
- For instance, in Manipur, just two of the 16 districts have reported as being manual-scavenging free.
- Similarly, in Jammu and Kashmir, just 30% of the districts have declared themselves free of the practice with a similar number in Telangana.
- In Odisha and West Bengal too, over 60% districts are yet to report their respective status.

Registration of Births and Deaths (Amendment) Bill, 2023

- The government tabled the Registration of Births and Deaths (Amendment) Bill, 2023 in the Lok Sabha.
- The new bill mandates Aadhaar number use for birth certification.

- This development is part of an amendment to the original 1969 Act.
- The proposed legislation would require the Aadhaar numbers of both parents and any informants during birth registration.
- The bill proposes the appointment of Special "Sub-Registrars" to accelerate the registration of deaths and certificate issuance.
- It aims to provide that the Registrar must provide the certificate to such person within seven days.
- It aims to provide for obtaining births and deaths certificates (electronically or otherwise) instead of extracts.

VII. Welfare Oriented Schemes and their Utility, Problem in Public Delivery System (Central Government & State Government)

Central Government

Atal Vayo Abhyuday Yojana (AVYAY)

Context

- The AtalVayoAbhyudayYojana (AVYAY) is a scheme launched by the Ministry of Social Justice and Empowerment in India to empower senior citizens and ensure their well-being and social inclusion.

About AVYAY:

- **Scheme Name :** AtalVayoAbhyudayYojana
- **Scheme Type :** Central Sector Scheme
- **Former Name :** National Action Plan for Senior Citizens
- **Aim :** The scheme aims to address the financial, healthcare, and social needs of elderly citizens, recognizing their valuable contributions to society.
- **Vision :** To create a society where senior citizens, live a healthy, happy, and empowered life

Components

1. Integrated Program for Senior Citizens (IPSrC)
2. State Action Plan for Senior Citizens (SAPSrC)

1. IPSrC

- Establishing homes for improving the quality of life of senior citizens, especially indigent ones
- Providing basic amenities and entertainment opportunities – Encouraging productive and active ageing

2. SAPSrC

- Each state/union territory is expected to formulate its own action plan for the welfare of senior citizens
- **Grant-in-Aid :** Provided to NGOs/Voluntary Organizations (VOs) for running and maintaining old age homes and Continuous Care Homes

Five Schemes under the Umbrella Scheme

1. Poshan Abhiyan for the elderly
2. Livelihood and skilling initiatives for senior citizens
3. Scheme on promoting the silver economy
4. Awareness generation and capacity building for the welfare of senior citizens

5. Channelizing CSR funds for elderly care

- **Nodal Agency :** Ministry of Social Justice and Empowerment

Other components

- The scheme also includes the RashtriyaVayoshriYojana (RVY), which provides assisted living devices to senior citizens suffering from age-related disabilities.

- A national helpline called Elderline offers free information, guidance, emotional support, and intervention in cases of abuse or rescue for senior citizens.

- Which ministry introduced the AtalVayo Abhyuday Yojana Scheme?
  a) Ministry of Women and Children's Welfare
  b) Ministry of Social Justice and Empowerment
  c) Ministry of Home Affairs
  d) Ministry of Defence

- Ans : (b)

Persons with Disabilities

Context

- The Union government is facing criticism from rights activists and the Opposition for omitting disability-related questions in the sixth round of the National Family Health Survey (NFHS).

- The government's response to the Parliamentary committee's earlier recommendations explained that data on PwDs is primarily derived from decennial censuses and sample surveys on disability.

- The government also introduced Unique Disability ID (UDID) cards for individuals covered under disability schemes, but the committee found this approach insufficient, as the number of issued UDID cards did not match the estimated PwD population.

Recommendation:

- The committee emphasized the need for innovative solutions and recommended that the government collaborate with State governments and other departments/organizations involved in PwD welfare schemes to arrive at a realistic assessment of the PwD population in the country.

About Persons with Disabilities:

- Persons with Disabilities (PWDs) refer to individuals who have long-term physical, mental, intellectual, or sensory impairments that may hinder their full and effective participation in society on an equal basis with others.

- As per Census 2011, at the all-India level, disabled persons constitute 2.21% of the total population.

JJM Digital Academy

Context

- The Department of Drinking Water and Sanitation has established the JalJeevan Mission Digital Academy. The academy aims to build the capacity of water and sanitation personnel through digital technology and innovative training methods.

- The academy will also serve as a repository of knowledge-sharing sessions and best practices from national and state governments, UN agencies, and civil society organizations.

- In which year, Government of India targeted to provide all rural household in India with portable water connections by "Har Ghar Jal" under the flagship of Jal Jeevan Mission?
  a) 2024
  b) 2030
  c) 2047
  d) 2025

Ans : (a)

Registration of Births and Deaths (RBD) Amendment Bill, 2023

Context

- The Registration of Births and Deaths (RBD) Amendment Bill, 2023, proposes to create digital birth certificates that will serve as comprehensive documents for various purposes.

- Aim: It aims to eliminate the need for multiple documents to prove the date and place of birth.

Key features:

- The Bill introduces significant amendments to the Registration of Births and Deaths Act, 1969.

- Provides for the appointment of a Registrar-General, India for issuing general directions for registration of births and deaths.

- Create a National and State level database of registered births and deaths which would help in updating other databases.

- The Bill makes it mandatory for States to register births and deaths digitally on a centralized portal called the Centre's Civil Registration System (CRS).

- Medical institutions will be required to provide a certificate stating the cause of death to the Registrar.

Applicability:

- The digital birth certificate will be used for admission to educational institutions, driving licenses, government jobs, passports, Aadhaar, voter enrollment, and marriage registration.

Benefits:

- The centralized register will facilitate the efficient and transparent delivery of public services and social benefits.

- The database will also update the National Population Register (NPR), ration cards, and property registration records.

- It will also simplify the registration process for adopted, orphaned, abandoned, surrendered, and surrogate children.

PM-WANI

Context

- The Digital India programme has three main vision areas: digital connectivity, software and services on demand, and digital empowerment of citizens. To achieve this, the creation of inter-operable public Wi-Fi hotspots called PM-WANI (Wi-Fi Access Network Interface) was proposed to provide affordable internet access to the common people, especially in rural and underserved areas.

- PM-WANI allows the last-mile distribution of broadband through Public Data Offices (PDOs) offering sachet-sized packages of internet for as low as Rs 5 to 10.

- This framework offers a business opportunity for aggregators (PDOAs) without additional licensing fees, fostering the growth of local nano-entrepreneurs who establish Wi-Fi hotspots and offer internet access to other users.

- It offers an affordable and reliable solution for underserved areas, benefiting ISPs and Telcos by expanding their customer base.

- Wi-fi hotspot pouches

Bharat Internet Utsav

Context

- The Department of Telecommunications (DoT) has launched the "Bharat Internet Utsav" to celebrate the power of the Internet.

- It aims to highlight the transformative role of the internet by encouraging citizens to share their stories of how the internet has positively impacted their lives. It recognizes the internet as an essential tool for connectivity, knowledge-sharing, and socio-economic development.

World Youth Skills Day

- Recently, on the occasion of World Youth Skills Day (15th July), the Skill India project achieved a remarkable feat by successfully reviving the dying Namda Art of Jammu and Kashmir, by flagging off the first batch of Namda Art products for export to the UK.

- On the same occasion, the Union Minister of Education and Skill Development and Entrepreneurship, launched AI for India 2.0.

What is World Youth Skills Day?

- About:
  - Every year, the 15th of July is observed as World Youth Skills Day.
  - The day highlights the critical role of skills development in preparing young people for the labor market

and fostering their active participation in society.

- ○ Celebrates the strategic importance of equipping young people with skills for employment, decent work, and entrepreneurship.
- Background:
  - ○ Designated by the United Nations General Assembly in 2014.

World Youth Skills Day 2023 Theme:

- Skilling Teachers, Trainers, and Youth for a Transformative Future.

What is Namda Art?

- Origin and Introduction:
  - ○ Namda Art began in the 16th century when Mughal Emperor Akbar desired protective coverings for his horses.
  - ○ It was introduced to Kashmir by Sufi saint Shah-e-Hamdan.
- Creation and Materials:
  - ○ Namda is a type of traditional Kashmiri felted carpet made using sheep wool.
  - ○ The wool is compressed and matted together; a process known as felting, giving it a distinct texture.
- Manufacturing Process:
  - ○ Namda carpets are typically created by layering multiple wool layers on top of each other.
  - ○ Each layer is sprinkled with

water and pressed using a tool called a 'pinjra' (woven willow wicker).

- ○ The layers are compressed to create a solid and durable carpet.
- Decline and Revival:
  - ○ Due to low availability of raw material, lack of skilled manpower and marketing techniques, the export of this craft has declined almost 100% between 1998 and 2008.
- Hence, the Skill India project under the PradhanMantri-KaushalVikasYojana (PMKVY) has designed a short-term training curriculum to preserve this endangered craft.
  - ○ The training provided under this initiative has empowered local artisans and helped preserve this traditional craft for future generations.
  - ○ Kashmir has also been seeking GI registration for various products, including Kashmir Namda and Gabba (two types of Valley-specific woollen rugs) (besides Wagguv (mat made of reed and paddy straw), Shikara and Kashmir Willow bat).

State-level commission for sanitary workers

- National Commission for Safai Karamcharis Chairperson M. Venkatesan urged the TN government to establish a State-

level commission for sanitary workers in order to redress their grievances.

- State-level commissions were established in 11 States in the country.
- In India, Tamil Nadu recorded the second highest number of deaths of sanitary workers while cleaning septic tanks.
- Uttar Pradesh tops in this list.
- 225 lives lost between 1993 and 2023.

GI Tag for Authoor betel leaves

- Geographical Indications Registry issued the GI Tag for Authoor betel leaves to Thoothukudi district administration.
- These betel leaves are nurtured by Thamirabarani river water.
- The leaves also find a mention in the 13th-Century book 'The Travels of Marco polo.
- The district is also waiting for the GI tag recognition of Kayathar lemon, Srivaikuntam banana, and Udangudi Karupatti.

NANDI Portal

- The Union Minister of Fisheries, Animal Husbandry & Dairying Parshottam Rupala inaugurated

NANDI (NOC Approval for New Drug and Inoculation System) portal at Krishi Bhawan, New Delhi.

- The portal was developed by the Department of Animal Husbandry and Dairying (DAHD).
- It aims to facilitate the process of granting No Objection Certificates (NOC) for veterinary drugs and vaccines in India

Swachh Survekshan 2023

- The 8th edition of world's largest urban swachhata survey, Swachh Survekshan 2023 –

Mera Shehar, Meri Pehchan, is going to start

- The Ministry of Housing and Urban Affairs (MoHUA) launched the Field Assessment for Swachh Survekshan (SS) 2023.
- Under SS 2023, around 3,000 assessors will take the field for assessment from 1 July 2023.
- The assessors will study performances of 4500+ cities across 46 indicators and it is expected to be completed within a month.

India's first Tele-MANAS chatbot

- India's first Tele-MANAS chat-

bot, which will start an instant conversation with people in distress, was launched in J&K.

- The initiative will ensure round-the-clock services for health counsellors, clinical psychologists and consultants.
- This year Kashmir saw the highest number of distress calls to the Tele-Manas centre.

State Government

Jharkhand issues PESA draft rules for consultations

Context

- The Jharkhand government has released draft rules for public consultation to implement The Provisions of the Panchayats (Extension to Scheduled Areas) Act (PESA) enacted in 1996.
- In Jharkhand, Scheduled Areas are identified by the Fifth Schedule of the Constitution, covering 13 out of 24 districts in the state.
- The draft rules grant gram sabhas in Scheduled Areas certain rights, such as resolving traditional and family disputes, hearing specific cases under the Indian Penal Code (IPC), and maintaining peace and order in

accordance with the principles of the Constitution.

About PESA Act:

- The PESA Act was enacted in 1996 "to provide for the extension of the provisions of Part IX of the Constitution relating to the Panchayats to the Scheduled Areas".
- Part IX, comprising Articles 243-243ZT of the Constitution, contains provisions relating to municipalities and cooperative societies.
- Under the Act, Scheduled Areas are those referred to in Article 244(1), which says that the provisions of the Fifth Schedule shall apply to the Scheduled Areas and Scheduled Tribes in states other than Assam, Meghalaya, Tripura, and Mizoram.

- The Fifth Schedule provides for a range of special provisions for these areas.
- Ten states — Andhra Pradesh, Chhattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, and Telangana — have notified Fifth Schedule areas that cover (partially or fully) several districts in each of these states.
- **Purpose:** Self-governance recognises the right of tribal communities and empowers Gram Sabha.
- In which year PESA Act was enacted?
  a) 1994
  b) 1995
  c) 1996
  d) 1992
  Ans : (c)

Godda (Jharkhand)

- Bangladesh will get power supply from the 1600 MW Ultra Super-Critical Thermal Power Plant (USCTPP) at Godda, Jharkhand. This project is India's first commissioned transnational power project, where 100% of the generated power is supplied to another nation.

- The plant's operations include 100% flue gas desulphurization, selective catalytic reconverter, and zero water discharge for minimizing emissions and ensuring environment-friendly operations.

- Godda is mostly famous for the Rajmahal coalfield in Lalmatia. It is known for its hills and small forests. The mine present here is an integral part of ECL coalfields and is among the biggest in the whole of Asia.

Why Mizoram is often hit by livestock diseases

Context

- Mizoram has been facing multiple disease outbreaks affecting its livestock and wildlife.

- Recently, over 200 goats died from PPR (peste des petits ruminants) or goat plague in two villages of Serchhip district.

- In the same district, more than 1,000 pigs had died of African swine fever in the pas

- Additionally, there have been localized outbreaks of FMD (foot-and-mouth disease) in Siaha district, affecting mithuns (semi-wild bovines locally known as 'gayal').

- In the past, the state has also witnessed the death of Himalayan serows due to sarcoptic mange, a skin disease caused by mites.

- The vulnerability of both domestic and wild animals in Mizoram to fatal diseases is attributed to the possibility of infected animals coming in from across the long international and interstate borders of the state.

- Mizoram shares borders with Bangladesh, Myanmar, Assam, Manipur, and Tripura, leading to large-scale imports of animals and poultry, which increase the risk of diseases entering the state.

- The lack of proper quarantine and disease-checking procedures for animals procured from neighbouring areas, such as the Cachar district in Assam, has also contributed to the spread of diseases in Mizoram.

- The Animal Husbandry and Veterinary Department faces challenges in tackling animal diseases due to a shortage of veterinarians and the absence of an epidemiologist.

- Which state is often the by Licestock diseases?
  a) Mizoram
  b) Arunachal Pradesh
  c) Jammu & Kashmir
  d) TamilNadu
  Ans :

Tamil Nadu soil portal

- Tamilnadu Chief Minister inaugurated a portal to help farmers know the soil health of their land.

- He also released a coffee table book, Netta Netta Panaimarame, on palmyra trees.

- Farmers could access the portal to know the soil health status through a geo-referenced survey number.

- Farmers could also get other details such as pH, organic carbon and calcareousness

First 1000 – Best Healthy Days

- Tamil Nadu Health Ministry launched the 'First 1000 – Best Healthy Days' programme.

- It aims at monitoring the nutrition of pregnant women and newborns for the first 1,000 days.

- It was inaugurated at the Primary Health Centre in Thimiri block near Arcot.

- This scheme is being implemented in all the 23 Community Health Centers and 116 Primary Health Centres of 14 districts based on the poor maternal and child health indicators in the State.

- In two years, 74,400 infants will be covered under the initiative.

Monthly pay for urban local body representatives

- In a first, the Tamil Nadu government has decided to pay a monthly honorarium for all elected representatives of urban local bodies, including mayors.
- The honorarium for mayors will be Rs 30,000 per month, deputy mayors will get Rs 15,000, and corporation councillors will get Rs 10,000 per month.
- Municipal chairpersons will get Rs 15,000, vice-chairpersons Rs 10,000, and municipal councillors Rs 5,000.
- Chairpersons of town panchayats will get Rs 10,000, vice-chairpersons will get Rs 5,000 every month throughout their tenure.

Tamil Nadu Day - July 18

- Former Chief Minister C.N. Annadurai, passed a resolution on July 18th 1967, to rename the Madras State as Tamil Nadu.
- The previous AIADMK government had announced that November 1 would be observed as Tamil Nadu Day from 2019.
- The then Madras Presidency, became Andhra Pradesh, Karnataka and Kerala on November 1, 1956.
- When is celebrated "Tamilnadu Day"?
  a) July 18
  b) November 01
  c) July 15
  d) April 1
  Ans : (a)

Manarkeni app

- Tamil Nadu School Education Department has launched an app called 'Manarkeni'.
- This app will have videos in English and Tamil based on concepts from the Tamil Nadu State Board syllabus across all classes.
- This have been created by the State Council for Educational Research and Training (SCERT).
- This initiative aims to encourage students to understand concepts better and promote critical thinking.
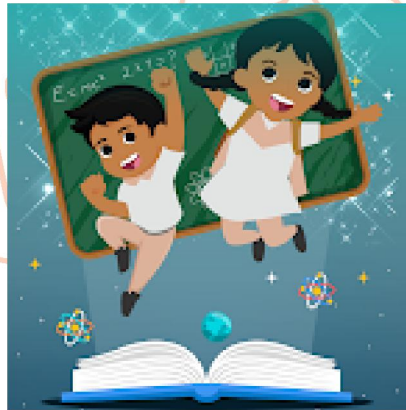
New Geographical Indications – Uttar Pradesh

- The Geographical Indications Registry in Chennai has given tags to seven different products from Uttar Pradesh.
- These products represent the rich heritage and craftsmanship of the region.
- They are Amroha Dholak, Mahoba Gaura Patthar Hastashlip, Mainpuri Tarkashi, Sambhal Horn Craft, Baghpat Home Furnishings, Barabanki Handloom Product, Kalpi Handmade Paper.

Hemis festival

- The legendary two days Hemis festival was celebrated in Leh in Ladakh.
- It's also popularly known as Hemis Tses-Chu.
- It is celebrated to commemorate the birth anniversary of Guru Padma sambhava.
- Guru Padma sambhava was introduced and flourished Vajrayana Buddhist tradition in the entire Himalayas.
- Guru Padma sambhava is popularly known as the second Buddha.

Revival of Namda Art of Kashmir

- The Namda craft of Kashmir is being successfully revived under a Skill India's Pilot Project as part of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY).
- The first batch of Namda Art products are exported to the United Kingdom (UK) initiated recently.
- Nearly 2,200 candidates from across six districts of the state, receiving training in the dying art form.
- The project sets a great example of the public-private partnership (PPP) model in the field of skill development, as it is being implemented in

collaboration with local industry partners.

Lumpy skin disease positive state

- Nagaland has been officially declared as a Lumpy Skin Disease (LDS) positive state.
- This is announced in accordance with the "Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009.
- This disease is caused by the Capripox virus also known as the "Neethling."
- Lumpy skin disease is a poxviral disease with significant morbidity in cattle.
- Although the mortality rate is generally low, economic losses result from loss of condition, decreased milk production, abortions, infertility and damaged hides.

Deletion of MGNREGA Job Cards

- More than five crore job cards under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) were cancelled in 2022-23.
- This is 247 per cent more than the number of deletions in 2021-22
- In 2021-22, 1,49,51,247 MGNREGA job cards were deleted.
- In 2022-23, 5,18,91,168 job cards were cancelled.
- West Bengal, Andhra Pradesh and Telangana were among the states which saw the highest number of deletions.
- The deletions were made due to reasons like "fake" job cards, duplicate job cards, people not willing to work anymore, family shifted from Gram Panchayat permanently, or person's death.

Kalaignar Magalir Urimai Thogai – Guidelines

- The Tamilnadu State government released the operational guidelines for the implementation of 'Kalaignar Magalir Urimai Thogai'.
- The scheme has been touted as the first-of-its-kind programme in the country.
- It is to be launched on September 15, the birth anniversary of former Chief Minister Annadurai.
- Women, who have completed 21 years of age (born before September 15, 2002), are eligible to apply for the scheme.
- Only one-woman member in a ration card is eligible to apply.

Other Eligibility criteria:

- Women with an annual family income of less than Rs. 2.5 lakh.
  ○ Family land holding not exceeding 5 acres (wetland) and 10 acres (dryland).
  ○ Annual household electricity consumption below 3,600 units.

Ineligible for scheme:

  ○ Women with an annual family income exceeding Rs.2.5 lakh and who are income tax assesses.
  ○ Those with more than Rs.2.5 lakh annual income and paying professional tax
  ○ Employees of Central and State governments/
  ○ Elected representatives (excluding village panchayat ward members),
  ○ Those having four-wheelers such as cars, jeeps, tractors and heavy vehicles for personal use are also ineligible.
  ○ "Families that are receiving aid from social security programmes such as old-age pension, widow pension, pension from the welfare board for the unorganised sector.
- A sum of Rs.7,000 crore has been allotted in the Budget for this scheme.
- What is the name given to the Women's Basic income Scheme?
  a) Dharmambal Ammaiyar Ninaivu Scheme
  b) Moovalur Ramamirtham Ninaivu Scheme
  c) Kalaignar Magalir Urimai Thogai
  d) Annai Therasa Ninaivu Scheme

Ans : (c)

VIII. Geography – Geographical marks

Change in colour of world's Ocean

Context

- A new study published in Nature reveals that climate change has caused a change in the colour of 56 per cent of the world's oceans.

- The study found that waters in the tropics, particularly the southern Indian Ocean, have turned green. Green-coloured water indicates an increase in phytoplankton, microscopic plant-like organisms that are crucial for marine life and carbon dioxide absorption.

- Phytoplankton, which are microscopic plant-like organisms that live in the ocean. Phytoplankton contains chlorophyll, a pigment that gives them a green colour. The change in ocean colour is an indicator of alterations in the phytoplankton communities.

- The researchers analysed data from the Moderate Resolution Imaging Spectroradiometer (MODIS) aboard the Aqua satellite, which has been monitoring ocean colour for two decades. They
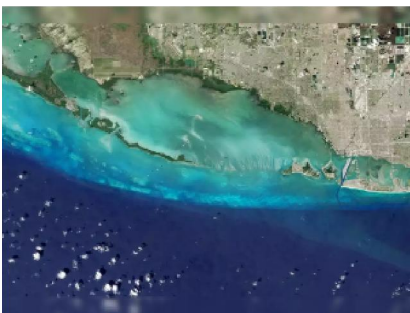
Ghaggar River

- Context

- In early July this year, the Ghaggar River and its tributaries in Haryana, caused widespread devastation after reclaiming their floodplains.

- The river, including its tributaries Tangri, Markanda, and others, were previously considered dead and heavily encroached upon. However, due to heavy monsoon rains in the Shivalik hills, the rivers flooded their catchment areas and breached their banks, resulting in significant losses.

- Additionally, unscientific and illegal mining has harmed the natural balance of rivers like the Ghaggar and Yamuna.

About Ghaggar-Hakra River

- It is an intermittent river in India and Pakistan that flows only during the monsoon season. The river is known as Ghaggar before the Ottu barrage and as Hakra downstream of the barrage in the Thar Desert. In pre-Harappan times the Ghaggar was a tributary of the Sutlej.

- **Origin:** It originates in the village of Dagshai in the ShivalikHillsof Himachal Pradesh and flows through Punjab and Haryana states into Rajasthan.

- **Tributaries:** The main tributaries of the Ghaggar are the Kaushalya River, Markanda, Sarsuti, Tangri and Chau

Steel Slag Roads

Context

- India has developed the world's latest Steel Road technology by using steel slag.

What is Steel Slag Road?

- Steel slag is a byproduct of steelmaking, and is produced during the separation of molten steel from impurities in steelmaking furnaces.

- Steel slag roads are roads constructed using steel slag. Instead of discarding this waste material, it is processed and used as an aggregate in road construction.

- The steel slag is mixed with other materials and technologies to create a durable and sustainable road surface.

- **Developed by:** The technology, pioneered by CSIR-Central Road Research Institute (CRRI), allows for the large-scale utilization of waste steel slag from steel plants in road construction.

Benefits:

- It is part of the "Waste to Wealth" initiative and addresses environmental degradation caused by waste steel slag.
- Steel slag roads are well-suited to India's terrain, offering cost savings of 30% and three times the lifespan of traditional roads.
- It is resistant to weather conditions.
- The success of steel slag roads has been demonstrated in various projects, including in Surat, Arunachal Pradesh, and on National Highway NH-66.

Parkachik Glacier in Ladakh

Context

- A new study conducted by scientists from the Wadia Institute of Himalayan Geology reveals changes in the Parkachik Glacier in Ladakh, India.
- The research also estimated the surface ice velocity of the glacier, showing a reduction of about 28% in the lower ablation zone between 1999-2000 and 2020-2021.
- Based on simulations, if the glacier continues to retreat at a similar rate, the study predicts that three lakes of different sizes may form due to subglacial over-deepening.
- There are two main reasons for the rapid melting of the glacier:
- First is global warming and increasing temperatures in the region

- Second is that it is at a lower altitude than other glaciers in the Zanskar region

About the glacier:

- Parachik Glacier is a mountain glacier in Kargil, Ladakh. It is a mass of ice moving slowly down the Nun-Kun slopes. This ice mass falls finally into the Suru River. It is one of the largest glaciers in the Suru River valley, covering an area of 53 square km and is 14 km long. The Suru River valley is a part of the southern Zanskar Ranges in the western Himalayas
- July 29, 2023 /29 July 2023, 3 new lakes may form in Parkachik Glacier in Ladakh due to glacial retreat.

Gulf Stream

Context:

- A scientific study has raised concerns that the Gulf Stream system, known as the Atlantic Meridional Overturning Circulation (AMOC), could collapse as early as 2025.
- The AMOC drives the Atlantic's currents and plays a crucial role in determining Europe's weather. If it were to collapse, it could lead to lower temperatures and catastrophic climate impacts.
- The Intergovernmental Panel on Climate Change's most recent assessment suggests that the collapse of AMOC may not happen as quickly as the study proposes. The complexity of the

climate system makes it difficult to have certainty about the exact timing and occurrence of such a collapse.

About Gulf Stream:

- The Gulf Stream is a powerful ocean current in the North Atlantic Ocean. It originates in the Gulf of Mexico and flows northeastward along the eastern coast of the United States, then across the Atlantic towards Europe. It plays a significant role in regulating the climate by transporting warm water and heat from the tropics to higher latitudes, influencing weather patterns and temperatures in coastal regions.

About AMOC:

- It is a large system of ocean currents. It is the Atlantic branch of the ocean conveyor belt or ThermoHaline Circulation (THC) and distributes heat and nutrients throughout the world's ocean basins.
- AMOC carries warm surface waters from the tropics towards the Northern Hemisphere, where it cools and sinks.
- It then returns to the tropics and then to the South Atlantic as a bottom current. From there it is distributed to all ocean basins via the Antarctic Circumpolar Current.
- The ACC is the most important current in the Southern Ocean, and the only current that flows completely around the globe.

Ministry of Earth Sciences

- The Ministry of Earth Sciences (MoES) celebrated its 17th foundation day with the launch of several citizen-centric initiatives.

- **Aim:** These initiatives aim to enhance weather services, disseminate information, and promote ocean-related services and biodiversity.

Major Initiatives launched:

- Four new meteorological centres were inaugurated in Imphal (Manipur), Kohima (Nagaland), Aizawl (Mizoram), and Port Blair (Andaman and Nicobar).

- A new website for disseminating alerts for block-level weather forecasts and advisories to benefit our agricultural community, including farmers, fisherfolk, and livestock rearers.

- **Rainfall Atlas of India (1971-2020):** prepared by IMD, using data from 4389 rain gauges and is expected to provide resources for various agencies, researchers, students and operational meteorologists.

- **Indian Ocean Biodiversity Information System (IndOBIS):** a web portal that features the biodiversity of the Indian Ocean Exclusive Economic Zone and also provides information on marine species of the Indian Ocean.

About MoES:

- The Ministry of Earth Sciences was formed on 29 January 2006 (HQ: New Delhi) from a merger of the India Meteorological Department, the National Centre for Medium-Range Weather Forecasting, the Indian Institute of Tropical Meteorology, Pune, the Earth Risk Evaluation Centre, and the Ministry of Ocean Development. It plays a crucial role in providing services for weather, climate, ocean, hydrology, and seismology.

The Offshore Areas Mineral (Development and Regulation) Amendment Bill, 2023

Context

- The Offshore Areas Mineral (Development and Regulation) Amendment Bill 2023 to amend the offshore areas mineral law was introduced in LokSabha.

About the bill:

- The bill, prepared by the Ministry of Mines, seeks to amend the Offshore Areas Mineral (Development and Regulation) Act 2002, to allow auction of minerals mined offshore.

Purpose behind amending the 2002 Act:

- **To mine rocks under the sea:** Under the original Act, not even a single rock could be not mined out from the sea bed mainly due to pending litigations.
  - Hence, the Bill allows the use of the national wealth in the sea for the use of the people of the country.

- **To provide an auction of minerals mined offshore:** The original Act does not allow the auction of such minerals.

- **To facilitate private sector participation:** In the mining of non-atomic minerals in India's territorial waters and continental shelf.
  - Meanwhile, the bill includes a provision to grant mineral concession without competitive bidding to Government companies or corporations.
  - However, private companies might be encouraged to contribute cutting-edge technologies for the execution of complex mining operations.

- **To improve transparency in the allocation of mineral resources:** With a provision for granting production leases only through auction, Mint reported.

- **To grant an exploration licence or production lease:** Only to a government company in case the quality of minerals in that particular area is equal to or above the threshold value decided by the Centre.

- **To propose area under a production lease:** Such areas shall comprise contiguous standard blocks and shall not exceed an area of 15 minutes latitude by 15 minutes longitude.

- **To promote ease of doing**

business: A provision has been made for easy transfer of exploration licence, composite licence or production lease.

- **To remove discretion in the grant of renewals:** The provisions for renewal of production leases have been removed and the period of production lease has been increased to 50 years.

- **To grant powers to the central government:** To revise the order made by the Administering Authority, issue directions and call for information from the Administering Authority, in the public interest.

What India gains from this Bill?

- As India aims to become a high-growth economy, it needs to harness its maritime resources to its optimal capacity.

- The bill encourages the participation of the public-private sector.

- The private sector will bring the necessary expertise and technology to explore and mine the mineral resources present in the EEZ.

Mangrove Mitra Programme (Odisha)

Context

- At least 25 families in Odisha'sKendrapara district have donated over 25 acres of their land near Bhitarkanika National Park (BNP) for mangrove plantation under the Mangrove Mitra Programme. The park has 82 mangrove species, but the expansion of aquaculture and agriculture has degraded the mangrove habitats in the region.

- The land donation is aimed at regenerating mangrove forests during the monsoon season. The Bhitarkanika mangrove ecosystem is India's second-largest, but it has suffered losses due to deforestation caused by resettlement and human activities. Activists emphasize that mangrove forests offer the best insurance against such natural calamities.

- The 2021 Forest Survey of India report said the mangrove forest cover in the country increased by 17 square km over the previous two years.
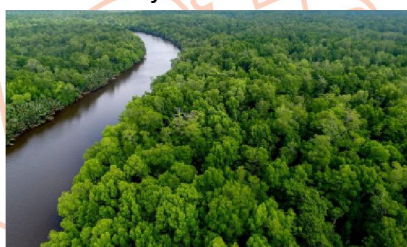
- **Use**: The initiative shows the values of Environmental stewardship and conservation, Community solidarity and collaboration, and Recognition of the importance of natural ecosystems for protection against calamities.

Silvopasture systems

Silvopasture systems

- They are a sustainable land management approach that combines trees, livestock grazing, and forage production on the same land, providing ecological and economic benefits.

Advantages:

- Improved local climate resilience: Creating favourable Microclimates

- Can play a vital role in reversing deforestation trends caused by increased demand for pasture.

- Silvopasture acts as a natural carbon sink, reducing carbon dioxide emissions significantly

- It regulates local climatic conditions, buffering against temperature and wind extremes, providing a favourable environment for livestock, thus improving animal welfare

Enhancing soil quality

- **Significance:** Transitioning to more silvopasture systems by Indian farmers can help address the threats of climate change and land degradation, offering a promising solution for resilient agricultural landscapes in the face of deteriorating natural resources and forests.

J&K's trout farming

Context

- Introduced in the early 1900s, trout fish has become a staple on the Valley's menu, and an increasing number of farmers are now eyeing opportunities to export trout to meet European demand.

- The favourable water and climatic conditions in Kashmir, similar to Europe, attracted

small farmers initially, and now educated unemployed youth are joining the sector.

- The demand for trout is high, leading to solid profits for farmers, and the government offers subsidies to support the establishment of trout farms. However, climate change poses a potential threat to the industry, as the fish require specific conditions to thrive.

- Despite this challenge, the government is taking measures to combat climate change's impact by offering subsidies to set up Recirculating Aquaculture Systems (RAS) for trout farming.

Promoting Coal Gasification in India

Why in News?

- The Ministry of Coal is considering a Comprehensive Scheme to promote Coal Gasification, aiming to achieve 100 Million Tonne (MT) coal Gasification by FY 2030.

- The Ministry is also considering an incentive to reimburse the Goods and Services Tax (GST) compensation cess on coal utilized in gasification projects for a period of 10 years after the commercial operational date (COD), provided that the GST compensation cess is extended beyond FY27. This incentive aims to offset the inability of entities to claim Input Tax Credit for the same.

What are the Key Points of the Scheme?

- **About:**
  - ○ The initiative incorporates a comprehensive set of measures that capitalize on natural resources and demonstrate financial and technical feasibility of Coal Gasification.
  - ○ It aims to attract Government PSUs and the Private Sector, fostering innovation, investment, and sustainable development in the coal gasification sector.

- **Process:**
  - ○ The selection of entities for the coal/lignite gasification scheme will be carried out through a competitive and transparent bidding process.
  - ○ The government will provide budgetary support to eligible Government PSUs, and Private sector enabling them to undertake coal gasification projects.

Significance:

- This initiative holds the potential to alleviate the environmental burden by reducing carbon emissions and fostering sustainable practices, contributing to our global commitments towards a greener future.

What is Coal Gasification?

- **About:**
  - ○ Coal gasification is a process in which coal is partially oxidized with air, oxygen, steam or carbon dioxide to form a fuel gas.
  - ○ This gas is then used instead of piped Natural Gas, methane and others for deriving energy.
  - ○ In-situ gasification of coal – or Underground Coal Gasification (UCG) – is the technique of converting coal into gas while it is still in the seam and then extracting it through wells.

- **Production of Syngas:**
  - ○ It produces Syngas which is a mixture consisting primarily of methane (CH_4), carbon monoxide (CO), hydrogen (H_2), carbon dioxide (CO_2) and water vapour (H_2O).
  - ○ Syngas can be used to produce a wide range of Fertilizers, Fuels, solvents and synthetic materials.

- **Significance:**
  - ○ Steel companies can reduce costs by replacing expensive imported coking coal with syngas from coal gasification plants in their manufacturing process.
  - ○ It is primarily used for electricity generation, for the production of chemical feedstocks.
  - ○ The hydrogen obtained from coal gasification can be used for various purposes such as making ammonia and powering a hydrogen economy.

What is the Need for Promoting Coal Gasification Projects in India?

- The adoption of gasification technology in India can revolutionize the coal sector, reducing reliance on imports of Natural Gas, Methanol, Ammonia and other essential products.
  - Currently, India imports approximately 50% of its Natural Gas, over 90% of its total Methanol consumption and around 13-15% of its total ammonia consumption to cater to the domestic demand.
- It can contribute to India's vision of becoming Aatmanirbhar and create a surge in employment opportunities.
- The implementation of coal gasification is expected to make significant contributions to the nation's development by reducing imports by 2030.

Climate Shifts in Kaas Plateau

Why in News?

- A recent study conducted by the Agharkar Research Institute (ARI) and the National Centre for Earth Sciences has shed light on significant climate shifts in the Kaas Plateau during the Early-Mid-Holocene and late Holocene Periods.
- The researchers studied the sediments of a seasonal lake to understand and decipher the past climate of the Kaas Plateau.

What is Kaas Plateau?

- The Kaas Plateau, located in Maharashtra's Satara district, is a UNESCO World Natural Heritage Site and a designated biodiversity hotspot.
- Known as KaasPathar in Marathi, its name is derived from the Kaasa tree, botanically known as Elaeocarpusglandulosus (rudraksha family).
- The plateau have various seasonal flowers forming a floral carpet over the entire lateritic crust during August and September.

What are the Key Findings of the Study?

- Ancient Lake and Environmental Preservation:
  - The present "Flower Wonder" of the Kaas Plateau is located on an ancient lake that dates back to the Early-Mid-Holocene period, approximately 8000 years ago.
  - The seasonal lake has been preserved over a long time and provided valuable insights into the past climate of the region.
- Climate Shifts during the Early-Mid-Holocene:
  - Around 8664 years ago, there was a change in the climate from freshwater to drier conditions with low rainfall.
  - Pollen and diatom data indicated a major shift in the Indian summer monsoon activity during this time.
  - Despite the drier conditions, there were intermittent humid periods suggested by a significant rise in the number of diatoms.
- Late Holocene Climate Changes:
  - During the late Holocene, approximately 2827 years ago, there was a decrease in rainfall and a weakened Southwest Monsoon.
- Recent Environmental Impact:

○ Over the last 1000 years, there is evidence of lake Eutrophication, indicated by the presence of high numbers of planktonic and pollution-tolerant diatom taxa.

• Eutrophication is the process of a water body becoming overly enriched with minerals and nutrients which induces excessive growth of algae or algal bloom, thereby, leading to oxygen depletion of the water body.

○ Human activities, including agriculture and cattle/livestock farming in the catchment area, likely contributed to this environmental impact.

• Monsoon Intensity and Duration:

○ The southwest monsoon intensified during the Early Holocene, around 8000 years ago.

○ The northeast monsoon relatively weakened around 2000 years ago.

○ It is likely that the 'Flower Wonder' of the Kaas Plateau existed for a longer duration, up to March-April, during the early–mid-Holocene (8000–5000 years), when the monsoon rainfall was more abundant, with more than 100 rainy days.

Mangrove cover restoration in Pichavaram

• The Tamil Nadu Forest Department has drawn up a comprehensive plan for the reha-

bilitation of coastal habitats by creating bio-shields, and restoring degraded mangroves in Cuddalore district.

• The Department will increase mangrove cover in the region by 100 hectares for the year 2023-24.

• The Pichavaram mangroves are among the most productive ecosystems in the State, and are a storehouse of biodiversity.

• It is supporting 840 species of flora and fauna.

• These includes 115 species of birds, 16 species of mammals, 11 amphibians, 177 species of finfish, 95 species of zooplanktons, 82 phytoplanktons, 35 species of butterflies, 17 snakes and 3 species of seagrass.

• The mangrove cover in Tamil Nadu is 44.94 square kilometres (sq km), out of which 7.73 sq km fall in Cuddalore.

• About 21% of Pichavaram is occupied by waterbodies, 27% by

healthy mangrove vegetation, 38% by mudflats with sparsely grown mangroves.

Road Networks in India

• India now has the second-largest road network in the world, after the US.

• In 2013-14, the total length of National Highways was 91,287 km has increased to 1,45,240 km in 2022-23.

• India has a total length of 4,219 km of expressways.

• The total length of National Highways in India has increased by about 59% in the last nine years.

• Toll revenue rose from Rs 4,770 crore in 2013-14 to Rs 41,342 crore in 2022-23 (the aim is to increase toll revenue to Rs 1,30,000 crore by 2030).

• The waiting time at toll plazas has reduced from 734 seconds in 2014 to 47 seconds in 2023, with a goal of further reducing it to 30 seconds.

List of "Critical Minerals for India"

- The first ever report of the country on the "Critical Minerals for India" unveiled recently.
- The Centre has identified 30 critical minerals, including lithium, cobalt, nickel, graphite, tin and copper.
- They are essential for the country's economic development and national security.
- Minerals are natural substances that are formed by geological processes.
- Different countries may have their own unique lists of critical minerals based on their specific circumstances and priorities.
- The US has declared 50 minerals critical in light of their role in national security or economic development.
- Japan has identified a set of 31 minerals as critical for their economy.
- The UK considers 18 minerals critical, EU (34) and Canada (31).

Chennai-Vladivostok maritime route

- India and Russia are keen to make the Chennai – Vladivostok maritime route operational.
- The Vladivostok – Chennai route passes through the Sea of Japan, the South China Sea and Malacca Strait.
- The proposed route is expected to take only 12 days, compared to the current route's duration of 32 days.
- The new route would provide India with access to the Far East and open up opportunities for trade between the two countries.

Phosphate Discovery

- A huge deposit of a valuable mineral called phosphate has been discovered in Norway.
- It can be used to power electric cars and solar panels.
- There are up to 70 billion tonnes of phosphorus in the deposit.
- It is enough to meet demand for the next 50 years.
- Previously, the largest amount of phosphate rock was found in Morocco's western Sahara region, with approximately 50 billion tonnes.
- China (the largest phosphate producer in the world) and Egypt also have significant phosphate reserves.
- The refining process for phosphorus extraction can be highly polluting.

New methane source

- Climate change is causing groundwater springs to release methane in the Arctic.
- The retreating glaciers expose these methane-rich springs.
- The groundwater springs found in Svalbard, an archipelago in the Arctic, could be emitting over 2,000 tonnes of methane.
- This figure equals 10 per cent of the methane emissions from Norway's annual oil and gas energy industry.
- Methane, a greenhouse gas, is 84 times more potent than carbon dioxide on a 20-year timescale.

Giant 'gravity hole' in Indian Ocean

- Researchers at the Indian Institute of Science have revealed the secrets of the giant gravity hole in the Indian Ocean.
- It is known as the Indian Ocean Geoid Low (IOGL).
- Discovered in 1948, just south of Sri Lanka, by Dutch geophysicist Felix Andries Vening Meinesz.
- It covers over two million square miles and sits around 600 miles beneath the Earth's crust.
- The huge anomaly has significantly lower gravity than the average.
- The presence of lighter materials in the upper to mid-mantle, were responsible for the gravity low in this region.
- This mantle structure beneath the Indian Ocean was probably produced by the leftovers of a long-lost Tethys Ocean's seabed.

Carbon-dioxide Auroras

- NASA's satellite spots infrared carbon dioxide aurora from outer space.

- An aurora is a natural light display those shimmers in the sky.

- When charged particles crash into the planet's atmosphere, they interact with many different atoms and molecules.

- Carbon dioxide is one of them.

- When carbon dioxide molecules about 90 kilometres above Earth become excited during an aurora, they emit infrared radiation.

Animal Discoveries - New Species and New Records 2023

- India added 664 animal species to its faunal database in the year 2022.

- These comprise 467 new species and 197 species found in India for the first time.

- The country also added 339 new plant taxa – 186 taxa that are new to science and 153 taxa as new distributional records from the country in 2022.

- Among the major fauna species discovered are three new species and one new record of mammals; two new records of birds; 30 new species and two new records of reptiles; six new species and one new record of amphibia; and 28 new species and eight new records of fish.

- The maximum number of new faunal discoveries has been of invertebrates with 583 species, while vertebrates constitute 81 species.

- Insects dominate among invertebrates with 384 species.

- In 2022, the maximum (82) new discoveries were recorded from Kerala.

- Karnataka is followed with 64 new species and 24 new records accounting for 13.2%.

- Tamil Nadu saw 71 new discoveries and 13 new records contributing to 12.6% of all the new discoveries and new records in the country.

- Plant Discoveries 2022' contains an enumeration of 339 taxa, which have been added to the Indian flora during 2022.

- These comprise 319 species, and 20 infraspecific taxa as new to the Indian flora.

Forest cover in Western Ghats

- The Western Ghats saw a loss of 5% evergreen forest cover with an increase of 4.5% built-up cover, and 9% agriculture area.

- It is one among 36 global biodiversity hotspots.

- IISc's Energy and Wetlands Research Group launched the Western Ghats Spatial Decision Support System (WGSDSS).

- It has been designed as part of the ongoing ecological research in the Western Ghats.

- Grid wise analysis portrays 32% of the area under ESR-1 (Ecologically Sensitive Region) denoting very high ecological fragility.

- 16% (373) of grids under ESR-2, which has potential to be ESR-1.

- 34% (789) and 18% (412) under ESR-3, and 4 respectively.

Gomati River "non perennial river"

- Uttar Pradesh government declaring the Gomti as a "non-perennial river" in 2020.

- Gomti is a tributary of Ganga River and an alluvial river of the Ganga Plain.

- It originates near Mainkot, from Gomat Taala lake also known as Fulhar Jheel in Madhotanda.

- The declaration of the river as a seasonal one takes away from its importance.

Groundwater Extraction Tilts the Earth Report

- As per the Geophysical Research Letters, Groundwater Extraction on Earth's Rotational Axis and its contribution to global sea-level rise.

- Groundwater pumping has tilted Earth nearly 80 centimetres east between 1993 and 2010 alone.

- The water circulated across the planet determines how mass is distributed.

- Between 1993 and 2010, people pumped 2,150 gigatons of groundwater, or more than 6 millimetres of sea level increase.

Gruha Lakshmi scheme

- The Karnataka Chief minister has launched the registration for the Congress government's 'Gruha Lakshmi' scheme.

- It provides Rs.2,000 monthly assistance to the woman head of every family in the state.

- A Women from both Below Poverty Line (BPL) and Above Poverty Line (APL) households are eligible for the scheme as long as they - or the husbands - do not fall under the tax-paying bracket.

IX. Environment

Diversity for Restoration (D4R) tool

Context

- Researchers have developed a tool called Diversity for Restoration (D4R) to aid in agroforestry and ecosystem restoration efforts.

- The tool, initially created by Bioversity International and later adopted by a team from Ashoka Trust for Research in Ecology and the Environment (ATREE) for the Indian context, aims to enhance the effectiveness of restoration programs while promoting sustainable development.

- The online tool helps stakeholders identify suitable tree species for restoration objectives based on their ecological benefits and resistance to local stresses.

- The tool is already being used in various countries and offers recommendations for maximizing restoration success along with propagation information and monitoring suggestions.

It is seen as a comprehensive tool for socio-ecologically responsible restoration.

Climate counsel

- The Maharashtra Onion Farmers Group, consisting of around 2,000 farmer members, has been using social media platforms and in-person gatherings to share localized weather warnings and agricultural strategies to cope with climate change.

- The group helps farmers anticipate and prepare for extreme weather events and other impacts of climate change. They also share traditional and new cultivation methods to build climate resilience. The initiative aims to combat the biggest threat to small and marginal farmers' livelihoods posed by climate change.

Recovery of the Ozone Layer

Context

- World Meteorological Organization (WMO) has released a bulletin (after 7 years gap) indicating a steady recovery of the ozone layer, particularly over the Antarctic region.

About Ozone Layer

- The ozone layer or ozone shield is a region of Earth's stratosphere that absorbs most of the Sun's ultraviolet radiation. It contains a high concentration of ozone (O_3) in relation to other parts of the atmosphere, although still small in relation to other gases in the lower part of the stratosphere (15-35 Km above the surface of the earth)

Key findings

- Montreal Protocol and its amendments are successful in eliminating up to 99% of Ozone Depleting Substances (ODS) (long-lived man-made chemicals which destroy the protective ozone layer)

- It highlights the impact of climate change, which is slowing down the recovery process

and affecting the lower atmosphere's climate.

- The eruption of the Hunga Tonga-Hunga Ha'apai volcano (in the southern Pacific) in January 2022 increased water vapour content in the stratosphere, leading to reduced ozone in the lower stratosphere of the southern hemisphere.

- This additional water vapour is expected to result in more polar stratospheric clouds, enhanced ozone depletion, and larger and longer-lasting "ozone holes" in the future.

- It highlights the importance of monitoring and protecting the ozone layer due to its crucial role in shielding life on Earth from harmful solar ultraviolet (UV) radiation.

Faunal and Floral Database

Context

- In 2022, India witnessed significant additions to its faunal and floral databases. A total of 664 animal species were added, including 467 new species and 197 new records.

- The Zoological Survey of India (ZSI) compiled the faunal discoveries in a publication called "Animal Discoveries – New Species and New Records 2023," while the Botanical Survey of India (BSI) published the plant discoveries in "Plant Discoveries 2022."

Findings:

- The state of Kerala recorded the highest number of new discoveries, with 82 animal species and 15 new records.

- The discoveries encompassed various taxa, including mammals, birds, reptiles, amphibians, fish, insects, and more.

Pichavaram region

- The Tamil Nadu Forest Department has formulated a comprehensive plan to restore coastal habitats and rehabilitate degraded mangroves in the Cuddalore district, particularly in the Pichavaram region.

- Pichavaram consists of a number of islands interspersing a vast expanse of water covered with mangrove forest. The Pichavaram mangrove Forest is one of the largest mangrove forests in India covering about 45 sq km of area. It is separated from the Bay of Bengal by a sand bar.

- When is observed Mangrove Forest Protection day?
  a) July 26
  b) March 22
  c) June 5
  d) April 10
  Ans : (a)

- Why was "MISHTI" (Mangrove Initiative for Shoreline Habitats & Tangible Income) introduced?
  a) To protect mangrove forest
  b) To protect river bank
  c) To protect environment
  d) None of the above
  Ans :

2,200 earthquakes in Iceland in 24 hours

Context

- Nearly 2,200 earthquakes have been recorded in the vicinity of Reykjavik, the capital of Iceland in the past 24 hours.

- The country's meteorological office has warned that this seismic activity could be a signal of an impending volcanic eruption.

- Iceland experiences frequent volcanic activity, due to its location both on the Mid-Atlantic Ridge, a divergent tectonic plate boundary, and over a hot spot. Nearly thirty volcanoes are known to have erupted in the Holocene epoch; these include Eldgjá, the source of the largest lava eruption in human history.

- The Mid-Atlantic Ridge is a mid-ocean ridge (a divergent or constructive plate boundary) located along the floor of the Atlantic Ocean and part of the longest mountain range in the world. In the North Atlantic, the ridge separates the North American from the Eurasian Plate and the African Plate,

north and south of the Azores Triple Junction.

Nitrogen dioxide (NO$_2$) air pollution

Context

- A science review commissioned by the Health and Environment Alliance (HEAL) highlights the significant health impact of nitrogen dioxide (NO$_2$) air pollution.

Key findings

- Exposure to NO$_2$, mainly emitted by road transport and diesel engines, can lead to respiratory and circulatory premature death, asthma development in children and adults, bronchitis in children, and worsen the health of individuals with respiratory or cardiovascular diseases.

WHO Recommendations:

- The World Health Organization (WHO) has now recommends a stricter maximum annual average concentration of NO2 in the air, reducing it from 40μg/m3 to 10μg/m3 based on the growing body of evidence.

Recommendation of HEAL:

- HEAL urges policymakers to change the legally binding limit value for NO$_2$, improve information and air quality indices, enhance monitoring efforts, and regularly review the health effects of NO$_2$ and other pollutants.

About NO$_2$

- Nitrogen dioxide (NO$_2$) is a reddish-brown gas with a pungent odour. It is a highly reactive air pollutant primarily released from combustion processes, such as vehicle emissions and power plants. NO$_2$ plays a significant role in the formation of smog and contributes to respiratory problems. It also contributes to the formation of acid rain and the depletion of the ozone layer.

About HEAL

- The Health and Environment Alliance (HEAL) is the leading not-for-profit organisation addressing how the environment affects human health in the European Union (EU) and beyond.

Carbon circular economy: Promise and challenges

Context

- While CO$_2$ emissions are the problem, a circular economy could be the solution, at least a partial one.

Why are CO$_2$ emissions the problem?

- As we continue to burn fossil fuels and destroy natural habitats, CO$_2$ continues to accumulate in the atmosphere.
- Heat reflected by the earth doesn't all escape to space, some of it is trapped by atmospheric CO$_2$ and other GHGs.
- This leads to warmer land and

oceans, accelerating ice melt, sea-level rise, and extreme weather events and triggers food shortages, disease, loss of lives and property, forced migrations, etc.

- **A linear model of economy:** The alternative – the circular model

- The required natural resources from the ground are taken to make products out of them, used and then thrown away at the end of their lives.

- Take, make, use, recycle, reuse. Here, the product life is extended and the waste created is used as a resource to recreate similar or other products.

- This model is not sustainable Sustainable. This way, dependence on natural resources can go down without compromising comforts or economic growth.

The circular economy for carbon dioxide (CO2):

- **Meaning**: A circular carbon economy is a framework for managing and reducing emissions.

- **It is a closed-loop system involving 4Rs:** reduce, reuse, recycle, and remove.

Need for the circular economy for CO$_2$:

- To stop emitting 'new' CO$_2$ as well as remove some of the CO$_2$ piled up in the atmosphere.
  - For the latter, carbon capture

and utilisation techniques are useful.

○ These are technologies developed to suck CO_2 out of the atmosphere, which can be used to make items such as carbonated drinks, dry ice, and fire retardants, and to synthesise clean high-efficiency fuel.

• The energy transition to renewables is a slow process. The shift to electric vehicles, and decarbonisation (of steel, cement, and plastics manufacturing) will take time.

Challenges towards creating a circular economy for carbon:

• **Approaches and methods are not well developed:** Some of these are already commercial but only at a small scale, while others are still being prototyped and tested.

• **The energy required to capture and repurpose the CO_2:** More energy is required to capture CO_2 and convert it into a litre of fuel than the energy that this new litre of fuel will produce.

• The energy we use to capture and repurpose CO_2 should be clean energy.

The problem with battery electric vehicles

Context

• The government of India is solely promoting battery electric vehicles (BEVs), regardless of the problems associated with them.

Types of EVs:

Types	Description	Examples
Hybrid EVs (HEVs)	These are the vehicles which combine a conventional internal combustion engine (ICE) system with an electric propulsion system - hybrid drivetrain that substantially lowers fuel usage.	Toyota Hyryder in India
Plug-in hybrid vehicles (PHEVs)	A hybrid drivetrain uses both an ICE and electric power for motive power, backed by rechargeable batteries that can be plugged into a power source.	Chevrolet Volt
BEVs	They run on a fully electric drivetrain powered by rechargeable batteries. They have no ICE or fuel tank.	Tata Nexon in India
Fuel cell vehicles (FCVs)	They combine hydrogen and oxygen to produce electricity, which runs the motor, and the only residue of the chemical process is water.	Honda's Clarity

Initiatives for Promoting EVs in India:

• National Electric Mobility Mission Plan (NEMPP)

• The Faster Adoption and Manufacturing of Electric and Hybrid Vehicles in India (FAME India) scheme

• Production-linked incentive (PLI) Scheme – National Programme on Advanced Chemistry Cell (ACC) Battery Storage

• Go Electric Campaign

Why are these initiatives launched?

• To cut emissions and reduce costly fuel imports.

Impact of these initiatives:

• EV sales have increased by more than 2,218% in the last 3 years.

○ Overall sales of EVs in India crossed the 1 million milestone (over 60% of these are two-wheelers) for the first time in 2022-23. However, the total EV sales are ~5%

○ The government target for

EV sales is 30% for private cars, 70% for commercial vehicles and 80% for two and three-wheelers by 2030.

- Other alternatives are ignored: Currently, the Indian government offers clear tax advantages/incentives primarily for one type of vehicle – BEVs – with almost all other vehicle technologies grouped together under the heavy tax bracket.

Issues with BEVs:

- State subsidies cornered by few: The problem is that much of the subsidy or tax breaks end up in the hands of the middle or upper middle classes, who are typically the buyers of battery electric four-wheelers.

- Poor charging network: Only about 2,000 public charging stations are currently operational across the country.

- Different charging demands: For example, e-2W and 3W models in India are suited to slow charging, unlike cars and buses.

- Non-renewable electricity source: In India, the grid is still fed largely by coal-fired thermal plants.

- Import dependence: India is almost entirely dependent on imports from a small pool of countries (Chile, Argentina, Bolivia, Australia and China) to cater to its demand for Li for the production of Li-ion batteries.

Issues with the air pollution control measures in India

Context

- According to a CSE analysis, air pollution impacts villages and cities almost equally but pollution control measures target only urban India.

Findings of the analysis:

- Particulate matter (PM) 5 is an extremely potent air pollutant that can penetrate deep into the lungs and trigger a range of diseases including fatal ones.

- In 2022, the annual average of the most toxic air pollutant – ultrafine particulate matter (PM) 5, was as poor in rural India as in urban India (~46 microgrammes against the national limit is 40 microgrammes).

- The rural PM 5 pollution was found to be significantly high in Delhi (87 microgrammes) and states like Bihar, Haryana, UP, Rajasthan and West Bengal.

- The rural population suffers more than its urban counterpart when it comes to the length of losing life span due to exposure to the toxic pollutant.

Steps taken – The National Clean Air Plan (NCAP):

- It was declared in 2019, with a tentative national level target of 20-30% reduction of PM 2.5 and PM 10 concentration by 2024.

- So far it has released around

Rs 9,000 crores mainly for 131 cities – called non-attainment ones – consistently going above the national air pollution limits.

Takeaways from the findings:

- They put under scanner the Union government's policy of only investing in selected urban areas of the country for controlling toxic air pollution.

- Most rural areas do not even have any on-ground pollution measuring mechanism; forget about combating it.

- Which of the statements given above are correct?
  - a) 1, 3 and 4
  - b) 1 and 4 only
  - c) 2, 3 and 4
  - d) 1 and 2 only

- Ans: (b)

Low-cost perovskite solar cells

Context

- Indian scientists at the International Advanced Research Centre for Powder Metallurgy and New Materials (ARCI), Hyderabad, have developed highly stable, low-cost Carbon-based perovskite solar cells (CPSCs).

- These solar cells overcome the challenges of degradation during operation, making them suitable for large-scale commercialization.

What are Perovskite solar cells (PSCs)?

- Perovskite solar cells (PSCs)

are a type of solar cell that utilizes perovskite materials as the light-harvesting active layer to convert sunlight into electricity. The most commonly used perovskite material in solar cells is methylammonium lead iodide (MAPbI3).

Issues with PSCs?

- Perovskite solar cells (PSCs) face stability issues when exposed to heat, moisture, and other environmental factors.

Significance of PSCs:

- They have gained significant attention in recent years due to their potential to revolutionize the solar energy industry, offering advantages such as low-cost manufacturing, high efficiency, and the ability to be printed onto flexible substrates.

Cicada species

Context

- A cicada species commonly found in several parts of South India has been identified as a new species and named Puranacheeveeda (after its Malayalam name Cheeveedu).
- Previously, it was mistaken for Puranatigrina, a species described in Malaysia in 1850.

The Association for Advancement in Entomology has corrected this long-standing error in taxonomic identification, distinguishing Puranacheeveeda from the Malaysian species.

- The team noticed differences in the structure of the male genitalia and operculum, leading to the reclassification.

Gambusia

Context

- The Andhra Pradesh government released around 10 million Gambusia fish, also known as mosquitofish, into the state's water bodies to combat mosquito-borne diseases like malaria and dengue.
- The fish is used as a biological agent to control mosquito larvae and has been part of mosquito-control strategies in India since 1928.
- Gambusia fish are known for their high breeding capacity and adaptability, allowing them to survive in diverse environments.

Checking indiscriminate use of groundwater for irrigation

- Context: There is a need to urgently address the pressure on groundwater resources, starting with irrigation water use.

Concerns of Groundwater situation in India

- India is the largest user of groundwater in the world, extracting more than the two largest economies, the United States and China, together.
- Growing domestic, industrial and agricultural demand is increasing the stress on groundwater resources. For example,
  - India is dangerously falling under the category of a water-scarce country.
  - India gets 1,486 cubic metres (1 cubic metre = 1,000 litres) per capita of freshwater every year.
  - A country is officially water-scarce when the per capita availability is less than 1,000 cubic metres per annum.
- Climate change is adding to the problem and may have far-reaching implications, including threats to food security, increased conflicts and mass migration, if not addressed timely.

The Interplay between groundwater stress and Agriculture:

- Over 60% of irrigation requirements are met by groundwater.
  - Since the 1980s, around 77% of the total addition to irrigation in the northwestern plains has come from tubewells.
- This has introduced new crops (water-guzzlers) in non-traditional areas, for example,

paddy in Punjab (the area under rice increased from 47 to 80% of the total cropped area between 1970s-2019) and Haryana.

- This has also increased cropping intensity by expanding cultivation in the largely dry winter and summer seasons.

Implications of changing crop patterns:

- Created a crisis by depleting groundwater at an alarming rate and deteriorating soil-human health.

- Affecting crop diversity. For example, paddy in Punjab has practically wiped out oilseeds and pulses, maize and cotton.

- What is aiding this? Water and electricity policies (subsidy) are often considered the main drivers of growth in the area under rice.

Sovereign Green Bonds

Context

- The Pension Fund Regulatory and Development Authority (PFRDA) will allow pension funds to invest in sovereign green bonds that the government is expected to issue in the second half of the current financial year.

What are Sovereign Green Bonds?

- Sovereign Green Bonds are government-issued bonds used to fund projects that have positive environmental impacts and contribute to sustainability goals.

- It was announced in the Union Budget 2022-23 and the framework for SGrBs was issued by the Ministry of Finance in 2022. Investors in these bonds do not bear project-related risks.

- Last year, the government raised Rs 16,000 crore from the issuance of Sovereign Green Bonds to fund projects aimed at reducing carbon emissions. Currently, there are 10 pension fund managers under the National Pension System, and the move aims to encourage investment in environmentally friendly projects.

About PFRDA:

- Pension Fund Regulatory and Development Authority (Statutory organization; founded 2003; HQ: New Delhi) is the regulatory body for the overall supervision and regulation of pensions in India. It operates under the jurisdiction of the Ministry of Finance.

All India Tiger Estimation 2022

Context:

- On the occasion of Global Tiger Day (July 29), a detailed report on the All-India Tiger Estimation 2022 was released.

Highlights of the report:

- According to the Wildlife Institute of India's (WII) 5th quadrennial tiger census, India's tiger population increased to 3,682 in 2022.

- The numbers in the report, revised from 3167 earlier, reflect a commendable annual growth rate of 6.1% per annum.

- The largest tiger population of 785 is in MP, followed by Karnataka (563) and Uttarakhand (560), and Maharashtra (444).

- The tiger abundance within the Tiger Reserve is highest in Corbett (260), followed by Bandipur (150), Nagarhole (141), Bandhavgarh (135), Dudhwa (135),

- Central India and the Shivalik Hills and Gangetic Plains witnessed a notable increase in tiger population, while the Western Ghats experienced localised declines, necessitat-

ing targeted monitoring and conservation efforts.

- Some states, including Mizoram, Nagaland, Jharkhand, Goa, Chhattisgarh and Arunachal Pradesh, have reported disturbing trends with small tiger populations.

Efforts to conserve the species:

- Global Tiger Day (July 29): It was instituted in 2010 at the Tiger Summit in St Petersburg, Russia when the 13 tiger range countries came together to create Tx2 – the global goal to double the number of wild tigers by the year 2022.

Project Tiger of India:

- o It was launched by the Central government on April 1, 1973, at the Jim Corbett National Park of Uttarakhand to promote the conservation of the tiger.

- o It didn't just focus on the conservation of the big cats but also ensured the preservation of their natural habitat as tigers are at the top of the food chain.

- National Tiger Conservation Authority (NTCA) of India: It was established in 2005, following a recommendation of the Tiger Task Force, to reorganise the management of Project Tiger and India's many Tiger Reserves in India.

- **Management Effectiveness Evaluation (MEE):**

- o It was adopted from the framework of the IUCN World Commission on Protected Areas.

- o Since its inception in 2006, MEE has been jointly conducted by the NTCA and the WII and has paved the path for a successful evaluation of national tiger conservation efforts in India.

The success story of India's conservation efforts:

- Today, there are 54 tiger reserves across India, spanning 75,000 sq km.

- Nearly 75% of the global tiger population (in the wild) can today be found in India.

Challenges for the world and India:

- Overall, the designated year (2022) for achieving the goals of Tx2 saw uneven progress. For example, the countries in Southeast Asia struggled to control population decline.

- For India,

- o The tiger population of the country cannot be increased at the same pace because that will result in an increase in conflict with human beings.

- o Action on key agendas like carbon capture and climate change, fund flow as well as village relocation has been the weakest performing area for Indian tiger reserves.

- Among the following Tiger Reserves, which one has the largest area under "Critical Tiger Habitat"?
  a) Corbett
  b) Ranthambore
  c) Nagarjunsagar-Srisailam
  d) Sunderbans

- Ans: (c)

India's ethanol push

Context:

- At a G20 Energy Ministers' meeting, the Indian PM stated that India has rolled out 20% ethanol-blended petrol this year and aims to cover the entire country by 2025.

Ethanol:

- Ethanol is basically 9% pure alcohol that can be blended with petrol.

- It is different from the 94% rectified spirit (having applications in paints, and pharmaceuticals) and 96% extra neutral alcohol that goes to make potable liquor.

- India's ethanol production programme: It has come a long way in the past five years, both in terms of the quantities supplied by sugar mills/distilleries to oil marketing companies (OMCs) and the raw material used.

Raw material used:

- **What does it mean? :** India's ethanol programme is no longer reliant on a single feedstock or crop.

- It has diversified only from molasses and cane to rice, maize and other grains as well.

Implications of diversification of feedstocks:

- It will minimise supply fluctuations and price volatility on account of any one crop.
- The incorporation of new feedstocks can create new demand for grains.
  - For example, if UP (a major sugarcane grower) and Bihar (maize) could supply rice, barley and millets to distilleries, they can "fuel India" the way Punjab, Haryana or MP "feed India".

How was this diversification made possible?

- Differential pricing:
  - Till 2017-18, the OMCs were paying a uniform price for ethanol produced from any feedstocks.
  - From 2018-19, the government began fixing higher prices for ethanol produced from B-heavy molasses and whole sugarcane juice/syrup.
  - This gave flexibility and incentive for mills/distilleries to use multiple feedstocks.
  - This has given stimulus to ethanol production, which can be seen from its all-India average blending with petrol touching 75% in 2022-23, as against 1.6% in 2013-14.

- Byproduct benefits:
  - The liquid effluent (spent wash) generated during alcohol production in distilleries can pose serious environmental problems if discharged without proper treatment.
  - The new molasses-based distilleries have MEE (multi-effect evaporator) units, where the spent wash is concentrated to about 60% solids.
  - The concentrated wash is used as a boiler fuel along with bagasse (the fibre remaining after crushing sugarcane).

- While the ethanol program has numerous benefits, there are also some concerns. Increased demand for grains for ethanol production may impact food supply and prices. Additionally, distilleries' liquid effluent can pose environmental challenges, but advancements such as multi-effect evaporator units have enabled the utilization of spent wash as boiler fuel and the production of fertilizer and animal feed as by-products.

- Which is the pioneer country in mixing ethanol with petrol?
  a) America
  b) Brazil
  c) Argentina
  d) China
  Ans : (b)

FAO Strategy on Climate Change 2022–2031

Context

- At a time when the world is reeling under challenges like hunger, COVID-19, ecosystem degradation and inequalities, the presentation of the FAO Strategy on Climate Change 2022-2031 is timely.

How?

- The Strategy rests on the vision of climate-resilient agriculture to transform agri-food systems to be more efficient, inclusive, resilient and sustainable.

Why?

- Sustainable and resilient agri-food systems provide a variety of solutions that respond to climate crisis challenges and contribute to restoring degraded natural and managed ecosystems.

FAO Strategy on Climate Change 2022-2031:

- Endorsed by the FAO Council, this Strategy is a response to the worldwide challenge of tackling the impacts of the climate crisis.
- It aims to address a broad range of interlinked challenges, including –
  - biodiversity loss,
  - desertification,
  - land and environmental degradation,
  - the need for accessible,

affordable renewable energy, and

o food and water security.

- **Implications:** It will help countries implement their country-driven commitments and plans, including –

  o Nationally Determined Contributions (NDCs) and

  o National Adaptation Plans (NAPs)

  o 2030 Agenda for Sustainable Development

- In which year India released its National climate action plan policy?

  a) 2008

  b) 2015

  c) 2022

  d) 2021

  Ans : (a)

Hygroelectricity

Context

- Researchers are exploring the concept of hygroelectricity, which involves harvesting electricity from humid air.

Methods of generating hygroelectricity:

- Using tiny protein nanowires produced by bacteria to trap water molecules and create electrical charges, potentially providing usable electricity to power miniature computers or sensors.

- Another method involves passing humid air between two pieces of metal, inducing a charge as the moist air flows over them.

Managing microplastic pollution in India

Context

- Microplastic pollution – a significant environmental problem, has not attracted much attention in India.

Microplastics:

- These are tiny plastic particles (less than 5 mm long) that result from both commercial product development (microbeads in personal care products, synthetic fibres from clothing, etc) and the breakdown of larger plastics.

- They are found everywhere, from terrestrial ecosystems to freshwater rivers, lakes, ponds, estuaries, seas and oceans, even in Antarctica.

Threats posed by microplastics:

- Microplastics are not only toxic for the ecosystems but also act as vectors to transport other toxic chemicals in the aquatic ecosystems.

- As a pollutant, microplastics are a significant environmental problem and pose risks to marine life, terrestrial organisms and human health.

- As a result, many scientists are using a new historical epoch – Plasticene, due to the global distribution and abundance of microplastics.

Factors contributing to microplastic pollution in India:

- Rapid industrialisation, urbanisation and population growth have led to increased plastic consumption and waste generation.

- Inadequate waste management systems, including limited recycling infrastructure and

improper disposal practices. For example,

- ○ Municipal areas in India generate 133,760 metric tonnes per day (TPD) of municipal solid waste (MSW).
- ○ Of which only 91,152 TPD waste is collected and 25,884 TPD treated.
- ○ Of which only 9,250 TPD plastic waste is recycled.
- he vast coastline and numerous rivers make it susceptible to the transport of microplastics from inland areas to the marine environment.

Challenges India is facing:

- Most populous country in the world with a population of 1.42 billion - Demand for water is rising.
- Access to water plays a critical role in all 17 SDGs either directly or indirectly.
- Misuse, poor management and contamination of freshwater systems have amplified the water stress.
- Thus, achieving SDGs by 2030 is a mammoth task amid microplastic pollution.
- Some SDGs that have direct and intricate relations with water:
  - ○ SDG 2: Zero hunger
  - ○ SDG 3: Good health and well-being
  - ○ SDG 6: Clean water and sanitation
  - ○ SDG 7: Affordable and clean energy
  - ○ SDG 14: Life below water
  - ○ SDG 15: Life on land

Steps taken in India:

- The Plastic Waste Management Amendment Rules 2021 prohibited single-use plastic items by the end of 2022.
- The permissible thickness of plastic carry bags was increased from 50 to 75 microns and then 120 microns from December 31, 2022.
- Several nonprofits and civil society organisations (Bengaluru-based Saahas) are actively working to tackle the issue through research, advocacy and community engagement.

Manual for Disaster Management Plan (DMP)

Context

- The Union Ministry of Jal Shakti has released the Manual for Disaster Management Plan (DMP).

About the Manual for DMP:

- Developed by: The Department of Drinking Water and Sanitation, Ministry of Jal Shakti, based on the Advisory issued by the National Disaster Management Authority (NDMA), under the Disaster Management Act 2005.
- Objective:
  - ○ To ensure safety, uninterrupted supply and minimum loss of Water, Sanitation and Hygiene (WASH) assets and services involving stakeholders at the national, state, district, and village levels.
  - ○ Enhance WASH resilience to reduce disaster vulnerability.
  - ○ Establish a robust environment, fund and coordination mechanism to achieve the desired goals.
  - ○ Develop a plan which caters to disaster preparedness, response, recovery, reconstruction, and mitigation.
- The plan includes Gender-based vulnerabilities, and issues concerning SC/ST, elderly, children and people with disabilities.
- The Plan aligns with The two-flagship programmes on WASH implemented by the Department namely the JalJeevan Mission (JJM) and Swachh Bharat Mission-Gramin (SBM-G)
- In case of disaster, 3 kinds of assessment need to be conducted:
  - ○ **Before the disaster:** A Hazard-Vulnerability-Capacity mapping to guide the preparedness activities most needed,
  - ○ **During Response:** A Rapid Needs Assessment (RNA) which can be completed in a day and point out the immediate needs of the affected population,
  - ○ **During Recovery and Reconstruction**: A detailed Post-Disaster Needs Assessment (PDNA) which –

- ○ Highlights the long-term needs of the community and
- ○ Helps the administration "build back better" and "update" to mitigate against future disasters.
- Other Indian efforts towards reducing the risk of disasters:
  - ○ G20 Disaster Risk Reduction (DRR) Working Group: India has established the first G20 Working Group on DRR to elevate DRR as a priority for G20 through its presidency.
  - ○ Expanding disaster early warning: During Cyclone Biparjoy, effective systems for end-to-end early warning and action helped achieve zero deaths from the event in India.
  - ○ UN Secretary General's Early Warnings for All Initiative: India is working to realise the goal of the initiative, which seeks to create universal coverage for everyone by the end of 2027.
  - ○ Coalition for Disaster Resilient Infrastructure (CRDI): India launched CRDI with the UN in 2019, to spur policy development and capacity support for disaster resilient infrastructure, especially in developing countries.

Best practices – Disaster response in Odisha:

- SnehaAbhiyaan: Under this, self-help groups (SHGs) in the village are entrusted with managing cyclone shelters, including the distribution of cooked food.
- MamtaGruhas: These safe spaces provide comprehensive care for women, children and other vulnerable sections of society.
- Training and capacity building of frontline workers (ASHAs, SHGs): SDRF provides training in first aid, shelter management, rescue operations, government regulations concerning trafficking and compensation norms.

Ludwigiaperuviana

Context

- The invasive weed Ludwigiaperuviana is threatening elephant habitats and foraging areas in Valparai, Tamil Nadu.

About LudwigiaPeruviana:

- The Ludwigiaperuviana, an aquatic plant with pale yellowish flowers, is causing significant challenges in various swampy areas worldwide. Originally introduced as an ornamental plant for its tiny yellow flowers in Tamil Nadu, it now grows rapidly, particularly in wetlands, due to the pre-monsoon temperature and monsoon rains. This fast

growth is disrupting the balance of perennial foraging grounds, hindering the growth of grass and native plants that elephants and other animals such as Gaur, rely on for food.

- **Origin:** It is popularly called primrose willow, it is a native of Central and South America.
- It is among the 22 priority invasive plants in Tamil Nadu.
- It has infested the majority of the hill station's swamps, locally known as vayals .

The Forest (Conservation) Amendment Bill 2023

Context

- The Forest Conservation (Amendment) Bill 2023 is expected to be tabled for clearance during the monsoon parliament session that began on July 20, 2023.

The Forest (Conservation) Act 1980:

- It was enacted to ensure that India's forest land is not willingly usurped for non-forestry purposes.
- The Act empowers the Centre to require that any forest land diverted for non-forestry purposes be duly compensated.
- it broadens its purview to include territory that is not formally designated as "forest" in State or Central government records.

Need for the latest amendments:

- This forest-clearance approval is one of the most difficult permits to obtain in India, requiring a wait of as long as 365 days and lakhs of rupees in bribes.

- India's land records are in terrible shape, parcels marked as forests in one official record can be given a different classification in another.

- To make matters worse, the court order was worded such that it led states to avoid reclassifying forests.

- According to the Centre, these amendments are necessary to remove ambiguities and bring clarity about the applicability of the Act on various lands

Some of the proposed amendments

- Cultivating plantations on non-forest land that could (over time) increase tree cover.

- Removing the (1980 Act's) restrictions on creating infrastructure that would aid national security and create livelihood opportunities for those living on the periphery of forests. For example,
  - In geographically sensitive areas within 100 km of the International Borders or the Line of Control, no forest clearance is required to construct highways, hydel power projects, etc.
  - No forest clearance is required to establish zoos, safari parks and ecotourism activities.
  - No central protection for vast tracts of so-called 'deemed forests' (forests not officially recorded as forests) and permitting activities such as tourism.

- For more features click here: Forest Conservation (Amendment) Bill 2023

Concerns raised by the environmentalists:

- Amending the name of the Act: To Van (SanrakshanEvamSamvardhan) Adhiniyam (translated as Forest Conservation and Augmentation) from the existing Forest (Conservation) Act.

- The reclassification of forest areas adds confusion:
  - The Bill states that the FCA will only apply to areas recorded as forests in government records, as on or after 25 October 1980.
  - This has raised fears that the amendment will invalidate the SC's 1996 judgment in T.N. Godavarmanvs Union of India, which expanded the purview of the FCA by interpreting the meaning of forest as its dictionary definition.
  - If these areas are declassified, 1,97,159sq km of forests (27.62% of total 7,13,789 sq km) that lie outside Recorded Forest Areas will lose all protection.

- Framed without taking real scenario into consideration:
  - Only 21% of India's land area has forests and only 12.37% of this is intact natural forest.
  - While the India State of Forest Report 2021 has shown a marginal increase (2261 sq. km) in forest cover, it hides a pattern of deforestation in some parts of the country.
  - For instance, the most biodiversity-rich north-eastern hill States show a net decline of 3199 sq. km of forest cover from 2009-2019.
  - Also, this marginal increase in forest cover can be ascribed to commercial plantations, which can't replace the ecological functions performed by intact natural forests.

- Exemptions will remove the necessity of forest clearances:
  - In border areas, which are home to the most ecologically important ecosystems in the country.
  - This will be in conflict with the rights of forest-dwelling tribes, as they will no longer be consulted before seeking forest clearances.

- The Bill was referred to a joint committee (JPC) instead of the standing committee: The 31-member joint committee (18

are from the ruling party) has 21 members from the LokSabha and 10 from the RajyaSabha.

○ The JPC has not suggested any changes in the original version of the Bill.

Government's intention:

- This is a rare opportunity for India to correct a 27-year-old policy logjam that is holding up growth and employment opportunities, without helping the country substantially conserve its forests.

- The changes are necessary considering the dynamic changes in the ecological, strategic and economic aspirations of the country.

- The amendments will –

  ○ Support the country's objective to increase forest and tree cover up to a third of its land area.

  ○ Help the country achieve Net Zero emissions by 2070 and maintain or enhance forest carbon stocks through ecologically balanced sustainable development.

  ○ Help create a carbon sink amounting to 2.5-3 billion tonnes of CO2-equivalent by 2030 under the Nationally Determined Contribution targets.

- The scope of this act can be further expanded with emerging ecological challenges of forest conservation, restoration, compensatory mechanism, mitigation measures, etc.

Anthropocene Epoch

- Recently, the Anthropocene Working Group (AWG) has proposed that the Anthropocene, a new geological epoch characterized by significant human impact on Earth's systems, began in 1950.

- The AWG is an interdisciplinary research group dedicated to the investigation of the Anthropocene.

- If the proposal wins the necessary majority support, the International Union of Geological Sciences could officially ratify the new Global boundary Stratotype Section and Point (GSSP) in August 2024.

- Note: The GSSP is a designated geological reference point that marks the boundary between two geological time units. It serves as an internationally agreed-upon standard for defining and correlating different periods in Earth's history. GSSPs are crucial for establishing the boundaries of epochs, ages, and other divisions within the geologic time scale.

Background

- The starting date of Anthropocene is supported by evidence from Crawford Lake near Toronto, Canada, which contains traces of the radioactive element plutonium.

- Around the year 1950, there was a notable increase in the concentration of plutonium particles. This significant change serves as a clear indication of human impact and, consequently, provides evidence of the Anthropocene era.
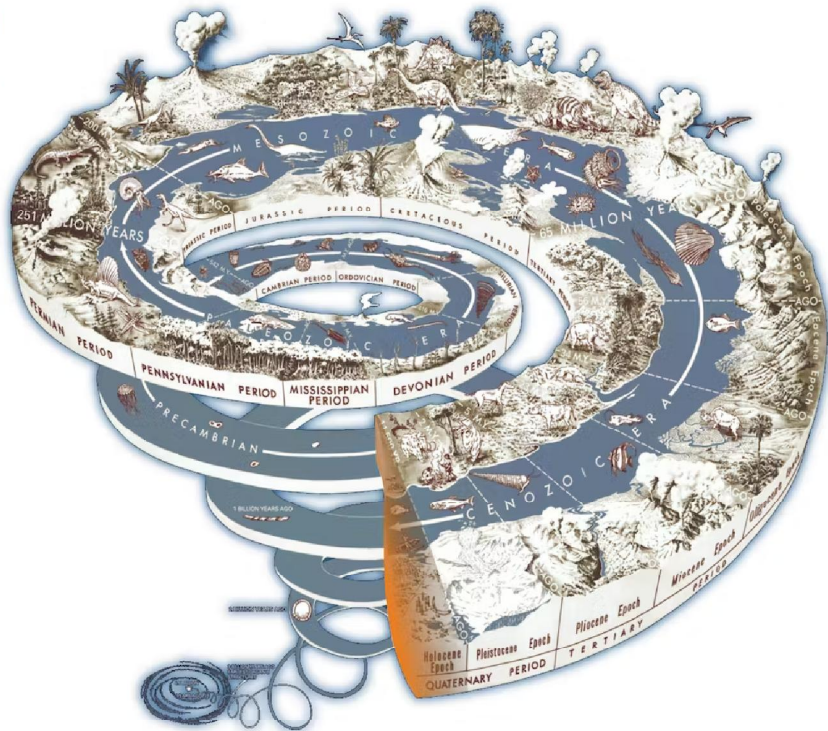
- The research findings of Crawford Lake provided strong evidence for the AWG's hypothesis that the unprecedented increase in industrial and socioeconomic activity of the Great Acceleration around the mid-twentieth century has caused alterations to the Earth System on a scale that terminated ~11,700 years of largely stable Holocene conditions and marks the beginning of a new Earth epoch.

What is the Anthropocene?

- The Anthropocene epoch as a term was first coined by Nobel Prize-winning chemist Paul Crutzen and biology professor Eugene Stoermer in 2000 to denote the present geological time interval, in which the Earth's ecosystem has gone through radical changes due to human impact, especially since the onset of the Industrial Revolution.

- There are numerous phenomena associated with this epoch, such as Global Warming, Sea-Level Rise, Ocean Acidification, mass-scale soil erosion, the advent of deadly Heat Waves, deterioration of the biosphere and other detrimental changes in the environment.

What is the Holocene Epoch?

- The Holocene is the current geological epoch, which began approximately 11,700 years ago at the end of the last major ice age.

- It is characterized by a relatively stable and warm climate, as well as the development of human civilization.

- The Holocene follows the Pleistocene epoch and is part of the larger Quaternary period.

- During the Holocene, Earth's climate experienced fluctuations, but overall, it has been a period of relatively milder and more stable conditions compared to the preceding ice age. The retreat of glaciers and the rise in global temperatures allowed for the expansion of forests, grasslands, and diverse ecosystems.

Rural and Urban India Almost Equally Affected by PM 2.5

- An analysis by Climate Trends revealed that rural and urban areas in India experienced equally poor levels of ultrafine particulate matter (PM) 2.5 in 2022. This questions the government's focus on urban areas for controlling air pollution.

- The study also highlighted the higher impact of PM 2.5 on rural populations in terms of reduced lifespan. The National Clean Air Plan (NCAP) primarily invested in urban areas, neglecting rural regions without pollution monitoring or mitigation measures.

- Experts emphasize the need for a wider monitoring network and policies to address pollution in rural India.

- PM 2.5 is an atmospheric particulate matter of diameter of fewer than 2.5 micrometres, which is around 3% the diameter of a human hair. It causes respiratory problems and reduces visibility.

Zombie Fires

Context

- As global temperatures rise, fires are spreading farther north and into the Arctic, leading to a rise in "zombie fires."

What are Zombie Fires?

- Zombie fires are underground wildfires that smoulder beneath the surface, burning slowly and releasing large amounts of smoke. They can persist through winter, reemerging in the following spring. These fires are difficult to detect and extinguish, making them a challenging firefighting task. Zombie fires occur in carbon-rich peatlands and can have significant environmental impacts, contributing to climate change and air pollution.

Reason for it:

- The Arctic's warming conditions make the forest and tundra more susceptible to wildfires, and changes in atmospheric

circulation, including more frequent lightning strikes, contribute to fire outbreaks.

- The increasing prevalence of zombie fires underscores the urgent need to address climate change and its impact on wildfire risks.

Related Term:

- Zombie ice, also known as "polar ice zombie," is a term used to describe Arctic or Antarctic ice that appears to be melting and disappearing during the warmer months but later reappears and refreezes during the colder months. However, the ice is no longer getting replenished by parent glaciers

China event raises concern over India's only ape

Context

- The conservation status of the hoolock gibbon, India's only ape species, has become a matter of concern at a global event on gibbons held in China.

About Gibbons:

- It is the smallest and fastest ape and is found in tropical and subtropical forests in Southeast Asia. The hoolock gibbon, unique to India's northeast, is one of the 20 gibbon species on Earth, with an estimated population of 12,000.
- All 20 gibbon species, including the hoolock gibbon, are at a high risk of extinction due to

dramatic declines in their distribution and populations since 1900, leaving only small populations in tropical rainforests.

- Threats: The primary threat to the hoolock gibbon in India is the felling of trees for infrastructure projects.
- Initiatives: The Global Gibbon Network (GGN) aims to protect and conserve gibbons and their habitats by promoting participatory conservation policies and actions.
- Aaranyak, a non-profit conservation organization based in Assam, India, is one of the founding organizations of the GGN from seven countriesControversy regarding conservation status:
- Initially believed to be two separate species, a genetic analysis by the Centre for Cellular and Molecular Biology (CCMB) in Hyderabad in 2021 revealed that there is only one species of ape in India, the hoolock gibbon.
- However, the International Union for Conservation of Nature's Red List classifies the western hoolock gibbon as endangered and the eastern hoolock gibbon as vulnerable, which adds complexity to their conservation status.

Plant species that can withstand extreme dehydration

Context

- The Western Ghats, a biodiver-

sity hotspot in India, is home to 62 Desiccation-Tolerant (DT) Vascular plant species, capable of surviving extreme dehydration by losing up to 95% of their water content and reviving when water becomes available again.

- This unique ability allows them to thrive in harsh, arid environments that would be unsuitable for most other plants. These DT plants have potential applications in agriculture, especially in water-scarce regions.

Key Findings:

- The study highlights that DT plants are predominantly found in rock outcrops, a common landscape feature in the Western Ghats, but they also inhabit tree trunks in partially shaded forests.
- Of the 62 species identified, 16 are exclusive to India, and 12 are unique to the Western Ghats outcrops, emphasizing the area's significance as a global DT hotspot.

24 reserve forests in 2 years

- Tamil Nadu has added 24 reserve forests covering an area of 3585.3 hectares in the last two years.
- Under the Green Tamil Nadu Mission, the state aims to increase tree and forest cover from 23.69 percent to 33 percent.
- The State has notified reserve

forests in eight districts Dindigul, Dharmapuri, Madurai, Namakkal, Nilgiris, Kallakurichi, Sivagangai, and Theni in 2021-2023.

- They are announced under Section 16 of the Tamil Nadu Forest Act, 1882.

Second-best groundwater availability in the country

- In Union Jal Shakti Ministry's annual ranking, Namakkal achieved second place in the conservation and management category for the year 2022.

- The district, with a population of 1.7 million.

- It successfully addressed its water scarcity challenges and became the second-best district in India in terms of groundwater availability.

- The average water level was 10.35 metres below ground level (mbgl) in January 2018.

- In the following year, it was 11.48 mbgl in January.

- In January 2020, it came down to 9.57 mbgl; in 2021, it was 9.82 mbgl; 6 mbgl in 2022.

White-rumped Vulture in Nilgiris

- Despite the protective measures, the future remains extremely perilous for white-rumped vulture (Gyps bengalensis) in the Sigur plateau in the Nilgiris.

- They are listed as Critically Endangered.

- Research done in Sigur between 2013 and 2017 has shown that the population had hovered between 152 individuals in 2013 to a peak of 167 individuals in 2017.

- A study has highlighted the stagnation of the population in Sigur.

- 46 white-rumped vultures died between 2013 and 2017.

Air pollution in Tamil Nadu

- Tamil Nadu has seen a steady decline in air pollution in urban and rural areas between 2017 and 2022.

- The State has recorded a 22% reduction in fine particulate matter over the five-year period.

- In Tamil Nadu's rural areas, the PM 2.5 level dropped from 46.6 μ/m^3 (microgram per cubic metre) in 2017 to 32.9 μ/m^3 in 2022.

- Whereas in urban places, the PM 2.5 levels were 42.7 μ/m^3 in 2017 and 33.1 μ/m^3 last year.

- Among major cities, Chennai also saw a fall of PM 2.5 levels from 40.86 μ/m^3 in 2017 to 28.90 μ/m^3 in 2022.

- Fine particulate matter is defined as particles that are 2.5 microns or less in diameter (PM 2.5).

- Under the NCAP, only three cities in Tamil Nadu - Chennai, Madurai, and Tuticorin - have been categorised as non-attainment cities.

Book on importance of mangroves ecosystem

- A book on the importance of the mangrove ecosystem authored by scientists from the M.S. Swaminathan Research Foundation (MSSRF) was released recently.

- The pictorial book titled Biodiversity and Importance of Mangrove Ecosystem.

- It contains descriptions of mangrove species across India, medicinal uses of mangroves, and several wildlife creatures that thrive in the ecosystem.

Tamil Nadu tiger population

- The tiger population in Tamil Nadu has risen from 264 in 2018 to 306 in 2022.

- Among the southern states, Karnataka has the most tigers at 563 followed by TN with 306 and Kerala with 213.

- In the Western Ghats region that is spread across the three southern states, the tiger population in 2022 is at 1,087 against 981 in 2018.

- Compared to 2006, when 76 tigers were recorded in TN, there has been a four-fold increase, more than the other southern states.
- In Kerala, the number of tigers which was 190 during the 2018 census went up to 213 in 2022.
- In Karnataka, the big cat population went up from 524 in 2018 to 563 in 2022.

Dimethyl Ether Fueled Tractor

- Researchers at IIT Kanpur have developed India's first 100% Dimethyl Ether (DME)-fuelled tractor/vehicle.
- It is marking a significant step towards a sustainable alternative fuel-based transport system.
- Dimethyl Ether (DME) is a renewable and clean-burning alternative fuel.
- It can be used in various applications, including transportation.
- Under normal atmospheric conditions, DME is a colourless gas.
- It is produced from natural gas, coal, biomass, or renewable sources through a synthesis process.

Green Credit Programme

- The Ministry of Environment, Forest and Climate Change (MoEFCC) has recently notified the draft 'Green Credit Programme (GCP)' implementation rules for 2023.

- The proposed scheme aims to encourage individuals, industries, farmers producers' organisations (FPOs), urban local bodies (ULB), gram panchayats, and private sectors, among others, to undertake environment-friendly actions such as planting trees, conserving water, waste management, and reducing air pollution.
- By participating in these activities, entities can earn tradable "green credits" that will be incentivized through a market-based mechanism.

New Delhi Declaration – SCO

- The Indian government coined the New Delhi Declaration and proposed at the SCO Summit, aiming to fight against terrorism.
- The Shanghai Cooperation Organisation (SCO) member nations adopted the New Delhi Declaration.
- The Declaration also proposes four other joint statements on de-radicalisation, sustainable lifestyle to tackle climate change, production of millets and digital transformation.
- Russia supports the New Delhi declaration which gives a consolidated approach to international issues.
- Meanwhile, Pakistan's Shahbaz Sharif warned against the use of terrorism as a 'bat for diplomatic point-swearing'.

The Biological Diversity (Amendment) Bill 2021

- The Lok Sabha passed the Biological Diversity (Amendment) Bill, 2021.
- The Bill aims to amend the Biological Diversity Act, 2002.
- It proposes to "widen the scope of levying access and benefit sharing with local communities and for further conservation of biological resources."
- The Biological Diversity Act, 2002 was framed to give effect to the United Nations Convention on Biological Diversity - 1992.
- It strives for sustainable, fair and equitable sharing of benefits arising out of the utilisation of biological resources and associated traditional knowledge.

Underground Climate Change

- According to the research done in North-western University in Illinois in the US, Underground Climate Change is a silent haz-

ard that threatens major cities across the world.

- The heat from buildings in underground transportation system diffuses below the surface.
- Over time the ground warms and then expansions and contractions caused by this heat creates rocks.
- This impairs the long-term durability and operational performance of structures.
- They also claim that such rising temperatures may have contributed to previous building deterioration

Space Industry Debris Mitigation Recommendations

- The World Economic Forum (WEF) and the European Space Agency (ESA) jointly released the Space Industry Debris Mitigation Recommendations.
- It aims to mitigate the space debris problem.
- The spacecraft operators try to get satellites removed from low-Earth orbit within 5 years after the end of the mission.
- Missions that orbit above an altitude of 375 kilometres should have an ability to actively manage the orbit.
- The guidelines encourage a propulsion-based system but other technologies could be more appropriate depending on the situation.
- Third-party liability insurance organizations should consider incentives for sustainable missions, and appropriate safety measures should be implemented
- It encourages industry players to further study the objects in orbit—the population, evolution, and the interaction between them.
- Russia has the most space debris with over 7000 rocket bodies floating in space.

2023 IMO Greenhouse Gas Strategy

- The International Maritime Organisation (IMO) agrees to adopt the 2023 IMO strategy on the reduction of GHG emissions from ships, to mitigate harmful emissions.
- The shipping industry is responsible for 1 billion tonnes of CO2 emissions annually or 3% of global greenhouse emissions.
- The revised IMO GHG Strategy focuses on ensuring uptake of alternative zero and near-zero GHG fuels by 2030.
- It also made a call to reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008.
- It urged to reduce the total annual GHG emissions from international shipping by at least 70%, striving for 80%, by 2040, compared to 2008.
- Near-zero emission technologies, fuels, and energy sources should "represent at least 5%, striving for 10%, of the energy used by 2030."
- IMO was established in Geneva in 1948 as a specialised agency of the United Nations.

Ozone-UV Bulletin

- The bulletin with the updated status of the ozone layer by World Meteorological Organization - Global Atmosphere Watch bulletin released after a gap of seven years.
- The ozone layer protects life on Earth from harmful solar ultraviolet (UV) radiation.
- Depletion of the ozone layer was first observed in the 1980s.
- To end this, the Montreal Protocol of 1987 has banned the production and consumption of ozone-depleting substances.
- As of today, 99 per cent of their production and use has been phased out.
- In 2022, higher than normal ozone columns were observed in the tropics and subtropics and lower than normal ozone columns at higher latitudes.
- Climate change is slowing down the recovery of the ozone layer.
- In 2022, the Antarctic ozone hole had a relatively late onset in September and a relatively large extent and depth in October and November.
- Hunga Tonga-Hunga Ha'apai volcanic eruption — the largest in 100 years — increased the water vapour content of the stratosphere by 5-10 per cent.

1.5 Degree Celsius Temperature Threshold

- The global mean temperature crossed the key 1.5 degrees Celsius limit at the start of June, 2023.

- This is the first time that the target was breached in the summer months.

- The mean global temperature exceeded pre-industrial averages by more than 1.5 degrees Celsius several times.

- But it was all only in the winter and spring months.

- So far, the warmest year has been 2016, when global mean temperatures were over 1.28 degrees Celsius.

Ludwigia peruviana in Tamilnadu

- Ludwigia peruviana is an aquatic weed native to some countries in Central and South America, including Peru.

- It is threatening elephant habitats and foraging areas in Valparai, a Tamil Nadu hill station.

- It grows fast along water bodies, has infested the majority of the hill station's swamps, locally known as vayals.

- It is limiting the growth of grass and native plants that are palatable to elephants and other animals including gaur.

- Ludwigia is among the 22 priority invasive plants in Tamil Nadu

FAO Strategy on Climate Change 2022-2031

- The Food and Agriculture Organisation of the United Nations (FAO) has launched an Action Plan for Climate Change.

- It is designed to support the implementation of its ambitious Strategy on Climate Change 2022-2031.

- It envisages agrifood systems as sustainable, inclusive, resilient and adaptive to climate change.

- The Action Plan is based on three pillars:
  - Advocacy at global and regional levels;
  - Policy support at the country level;
  - The scaling-up of climate action on the ground with local actors and vulnerable population.

Tiger Population of India in 2023

- India's tiger population increased to 3,682 in 2022, up from 2,967 in 2018.

- It was estimated by the Wildlife Institute of India (WII), which coordinates the quadrennial tiger census.

- India recorded a 23.5% increase in tiger population between 2018 and 2022.

- This also indicates significant growth over the last decade.

- There were 2,226 tigers reported in 2014, up from 1,706 in 2010.

- The country accounting for 75%of the tigers in the world.

- Around 80% of the tigers (2,885) now reside in eight of the 18 tiger states.

- It includes Madhya Pradesh, Karnataka, Uttarakhand, Maharashtra, Tamil Nadu and Assam.

- In 2022, the maximum number of tigers were reported in Madhya Pradesh (785).

- It was followed by Karnataka (563), Uttarakhand (560), and Maharashtra (444).

- The central Indian and Western Ghats landscapes have contributed 2,526 tigers to the total number.

- The reserves with the maximum number of tigers were at the Corbett National Park in Uttarakhand, which reported 260 animals.

- It is followed by Bandipur (150), and Nagarhole (141), both in Karnataka.

- Globally, the number of tigers increased from 3,890 in 2016 to 5,575 in 2023.

- India's tigers are largely concentrated in 53 dedicated tiger reserves spread across 75,796 square km, spanning about 2.3% of India's total land area.

Global forest watch

- The new report was released by the World Resources Institute's (WRI) Global Forest Watch.

- Tropical areas lost 4.1 million hectares of forest cover

– equivalent to losing an area of 11 football fields per minute – in 2022.

- This forest loss produced 2.7 billion tonnes of carbon dioxide emissions.

- It is around the same as India's annual emissions due to the combustion of fossil fuels.

- Primary forest cover loss in tropical areas in 2022 was 10% more than in 2021.

- We need to reduce global deforestation by at least 10% every year to meet the 2030 target.

- In 2022, although the global deforestation rate was 3.1% lower than the baseline from 2018-2020.

- To meet the target of restoring 350 Mha of forests globally by 2030, the world needs to increase tree cover by 22 Mha per year, between 2021 and 2030.

WHO UNICEF JMP report 2023

- The WHO/UNICEF Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (JMP) has released a report.

- It provides country, regional and global estimates of progress on drinking water, sanitation and hygiene (WASH) since 1990.

- The JMP 2023 update estimated that in 2022, 27% of the global population (2.2 billion people)

lacked "safely managed drinking water"– meaning water at home, available, and safe.

- This includes 1.5 billion with a basic water service, but outside the home, not always available, or unsafe.

- The remaining 703 million lacking even basic services either had to walk more than 30 min to collect water from outside the home.

- 296 million peoples used unprotected water sources or took untreated water from rivers or lakes (115 million) – sources likely to be contaminated.

Detox Development Report

- A report titled "Detox Development: Repurposing Environmentally Harmful Subsidies" was released by the World Bank.

- The large amounts of money are wasted on subsidies for agriculture, fishing, and fossil fuels

- It could be utilized to tackle climate change and benefit humanity and the environment, rather than causing harm.

- The subsidies in the three sectors exceeded $7 trillion which amounted to 8% of the global gross domestic product.

- Explicit subsidies i.e. direct government expenditures in

the three sectors amounted to $1.25 trillion.

- It is equal to the size of a big economy like Mexico.

- Implicit subsidies i.e. a measure of the subsidies' impact on people and the planet amounted to over $6 trillion per year with the poor experiencing the larger burden.

- Countries spent $577 billion to actively lower the price of polluting fuels such as oil, gas, and coal in 2021.

Project Gajah Kotha

- In order to address the raging human-elephant conflict (HEC), Assam has launched an innovative outreach campaign called 'Gajah Kotha' (The Elephant Story).

- It aims to foster coexistence between local communities and the magnificent elephants.

- It educates them about the elephants' behaviour, ecology, and cultural connection to the region and the importance of their conservation.

Highest deaths due to heatwave

- As many as 120 people died in Kerala due to heatwave till

June-end, the highest in the country.

- Kerala was followed by Gujarat with 35 deaths, Telangana 20, Maharashtra 14, Tamil Nadu and Uttar Pradesh 12 each, West Bengal 11 and Madhya Pradesh 10.

- States that saw fewer deaths this year till June were Himachal Pradesh (9), Bihar (8), Odisha (7), Andhra Pradesh (4).

- The Capital reported one death.

X. Economy – Economy, Socio-Economic issue

1. Economic Issues

SDGs National Indicator Framework (NIF) Progress Report 2023

Context

- Ministry of Statistics and Programme Implementation (MoSPI) has released Sustainable Development Goals National Indicator Framework (NIF) Progress Report 2023.

- The report tracks the progress achieved so far at the national level in respect of 17 SDGs.

What are SDGs?

- The Sustainable Development Goals (SDGs) are a set of 17 global goals adopted by the United Nations in 2015. They aim to address the world's most pressing social, economic, and environmental challenges, with the overarching goal of achieving sustainable development by 2030.

What is the monitoring framework for SDGs implementation?

- An Inter-agency and Expert Group on SDG Indicators (IAEG-SDGs) was set up by United Nations Statistical Commission (UNSC). It had developed the Global Indicator Framework (GIF). At present, the GIF includes 248 indicators, with 231 unique indicators.

What are NIF and SIF?

- In India (similar to GIF at the global level) NIF was developed in 2018 that was aligned with the SDG global indicators. In 2019, the Ministry developed and circulated Guidelines to the States/UTs for the development of State Indicator Framework (SIF) in respective States/UTs.

Namakkal district (Tamil Nadu)

- Content for Mains Enrichment

- Namakkal district (Tamil Nadu), India, has successfully addressed its water scarcity challenges and achieved the second-best groundwater availability in the country.

- The district's comprehensive approach involved community participation, rainwater harvesting, sustainable agriculture, efficient water management systems, and robust policies.

- Measures such as constructing rooftop collection systems, percolation tanks, and check dams were implemented to capture rainwater and replenish the groundwater table. River rejuvenation, canal desilting, and removal of encroachments were also undertaken.

- Community participation and awareness campaigns played a crucial role in fostering a water conservation culture.

- Usage: Namakkal's success offers valuable lessons for India in coping with water crises and can be used in Questions related to geography, Agriculture and Governance.

Mahila Samman Savings Certificate, 2023

Context

- The Department of Economic Affairs, Ministry of Finance, has authorized Public Sector Banks and eligible Private Sector Banks to implement the Mahila Samman Savings Certificate, 2023.

About the scheme:

Feature	Description
Mahila Samman Savings Certificate, 2023	It (introduced in this year's budget and started on 1st April 2023) is a one-time savings scheme to provide financial security to girls and women in India.
Purpose	To provide financial security to every girl and woman in India
Eligibility	Women can open the account for themselves or on behalf of a minor girl child
Tenure	Two years
Interest Rate	7.5% per annum, compounded quarterly
Investment	Rs. 1000 min to 200,000 maximum
Maturity Period	Two years from the date of opening the account
Partial Withdrawal	Up to 40% of the eligible balance can be availed after one year from the date of opening the account
Significance	Promotes financial independence and empowerment of women Encourages women investors, especially in rural areas

GST Council

Context

- With the implementation of a Goods and Services Tax (GST) on July 1 2017, India took a huge step towards modifying its indirect taxation system. It is an indirect tax (not directly paid by customers to the government) that came into effect on July 1, 2017, as a result of the 101st Amendment to the Indian Constitution.

- It is imposed on both manufacturers and sellers of goods, as well as suppliers of services.

- For tax collection, it is divided into five tax slabs – 0%, 5%, 12%, 18%, and 28%.

About GST Council:

- It is an apex committee to modify, reconciles or make recommendations to the Union and the States on GST, like the goods and services that may be subjected or exempted from GST, model GST laws, etc.

- Article 279A of the Indian Constitution empowers the President of India to constitute a joint forum of the Centre and States called the GST Council.

Need for GST:

- The inclusion of several indirect taxes at various levels of the supply chain hampered the Indian tax system.

- This resulted in a complicated and fragmented tax framework that included excise duty, service tax, VAT, central sales tax (CST), and other taxes.

- These led to tax cascading (tax on tax), raising the entire tax burden on goods and services.

- Hence, the primary goal of GST is –
  - To simplify the tax system by substituting a single indirect tax for several indirect levies
  - Eliminating tax cascading by establishing a uniform tax structure

Achievements of GST:

- **Revenue collection:**
  - The average growth rate of Gross GST revenue from

2018-19 to 2022-23 stands at 3%, surpassing the nominal GDP growth rate of 9.8%.

○ The (June 2023) collection has crossed the 1.6 lakh crore mark for the 4th time since the inception of GST.

○ This is noteworthy as indirect taxes typically exhibit lower buoyancy – an increase in its revenue rate without increasing the tax rate.

• **A seamless market and digitised compliance:**

○ GST laid the foundation for a seamless national market, reshaping India's tax landscape and driving economic growth.

○ By digitising processes from registration to return filing, the GST portal ensured smoother compliance for businesses, fostering a tech-enabled environment.

○ It paved the way for other significant indirect tax reforms, including e-way bills and e-invoicing, promoting transparent data sharing between businesses and the government.

• Empowering the manufacturing sector: GST's impact on the manufacturing sector was remarkable, as it eliminated the cascading effect of taxes and reduced manufacturing costs.

Challenges still persisting:

• Complexities in return forms and the ambiguity surrounding tax rates and classifications of certain goods and services lead to disputes and uncertainty.

• Combating tax fraud remained a priority, with measures in place to ensure compliance and weed out fraudulent businesses.

Some areas that deserve attention are:

• Commence taxation of petroleum crude, high-speed diesel, petrol, natural gas and aviation turbine fuel and similarly, alcohol meant for human consumption

• Inclusion of other levies such as electricity duty, stamp duty, etc

• Clarifying taxation of online gaming activities, transactions involving cryptocurrency, etc.

• The officials should also look into rationalisation of the tax rates (slabs); upgrading the law to deal with a digital world and keep up with the various technological developments.

• What is/are the most likely advantages of implementing 'Goods and Services Tax (GST)'?

1. It will replace multiple taxes collected by multiple authorities and will thus create a single market in India.

2. It will drastically reduce the 'Current Account Deficit' of India and will enable it to increase its foreign exchange reserves.

3. It will enormously increase the growth and size of the economy of India and will enable it to overtake China in the near future.

• Select the correct answer using the code given below:

a) 1 only

b) 2 and 3 only

c) 1 and 3 only

d) 1, 2 and 3

• Ans: (a)

SCO Summit

Context

• The recent Shanghai Cooperation Organisation (SCO) summit, chaired by Prime Minister Narendra Modi, marked India's first time hosting the event as a full member.

Outcomes of the Summit (New Delhi Declaration):

Outcomes	Significance
Inclusion of Iran as the ninth member of the SCO	Expansion of the SCO's membership, bringing in additional regional dynamics. Note: Other 8 members of SCO are– China, India, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan and Uzbekistan
Agreement on countering radicalization	Cooperation among member states to address activities of terrorist, separatist and extremist groups, preventing the spread of religious intolerance, aggressive nationalism, ethnic and racial discrimination, xenophobia etc
Joint statement on digital transformation	Sharing of expertise and cooperation in digital technologies and payment systems
SCO Year of Environment	Members agreed to declare 2024 as the SCO Year of Environment.
Criticism of non-UN sanctions	Rejection of non-UN sanctions that negatively impact other countries
Exploration of national currencies for payments	Potential reduction of dependence on international dollar-based payments
India's Initiatives	
Five new pillars of Cooperation within SCO	Pillars include: Startups and Innovation, Traditional Medicine, Youth Empowerment, Digital Inclusion, and Shared Buddhist Heritage
Engagement with People	Enhancing engagement among people through SCO Millet Food Festival, Film Festival, International Conference on Shared Buddhist Heritage etc.
Culture	Varanasi was declared the first tourism and cultural capital of SCO
India's abstention from endorsing China's Belt and Road Initiative (BRI)	Reflects concerns over China's influence and projects in Pakistan-occupied Kashmir

Analysis:

- India's decision to join the SCO was driven by its economic significance, regional security concerns, and the opportunity to engage with Central Asian markets and resources. However, the SCO summit initially planned as an in-person event but later turned into a virtual summit, may have been impacted by various factors, including the Prime Minister's U.S. State visit and concerns over tensions with China and Pakistan. With India's SCO chairpersonship ending, it is feared, there may be a sense of diminishing returns from its engagement with the SCO.

Iran in SCO

- Iran became the new

permanent member of the Shanghai Cooperation Organisation (SCO) at an India-hosted virtual summit.

- It acquired membership 18 years after got observer status in the security and trade cooperation organization.

- The SCO was founded at a summit in Shanghai in 2001.

- The initial members are Russia, China, the Kyrgyz Republic, Kazakhstan, Tajikistan and Uzbekistan.

- India and Pakistan became its permanent members in 2017.

- In March, Saudi Arabia's Cabinet approved a decision to join the organization.

- Last May, the United Arab Emirates (UAE) and Kuwait became dialogue partners of the SCO.

- Who became the 9th member of Shanghai cooperation organisation?
  - a) Iran
  - b) Iraq
  - c) Belaras
  - d) Palastheenam
  - Ans :

Regulation of the Digital Market

Context

- The Ministry of Corporate Affairs (MCA) and the Ministry of Information Technology (MeitY) in India have clarified their respective roles in the regulation of the digital market, to remove the duplicity of regulations on digital markets.

Demarcated Roles:

Ministry	Role
Ministry of Corporate Affairs (MCA)	Oversees all competition issues in the digital market.
Ministry of Information Technology (MeitY)	Handles sector-specific and technical issues in the digital market.

Status of India's digital market:

- India's digital market is experiencing rapid growth and transformation. It encompasses various sectors such as e-commerce, digital payments, online services, social media, and digital advertising. It is expected to touch $ 1 trillion by 2025-26.

- The government is working towards introducing legislation including Digital India Act and Digital Competition Law to regulate the growing digital market.

India's creative economy

Context

- The creative economy is one of the youngest and fastest-growing sectors, with unique challenges that often go unnoticed by public and private investors.

What is the creative economy?

- The creative economy refers to the intersection of culture, creativity, and commerce. It encompasses economic activities that are based on creative and cultural products and services, such as arts, design, media, entertainment, and technology.

- The creative industries include advertising, architecture, arts and crafts, design, fashion, film, video, photography, music, performing arts, publishing, etc.

- They are also considered an important source of commercial and cultural value.

- Digital platforms and technology have enabled Indian artists and artisans to reach wider audiences.

- India's creative economy: It is estimated to contribute ~8% of the country's employment, much higher than the corresponding share in Turkey (1%), Mexico (1.5%), Australia (2.1%), etc.

Advantages for the Indian economy:

- Pay reasonably well – 88% higher than the non-creative ones.

- Contribute ~20% to the nation's overall GVA.

- Can help encourage India's soft power by creating an ecosystem of innovative technology-based start-ups.

Challenges:

- Economic sustainability, market access, digital divide and the

preservation of traditional art forms in a rapidly changing society.

- Crime in the art world includes art theft, copyright infringement, forgery, fraud, and illicit trafficking.
- India's creative exports ($121 billion in 2019, out of which services accounted for almost $100 billion) are only one-tenth of those of the People's Republic of China.

UNESCAP's Global Survey on Digital and Sustainable Trade Facilitation

Context

- India has achieved outstanding performance in the United Nations Economic and Social Commission for Asia Pacific's (UNESCAP) Global Survey on Digital and Sustainable Trade Facilitation.
- Trade facilitation refers to the simplification, harmonization, and streamlining of international trade procedures and processes. It involves reducing trade barriers, improving customs procedures, enhancing logistics and infrastructure, and promoting digitalization to make trade more efficient, cost-effective, and predictable.

Findings:

- **Score:** The survey places India at the forefront of global trade facilitation efforts with an impressive score of about 93%

in 2023, an improvement from 90% in 2021.

- **India's success in various sub-indicators:** Perfect scores of 100% in Transparency, Formalities, Institutional Arrangement and Cooperation, and Paperless Trade.
- A substantial improvement in the "Women in Trade Facilitation" component, increasing from about 66% in 2021 to about 78% in 2023, highlighting its commitment to gender inclusivity and empowering women in the trade sector.
- **Notable Initiatives**: Turant Customs (it encompasses Faceless Customs, Paperless Customs, and Contactless Customs.), Single Window Interface for Facilitation of Trade (SWIFT), Pre-Arrival data processing, and e-Sanchit
- India stands as the best-performing country in the South Asia region, surpassing several developed nations including Canada, France, the UK, and Germany
- **Significance:** These measures have contributed to enhancing India's ease of doing business and fostering a trade-facilitative environment in the country.

About the Survey:

- The UNESCAP survey, which is fact-based rather than perception-based, covers a range of trade facilitation measures categorized into eleven subgroups. It covers over 140

economies and evaluates 60 trade facilitation measures

About UNESCAP:

- The United Nations Economic and Social Commission for Asia and the Pacific (HQ: Bangkok; founded in 1947) is one of the five regional commissions under the jurisdiction of the United Nations Economic and Social Council.

Restoring the WTO's dispute settlement system

- **Context:** Since 2019, the WTO's two-tiered dispute settlement system (DSS) remains paralysed.

About World Trade Organization (WTO):

- It is an ("member-driven", "consensus-based") intergovernmental organisation that regulates and facilitates international trade between nations.
- It is the world's largest international economic organisation (HQ – Geneva, Switzerland), with 164 member states representing over 98% of global trade and global GDP.
- It officially began operations on January 1, 1995, in accordance with the 1994 Marrakesh Agreement (marking the culmination of the 8-year-long Uruguay Round), thus replacing the 1948 General Agreement on Tariffs and Trade (GATT).

The mandate of WTO:

- It facilitates trade in goods, services and intellectual property by providing a framework for negotiating trade agreements that typically aim to reduce or eliminate tariffs, quotas and other restrictions.
- It oversees independent dispute resolution to ensure that participants follow trade agreements and resolve trade-related disputes.
- It forbids trading partners from discriminating against one another, but it makes exceptions for environmental protection, national security and other important goals.

The organisational structure of WTO:

- **The Dispute Settlement Body (DSB):** The General Council convenes as the DSB to deal with disputes between WTO members.
- Such disputes may arise with respect to any agreement contained in the Final Act of the Uruguay Round.
- The DSB has the authority to establish dispute settlement panels and decides the outcome of a trade dispute on the recommendation of such panels and possibly on a report from the Appellate Body (hear appeals from reports issued by panels).
- **Significance of the DSS of the WTO:** It is a central element in providing security and predictability to the multilateral trading system.
- **Issues faced by the DSS:** The appellate body, which is the 2nd tier of the WTO's DSS, is non-functional.

Why has the appellate body remained non-functional?

- From 1995-2019, it upheld the international rule of law by holding powerful countries such as the US and the EU accountable for international law breaches.
- As a result, its one-time supporter, the US, has become its biggest critic, blocking the appointment of its members.

The USA's argument:

- It is incumbent on the appellate body to ensure that there is consistency in the interpretation and application of the WTO agreements without creating a binding precedent.
- Creating binding precedents through its decisions leads to judicial overreach – exceeding its assigned institutional mandate.
- The appellate body rulings can neither add nor diminish the rights and obligations of WTO member countries.
- Hence, there is a need to define precisely the appellate body's role.
- The larger game plan of the US – De-judicialisation of trade multilateralism:

- In a neoliberal economic system, the 'invisible hand' of market competition should be complemented by the 'visible hand' of the law.
- The WTO (not the national actors) became this 'visible hand' of the law to regulate global trade. This erodes the sovereignty of nations as they lose control over critical decision-making.
- De-judicialisation is the reverse phenomenon where countries weaken international courts to take back decision-making power.

What lies behind this game plan?

- Given the emerging geo-economic challenges posed by a rising China, the U.S. wants to exercise full power over its trade policies.

Recent efforts to keep trade multilateralism alive:

- At the Geneva ministerial conference (June 2022), WTO member countries hammer out a face-saving deal (India played a vital role).
- An important part of the deal was resurrecting the WTO's DSS, also called WTO's 'crown jewel', by 2024.

Intellectual property protection in agriculture

Context

- The Delhi HC upheld an order by the Plant Variety Protection

and Farmers' Rights Authority (PPVFRA), revoking the intellectual property protection granted to PepsiCo India with respect to a potato variety developed by it.

What is the case about?

- It pertains to FL 2027 – a potato variety with high dry matter and low sugar content (better suited for making chips) – grown by some 14,000 farmers in India via contract cultivation and buy-back at pre-fixed rates.
- FL 2027 was developed in 1996 by a US breeder employed with a division of PepsiCo Inc – a manufacturer of potato chips sold under its Lay's brand.
- PepsiCo India was granted a certificate of registration (by PPVFRA) for FL 2027 for 6-years in 2016.
- During this period nobody else could commercially produce, sell, market, distribute, import or export it without the breeder's authorisation.

Revocation of registration:

- PPVFRA revoked the registration for FL 2027 in 2021 and rejected PepsiCo India's application for renewal of its registration, for lack of novelty.
- PepsiCo challenged both orders before the Delhi HC. The court upheld the PPVFRA's decision.
- The HC has faulted PepsiCo for wrongly applying for registration of FL 2027 under the category of "new variety" and

giving an incorrect date for its first commercialisation.

The Plant Variety Protection and Farmers' Rights Act 2001:

Objectives of the Act:

- To establish an effective system for the protection of plant varieties, the rights of farmers and plant breeders.
- To encourage the development of new varieties of plants.
- To recognise and protect the rights of farmers towards conserving, improving and making available plant genetic resources for the development of new plant varieties.
- To accelerate agricultural development in the country, protect plant breeders' rights; stimulate investment for R&D for the development of new plant varieties.
- Facilitate the growth of the seed industry in the country which will ensure the availability of high-quality seeds and planting material to the farmers.

Need for the Act:

- To bring Indian legislation in conformity with the International Union for the Protection of New Varieties of Plants (UPOV), 1978.
- To implement TRIPs to support the specific socio-economic interests of all the stakeholders, including resource-constrained farmers.

Rights under the Act:

- **Breeders' Rights:** Breeders will have exclusive rights to produce, sell, market, distribute, import or export the protected variety.
- **Researchers' Rights:** Researchers can use any of the registered varieties under the Act for conducting experiments or research.
- **Farmers' Rights:** A farmer who has evolved or developed a new variety is entitled to registration and protection in like manner as a breeder of a variety;
  - o Farmers' variety can also be registered as an extant variety – satisfying only the criteria of distinctiveness, uniformity and stability, but not a novelty.
- **Implementation of the Act:** To implement the provisions of the Act, the Ministry of Agriculture and Farmers Welfare established the PPVFRA in 2005.

General functions of the Authority:

- Registration of new plant varieties, essentially derived varieties (EDV), and extant varieties;
- Developing DUS (Distinctiveness, Uniformity and Stability) test guidelines for new plant species;
- Preservation of plant genetic resources of economic plants and their wild relatives;
- Maintenance of the National Register of Plant Varieties;

- Maintenance of National Gene Bank, etc.
- **Registration of varieties:** A variety is eligible for registration if it essentially fulfils the criteria of Distinctiveness, Uniformity and Stability (DUS).

GSTN under PMLA

- Government has included the GSTN under the Prevention of Money Laundering Act (PMLA). It allows for the sharing of information between the GSTN, Enforcement Directorate, and other investigative agencies. The amendment to the 2006 notification enhances provisions under Section 66 of the PMLA, enabling disclosure of information.
- **Significance:** This step aims to address rising cases of GST fraud and fake registrations. By bringing GSTN under the purview of money laundering laws, tax authorities gain more power to trace the original beneficiaries in cases of fraud.
- **About GSTN:** GSTN, the non-profit organization, provides IT infrastructure and services to Central and State Governments, taxpayers and other stakeholders for the implementation of GST

Variable Rate Reverse Repo Auctions (VRRRs)

Context

- The Reserve Bank of India (RBI) has continued to conduct variable rate reverse repo auctions (VRRRs) to withdraw excess liquidity from the banking system since June 30.

What is Repo and Reverse Repo?

- Repo rate is the rate at which the central bank lends money, while the reverse repo rate is the rate at which the central bank borrows money from commercial banks. These rates are used to influence liquidity, credit availability, and inflation in the economy.

VRRR

- Variable rate reverse repo (VRRR) auctions are a tool used by the Reserve Bank of India (RBI) to manage the amount of money in the banking system. The RBI conducts these auctions to absorb excess money from banks when there is too much liquidity. The VRRRs aim to maintain the overnight call money rate close to the target rate of 6.50%.

Liquidity

- It is a measure of how quickly an asset can be converted into cash. High liquidity means that an asset can be easily traded, while low liquidity indicates that it may be difficult to buy or sell the asset without affecting its price. Liquidity is essential for efficient functioning of financial markets and allows investors to enter or exit positions with minimal transaction costs.

Working:

1. **Excess liquidity:** If there is too much money in the banking system, the RBI wants to reduce it to maintain stability.
2. **Auction process:** The RBI offers to borrow money from banks through VRRR auctions. Banks participate by submitting bids, stating the interest rate at which they are willing to lend money to the RBI. This interest rate is called the reverse repo rate.
3. **Bid acceptance:** The RBI reviews the bids and accepts those with the lowest interest rates first. For example, if Bank A offers a reverse repo rate of 6.5% and it is the lowest bid, the RBI accepts it.
4. **Lending money:** Bank A then lends a specific amount of money to the RBI for a short period, usually overnight. In return, Bank A earns interest at the reverse repo rate of 6.5%.
5. The RBI takes this borrowed money out of circulation, reducing the overall liquidity in the banking system.

Reasons for increased liquidity in the Indian market:

- Factors contributing to the surplus liquidity include month-end government spending, deposit of Rs. 2,000 denomination banknotes, and the

return of such banknotes by the public.

Multidimensional poverty Index

Context

- According to the global Multidimensional Poverty Index (MPI) 2023, a total of 415 million people moved out of poverty in India within just 15 years from 2005/2006 to 2019/2021.

Global MPI

- It is a key international resource that measures (annually) acute multidimensional poverty across more than 100 developing countries.

- First launched in 2010 by UNDP and Oxford Poverty and Human Development Initiative (OPHI), the global MPI advances SDG 1 – ending poverty in all its forms everywhere.

- It also measures interconnected deprivations across indicators related to SDGs 1, 2, 3, 4, 6, 7 and 11.

- Which district of Tamilnadu is least in multidimensional poverty Index?

  a) Salem

  b) Vilupuram

  c) Dharmapuri

  d) Pudhukkotai

  Ans: (d)

It measure multidimensional poverty

- By constructing a deprivation profile for each household and person across 10 indicators spanning health, education and standard of living.

- A person is multidimensionally poor if s/he is deprived in one-third/33% or more of the weighted indicators out of the 10 indicators.

Ten Indicators

Three Dimensions of Poverty

- Health: Nutrition, Child Mortality
- Education: Years of Schooling, School Attendance
- Living Standard: Cooking Fuel, Sanitation, Water, Electricity, Floor, Assets

- Those who are deprived of one-half or more of the weighted indicators are considered living in extreme multidimensional poverty.

- Significance of the global MPI: It monitors poverty reduction and informs policy, showing how people experience poverty in different aspects of their daily lives.

- The 2023 global MPI:
  o Prevalence
  o Distribution
  o Reduction

- **Good news:** 25 countries, including India, successfully halved their global MPI values within 15 years.

Case of India:

- In 2005/2006, about 645 million people were in multidimensional poverty in India, with this number declining to about 370 million in 2015/2016 and 230 million in 2019/2021.

- Thus, 415 million poor people moved out of poverty from 2005/2006 to 2019/2021.

- Incidence fell from 55.1 to 16.4%.

- Deprivation in all indicators declined.

- The poorest states and groups, including children and people in disadvantaged caste groups, had the fastest absolute progress.

- The above findings are significant as India surpassed China (in Apr 2023) to become the
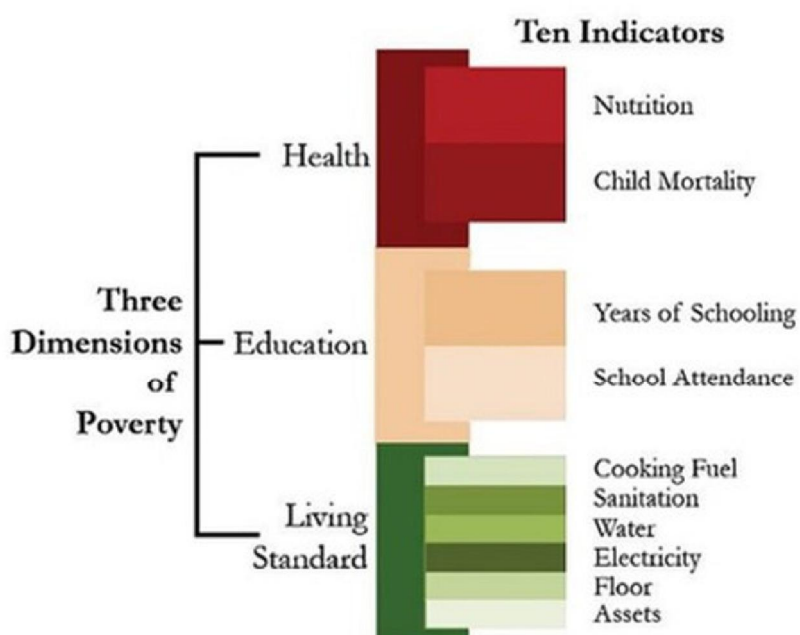
world's most populous nation with 142 crore people.

The State of Food Security and Nutrition in the World 2023

Context

- The State of Food Security and Nutrition in the World 2023 report was released recently with the theme "Urbanisation, agrifood systems transformation, and healthy diets across the rural-urban continuum".

Key findings of the 2023 report:

- **Global Hunger :** Over 700 million people was facing hunger in the world in 2022

- **Nutritional Access :** ~2.4 billion individuals did not have consistent access to nutritious, safe, and sufficient food in 2022.

- **Child Malnutrition :** In 2021, 22.3% (148.1 million) children were stunted (too short for their age), 6.8% (45 million) were wasted (too thin for their height), and 5.6% (37 million) were overweight.

- **Urbanisation's Impact on Diet :** As urbanisation accelerates, there is a noticeable increase in the consumption of processed and convenience foods, leading to a spike in overweight and obesity rates across urban, peri-urban, and rural areas.

- **Rural Dependence on Global Markets :** Previously self-sustaining rural regions, especially in Africa and Asia, are now found to be increasingly dependent on national and global food markets.

Challenges:

- While global hunger numbers have stalled between 2021 and 2022, there are many places in the world facing deepening food crises.

- Largely women and residents of rural areas did not have consistent access to nutritious, safe, and sufficient food in 2022.

- Child malnutrition is still alarmingly high.

- By 2050, it's projected that 70% of the global population will reside in cities.

About the State of Food Security and Nutrition in the World Report:

- It is an annual flagship report jointly prepared by the –
  - Food and Agriculture Organisation of the United Nations (FAO),
  - International Fund for Agricultural Development (IFAD),
  - United Nations Children's Fund (UNICEF),
  - World Food Programme (WFP) and
  - World Health Organisation (WHO)

- It aims to inform on progress towards ending hunger, achieving food security and improving nutrition and to provide an in-depth analysis of key challenges for achieving this goal in the context of the SDG.

- The report targets a wide audience, including policy-makers, international organisations, academic institutions and the general public.

Tax on online gaming: What the GST Council's decision says, its implications

Context

- The Goods and Services Tax (GST) Council, in its 50th meeting, decided to levy a uniform 28% tax on full face value for online gaming, casinos and horse racing.

Decision to levy 28% uniform tax on online gaming:

- Earlier, the ministerial panel had discussed the option of levying tax on gross gaming revenue or platform fee – the charge paid to avail the gaming services, but this did not find favour.

- The uniform levy of 28% tax will be applicable on –
  - The face value of the chips purchased in the case of casinos,
  - The full value of the bets placed with the bookmaker/ totalisator in the case of horse racing, and
  - The full value of the bets placed in the case of online gaming.

- The government will bring in amendments to the GST-related laws to include online gaming and horse racing as taxable actionable claims – goods under the CGST Act, 2017.
- So far, lottery, betting, and gambling were classified as actionable claims.

How will the tax work in real life?

- At present, most gaming companies were paying a tax of 18% applicable on the platform fees.
- Let's assume that the platform fee is 10%. So, for every Rs 100 deposited in the game, the platform makes Rs 10 and 18% GST on Rs 10 means that effectively, on every Rs 100, the GST is Rs 1.8.
- Under the new structure, a GST of 28% will be applicable on the entire face value of the bet or the consideration paid, and not the platform fee.
- Meaning that for every Rs 100 deposited, the GST on it will be Rs 28 – an increase of around 15.6 times.

How big is the online gaming market in India?

- The industry grew at a CAGR of 38% between 2017-2020, as opposed to 8% in China and 10% in the US.
- It is expected to grow at a CAGR of 15% to reach Rs 153 billion in revenue by 2024.
- India's percentage of new paying users (NPUs) in gaming has been the fastest-growing in the world.
- Transaction-based games' revenues grew 26% in India, with the number of paying gamers increasing by 17% from 80 million in 2020 to 95 million in 2021.

Who gets impacted?

- Online gaming is perhaps the only segment of the internet economy that has multiple highly profitable companies.
  - For example, Dream11 had a net profit of Rs 143 cr on revenues of Rs 3,841 crore in FY22.
- The decision has been applied indiscriminately to gaming and gambling platforms.
  - This includes companies that have spent years in lobbying efforts to create a distinction between a game of skill and a game of chance/gambling platforms.

How have online gaming companies reacted?

- The government's move was "extremely unfortunate" as it will lead to "a nearly 1000% increase in taxation."
- The GST Council's decision is "unconstitutional, irrational, and egregious" and will wipe out the entire Indian gaming industry and lead to lakhs of job losses.
- The only people benefitting from this will be anti-national illegal offshore platforms.

The government's intention:

- The moral question: The industry can't be encouraged to such an extent over essential goods and services.

Gaming a speculative and addictive activity:

- Every week there is a story of suicides because of debts incurred due to online gaming.
- The addiction has mainly impacted children and teenagers and along with higher taxes, the government needed to put in restrictions on the basis of age, income etc.
- What is/are the most likely advantages of implementing 'Goods and Services Tax (GST)'?
  1. It will replace multiple taxes collected by multiple authorities and will thus create a single market in India.
  2. It will drastically reduce the 'Current Account Deficit' of India and will enable it to increase its foreign exchange reserves.
  3. It will enormously increase the growth and size of the economy of India and will enable it to overtake China in the near future.
- Select the correct answer using the code given below:
  a) 1 only
  b) 2 and 3 only
  c) 1 and 3 only
  d) 1, 2 and 3
  Ans : (a)

India's attempt to expand G20 to increase Global South imprint

Context

- G20 negotiators led by Indian Sherpa (Amitabh Kant) are discussing the draft "Leader's Declaration" for the Summit in Sept 2023.

- What is the Indian government aiming for? Expand the imprint of the Global South in the G20.

- How? India has inserted (in the revised draft) the proposal for the African Union (AU) membership in the G20.

- Other additions in the revised draft are:
  - Gender-led development,
  - Digital public infrastructure and
  - Green hydrogen transitions.

Significance of India's Push to Expand G20:

- Divert attention from the global polarisation: Over the war in Ukraine, that is holding up a joint statement at all India-led G20 events.

- Will make G20 a truly global body: With the AU joining the G20, 90% of the global population will be represented by the grouping.
  - Also, African countries are among the emerging market regions with the fastest-growing economies

What is aiding India's push for G20 expansion?

- The potential of developing nations: The G20 hosted by India represents the first time that developing countries form the troika (hosts for 2022-2023-2024) of Indonesia-India-Brazil.

- Over-representation of Europe in G20: A quarter of the grouping is made up of the UK, France, Germany, Italy and the EU (Spain is a permanent special invitee).

Challenges towards adding AU in the G20:

- Competition from other contenders: These include regional groupings like the ASEAN and the Community of Latin American and Caribbean States (CELAC), as well as countries like the Netherlands, Spain and Switzerland.

- Paralyse decision-making: Inducting the AU will also mean an exponential rise in the number of countries that can hold up the consensus over a G20 document, which is already paralysed by the Ukraine war.

- In 2023 India presides over _____ ?
  a) G20
  b) SCO
  c) OSOWOG
  d) All the above

  Ans : (d)

Local Currency Settlement System (LCSS)

Context

- India and the United Arab Emirates (UAE) signed a Memorandum of Understanding (MoU) to establish Local Currency Settlement System (LCSS) for using local currencies, the Indian rupee (INR), and the UAE Dirham (AED), for cross-border transactions.

- LCSS will promote the use of INR and AED for current accounts and permitted capital account transactions between the two countries.

- India-UAE trade was approx USD 85 billion in 2022. UAE is India's third-largest trading partner while India is UAE 2nd largest trading partner.

What is a Local Currency Settlement System (LCSS)?

- The Local Currency Settlement System (LCSS) is a mechanism that enables cross-border transactions between two countries to be conducted in their respective domestic currencies.

- It allows exporters and importers to invoice and make payments in their local currencies, reducing the reliance on a third-party currency such as the US dollar.

- For example,
  - Let's consider a scenario where a company in India exports goods to a company in the United Arab Emirates (UAE). With the LCSS in place, the Indian exporter can issue an invoice in Indian rupees (INR), and the UAE importer can make the payment in UAE dirhams (AED).

Advantages & Examples

- **Reduction in foreign exchange costs :** An Indian exporter can invoice in INR, and a UAE importer can pay in AED, eliminating the need for currency conversion to a third-party currency like USD.

- **Mitigation of exchange rate risks:** Companies can hedge exchange rate risks by transacting in local currencies, limiting losses caused by fluctuations in exchange rates.

- Improved transaction efficiency Transaction processes can be streamlined as parties can invoice and settle payments in their domestic currencies, reducing complexities and time delays.

- **Enhanced trade and investment opportunities :** The use of LCSS promotes bilateral trade and investment between India and UAE by facilitating easier and more efficient cross-border transactions.

- **Optimized remittances :** Indian residents in the UAE can send remittances in INR, benefiting from lower transaction costs and faster settlement times.

Other agreements between India and UAE:

- The two countries agreed to link India's Unified Payments Interface (UPI) with UAE's Instant Payment Platform (IPP).

- The two countries agreed to link their respective Card Switches vis-a-visRuPay switch and UAESWITCH to enable mutual acceptance of domestic cards and processing of these card transactions.

- India's Structured Financial Messaging System (SFMS) will be linked with messaging system in UAE to ease their financial messaging.

- Also, India will establish an IIT-Delhi campus in Abu Dhabi, which would be the second IIT abroad after Tanzania.

National Multidimensional Poverty Index

- Context: The NITI Aayog released the 'National Multidimensional Poverty Index: A Progress Review 2023'.

Key highlights:

- India has registered a decline in the number of multidimensionally poor from 24.85% in 2015-16 to 14.96% in 2019-2021.

- In absolute terms, ~13.5 crore Indians escaped poverty during the five-year time period.

- Still, one in seven Indians is multidimensionally poor.

What is the National Multidimensional Poverty Index (MPI)?

- With its first edition released in 2021, the project is aimed at deconstructing the Global MPI and creating a globally aligned and yet customised India MPI.

- It seeks to draw up comprehensive Reform Action Plans with the larger goal of improving India's position in the Global MPI rankings.

- NITI Aayog is the nodal agency for the National MPI, ranking States and UTs based on their performance.

Methodology:

- It captures overlapping deprivations in health, education and living standards to ascertain multidimensional poverty.

- Each of the specific parameters (under 3 broad categories) is assigned a value to calculate what is called a 'deprivation score'.

- The deprivation score is the sum of the weighted status of all the indicators for an individual – if it is more than 0.33, only then an individual is considered multidimensionally poor.

- The primary data source to arrive at these figures was National Family Health Survey-5 (NFHS-5).

Highlights of the National MPI Report 2023 (2nd Edition):

- **Which indicators have reduced India's multidimensional poverty?** Improvements in indicators like access to cooking fuel, sanitation, drinking water, and bank accounts.

- **Where more improvements are needed?** Indicators like nutrition and access to education, where the improvement has only been marginal.

Performance of various states:

- **BIMARU states**: The number of people in poverty in rural areas witnessed the fastest decline (from 32.59 to 19.28%), owing to improvements in states like Bihar, UP, MP, Odisha, and Rajasthan.

- **Number of states with less than 10% of people living in multidimensional poverty:** Doubled between 2016 and 2021 from 7 (Mizoram, HP, Punjab, Sikkim, TN, Goa, and Kerala) to 14 (Telangana, Andhra Pradesh, Haryana, Karnataka, Maharashtra, Manipur, and Uttarakhand).

- Except for Bihar, no other state in India has more than one-third of its population living in multidimensional poverty.

Comparing with Global MPI 2023:

- In 2005/2006, about 645 million people were in multidimensional poverty in India, with this number declining to about 370 million in 2015/2016 and 230 million in 2019/2021.

- Thus, 415 million poor people moved out of poverty from 2005/2006 to 2019/2021.

- Incidence fell from 55.1 to 16.4%.

- Deprivation in all indicators declined.

What is keeping Indians multidimensionally poor?

- Within the health category, 3 sub-indicators – nutrition, child and adolescent mortality, and maternal health – showed only moderate improvement.

  ○ Lack of proper nutrition contributed close to 30% – the highest – in the overall calculation of India's MPI.

- Other indicators that did not record a significant decline include lack of years of schooling, inadequate access to maternal health services and less-than-desired school attendance.

- Within the standard of living category,

  ○ While there has been a significant improvement in access to cooking fuel, ~44% of India's population is still deprived of it.

  ○ While sanitation numbers have improved, over 30% of the population is deprived when it comes to sanitation services.

  ○ Access to housing also remained to be an indicator where the improvement was only marginal. standard of living criteria.

Government's flagship programmes:

- **Health and Nutrition:** PoshanAbhiyan and Anaemia Mukt Bharat have contributed to reduced deprivations in health.

- **Sanitation**: Swachh Bharat Mission (SBM) and JalJeevan Mission (JJM) have improved sanitation across the country.

- **Cooking fuel:** PM UjjwalaYojana (PMUY) has positively transformed lives.

- **Other initiatives**: Initiatives like Saubhagya (electricity), PM AwasYojana (housing), PM Jan DhanYojana (banking), and SamagraShiksha (education).

- Which state in India topped the Multi Poverty Index?
  a) Jharkhand
  b) Bihar
  c) Meghalaya
  d) Uttar Pradesh

  Ans : (b)

Tax Challenges Arising from the Digitalisation of the Economy

Context

- 138 members of the OECD/G20 Inclusive Framework on Base Erosion and Profit Shifting (BEPS) – representing over 90% of global GDP – agreed to an Outcome Statement.

BEPS:

- It refers to corporate tax planning strategies used by multinationals to shift profits from higher-tax jurisdictions to lower or no-tax jurisdictions.

- The OECD defines BEPS strategies as exploiting gaps and mismatches in tax rules. It erodes the tax base (costing countries USD 100-240 billion in lost revenue annually) of the higher-tax jurisdictions.

- As developing countries have

a higher reliance on corporate income tax, they suffer from BEPS disproportionately.

- Working together within the OECD/G20 Inclusive Framework on BEPS, over 135 countries and jurisdictions are collaborating on –
  - The implementation of measures to tackle tax avoidance,
  - Improving the coherence of international tax rules and
  - Ensuring a more transparent tax environment.
- The objective of the Outcome Statement: It delivered a package to further implement the Two-Pillar Solution to Address the Tax Challenges Arising from the Digitalisation of the Economy.
- Two-Pillar Solution/ Global Anti-Base Erosion (GloBE) rules: These rules were agreed upon in 2021 by 137 countries and jurisdictions under the OECD/ G20 Inclusive Framework on BEPS.

Significance of 2-Pillar Solution:

- It will define the multinational enterprises (MNEs) within the scope of the minimum tax.
- It will set out a mechanism for calculating an MNE's effective tax rate on a jurisdictional basis.
- It will impose the top-up tax on a member of the MNE group in accordance with an agreed rule.

- It will provide stability for the international tax system, making it fairer and work better in an increasingly digitalised and globalised world economy.

The Summary of the Outcome Statement:

- A text of a Multilateral Convention (MLC) developed by the Inclusive Framework, which allows jurisdictions to reallocate and exercise a domestic taxing right over a portion of MNE residual profits.
- A proposed framework for the simplified and streamlined application of the arm's length principle.
- The Subject-to-Tax Rule (STTR) together with its implementation framework, will enable developing countries to update bilateral tax treaties to "tax back" income.
- A comprehensive action plan will be prepared by the OECD to support the swift and coordinated implementation of the Two-Pillar Solution.

About OECD:

- It is an intergovernmental organisation with 38 Member countries, founded in 1961 (under the Rome Treaties of 1957) to stimulate economic progress and world trade.
- It is a forum whose member countries describe themselves as committed to democracy and the market economy.
- The term 'Base Erosion and

Profit Shifting' is sometimes seen in the news in the context of

a) mining operation by multinational companies in resource-rich but backward areas
b) curbing of tax evasion by multinational companies
c) exploitation of genetic resources of a country by multinational companies
d) lack of consideration of environmental costs in the planning and implementation of developmental projects

Ans: (b)

Industrial Concentration in India

Context

- The biggest of India's big businesses seem to be thriving.
- Data regarding India's big businesses: According to a former RBI Deputy Governor's report,
- The share of assets in the non-financial sectors owned by the Big-5 business groups has risen from 10% to 18% between 1991-2021.
- Whereas the share of the next five has fallen from 18% to less than 9%.

What causes this industrial concentration?

- Functioning of markets: Given asset-income inequality and differential power among economic agents, markets do not promote competition but concentration and centralisation.

The dangers of such a rapid rise in industrial concentration:

- Stifles competition
- Contributes to inflation or profiteering, through the manipulation of costs and prices.
- Influence institutions of democracy, such as the capture of the media.
- Dilutes the role that civil society can play as a countervailing power.
- In time, leads to undue corporate influence over political processes and the formulation of policy.
- Tendencies of state capture.
- Fosters extreme asset and income inequality.
- **How can this be minimised?** By regulating markets to physically prevent the growth of dominant businesses and excessively large conglomerates or even break up those that are seen as too big for comfort.

Challenges towards regulating markets:

- **The state is not independent of the influence of big businesses:** The distance between the state and private capital has narrowed hugely, leading to the current situation in which the state promotes big business rather than regulates or curbs the latter.
- **Three trends have signalled this narrowing of political distance:** The embrace of neoliberalism by powerful voices within and outside the state.
  - This implied the adoption of the view that the role of the state is not to regulate private capital but to facilitate its growth to foster competition and all-around economic progress.
  - However, the reverse has happened. Examples are in areas such as telecommunications and civil aviation.
- The propagation of the view that the state must help strengthen domestic big business.
  - State policy, diplomacy and public resources had to serve as instruments for the purpose.
  - While liberalisation opened up Indian markets, and subjected much of Indian business to global competition, state intervention (like subsidies) was modified to protect and promote sections of big business.
- The refusal to reduce the influence of money in politics.
  - Over time, the policy has been changed to legitimise corporate donations to political parties, including through the infamous electoral bonds scheme.
  - Thus, big business has turned out to be a prerequisite for garnering the resources needed to manage elections and win electoral support.

What is frightening in the current situation?

- These tendencies have coalesced into a strategy of strengthening Indian business as part of promoting the national interest.
- Any dissent against centralisation and concentration is being suppressed by the state in the name of national interest.

RBI's SOPs to Banks for Rupee Trade

Context

- The Reserve Bank of India (RBI) is set to issue a standard operating procedure (SOP) to banks in order to expedite the issuance of proofs of inward remittances for exporters.
- Aim: This move aims to address the challenges faced by exporters in the rupee-based trading mechanism for foreign trade.

Issues with FIRC (Foreign Inward Remittance Certificate)?

- The issue with Foreign Inward Remittance Certificates (FIRC) arises when the certificate from one bank is not being sent to another, which hampers the generation of electronic bank realisation certificates (e-BRCs). This creates a problem for exporters as e-BRCs serve as proof of payment for their exports and make them eligible for benefits under the Foreign Trade Policy.
- For example, if an exporter in

India receives a payment for their exports from a foreign buyer through a bank, they require a FIRC from that bank as evidence of the inward remittance. However, if the FIRC is not transmitted to the exporter's bank, the exporter cannot obtain the necessary e-BRC, which may prevent them from accessing benefits or incentives provided by the government for export transactions.

What is FIRC (Foreign Inward Remittance Certificate)?

- FIRC is a document that acts as a testimonial for all the inward remittances entering India.

What is an Electronic Bank Realization Certificate(e-BRC)?

- An Electronic Bank Realization Certificate(e-BRC) is a vital digital certificate for export businesses. A bank issues the e-BRC to confirm that the buyer made payment to the exporter against the export of services or goods. The BRC is the proof of realization of payment against exports.

The Rajasthan Minimum Guaranteed Income Bill 2023

Context

- The Rajasthan Minimum Guaranteed Income Bill 2023 has been recently tabled by the Rajasthan government.

About the Bill:

- Objective: In order to provide individuals or households with a minimal additional guaranteed income in the form of a guaranteed wage/pension, the bill would establish entitlement-based social security.

Salient provisions:

- Minimum guaranteed income:
  ○ Each adult citizen of the state has been guaranteed a minimum income for 125 days a year.
  ○ This will be provided through two schemes,
- In the urban areas through the Rajasthan government's flagship Indira Gandhi ShahriRozgar Guarantee Yojana.
- In the rural areas through the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA).

Guaranteed employment

- The minimum wages should be paid weekly or in any case not later than a fortnight to ensure the right to employment.
- The Program Officers (BDO in rural and an Executive Officer of the local body in urban areas) shall ensure that the work site is within a radius of 5 Km of where the job card is registered.
- The applicant is entitled to an unemployment allowance if the program officer fails to offer work within 15 days of receiving the application.
  ○ **Guaranteed social security pension:** The govern-ment will provide eligible categories (aged, disabled, widows, and single women) with a minimum pension of Rs 1,000, which will be increased at the rate of 15% each year.

Significance of the Bill:

- The Bill contains many firsts in the country. For example, guaranteeing minimum employment and pensions by law distinguishes it from cash transfer schemes.
- The Bill is part of a bouquet of schemes and measures undertaken by the Rajasthan government to combat inflation with an eye on the polls later this year.

Challenges towards implementation:

- Identification of eligible beneficiaries with minimum inclusion and exclusion errors.
- Financial burden, as the government anticipates an additional expenditure of Rs 2,500 crore per year, which may increase with time.

A Roadmap to eliminate poverty in India

Context

- India's current per capita income is $2,379 in 2022-23. The goal is to raise it by almost six times in the next 25 years, leading to a higher standard of living and poverty eradication. To achieve this vision,

understanding the challenges and taking appropriate actions are essential.

Current achievements of India in poverty reduction:

- 415 million poor people moved out of poverty from 2005/2006 to 2019/2021 (from 645 to 230 million). (Global MPI)

- India has registered a decline in the number of multidimensionally poor from 24.85% in 2015-16 to 14.96% in 2019-2021. (National MPI)

- Challenges that the country will face in economic development and subsequent poverty reduction:

On the global front:

- Ukraine-Russia conflict: The overall climate for peace, which is necessary for growth, has deteriorated after the conflict.

  ○ Supply disruptions of critical imports like oil can cause a severe setback not only to developing countries but also to developed countries.

- The attitude of some countries towards global trade: Rich countries that earlier preached to the developing countries to adopt a free trade model, are putting restrictions on imports.

  ○ This is happening when developing countries like India are reaching the stage of being able to compete in the world market.

At the domestic:

- State of Indian economy:

  ○ In the past 75 years, India has built a reasonably strong and diversified economy.

  ○ Though India is today the 5th largest economy, it is ranked (2022) 149 out of 194 countries in per capita terms.

- Export-led growth strategy: Several countries (South Korea, China, etc) achieved high growth over several decades by focusing on exports.

  ○ This export-led growth strategy may not work for India, particularly in the context of a changed global trade situation.

- **Adoption of new technologies:** India's ability to absorb new technologies like Artificial Intelligence (AI) will have ramifications for the industrial structure and employment.

  ○ AI can result in increasing productivity and output but not necessarily jobs.

- **Impact on output because of environmental considerations:** Bringing down pollution can have an output effect. In this context, a high annual growth rate of 8% may have to be ruled out.

- Provision for basic income:

  ○ In an uncertain world, the need for the provision of basic income becomes even more urgent.

  ○ However, there are many issues connected with basic income (level and coverage) which need to be resolved.

Actions India needs to overcome these challenges:

- A multi-dimensional strategy:

  ○ The emphasis should be on agriculture and related activities, manufacturing and exports.

  ○ India needs to preserve its achievements and move forward in the services area.

- Raising the per capita income: By almost six times from $2,379 in 2022-23 over the next 25 years.

- Reorienting the educational system: This will enable students to acquire the required skills.

- Identify labour-intensive economic activities.

- For implementing the provision of basic income, beneficiaries have to be determined taking into account certain normative considerations.

- Potential implications of the above actions: These will enable people to have a higher standard of living, reduce inequality and eliminate poverty.

Resource Efficiency Circular Economy Industry Coalition

Context

- The Union Minister of

Environment Forest and Climate Change launched the Resource Efficiency Circular Economy Industry Coalition (RECEIC).

Where?

- It was launched on the sidelines of the 4th G20 Environment and Climate Sustainability Working Group (ECSWG) and Environment and Climate Ministers meeting in Chennai.
- The ECSWG meets to discuss the pressing environmental issues and promote global collaboration towards a sustainable and resilient future.

Founding members:

- As many as 39 multinational corporations (MNCs) from sectors such as steel, FMCG, electronics came together to join RECEIC.
- They pledged to adopt resource efficiency and circular economy principles to address environmental challenges rising from waste, including plastics, microplastics, e-waste, and chemical waste.

What is the RECEIC?

- Conceptualised by India's G20 Presidency, it is envisaged to be industry-driven and a self-sustaining initiative continuing to function even beyond India's G20 Presidency.
- The mission of this coalition is to –
  ○ Facilitate and foster greater company-to-company collaboration,
  ○ Build advanced capabilities across sectors and value chains,
  ○ Bring learnings from the diverse and global experiences of the coalition members, and
  ○ Unlock on-ground private sector action to enhance resource efficiency and accelerate circular economy transition.
- The coalition is structured around the 3 guiding pillars of partnerships for impact, technology cooperation and finance for scale.

Significance of RECEIC:

- It would play a pivotal role in promoting alliances, encouraging technological cooperation and knowledge transfer, fostering innovation, and facilitating the exchange of insights to enhance access to finance.
- It will contribute towards progress on key global goals and priorities set by the G20 and other international fora.
- RECEIC will also act as an overarching platform enabling industries to address information gaps and coordination challenges across the G20 members.
- Other efforts of the Indian government to promote a circular economy:
- The E-Waste (Management) Rules 2016: To curb the improper disposal of electronic products and to promote sustainable e-waste management practices.
- **The Plastic Waste Management (Amendment) Rules 2022:**
  ○ It establishes Extended Producers' Responsibility (EPR) guidelines. EPR is an environmental protection strategy that makes the manufacturer of the product responsible for the entire life cycle of the product.
  ○ Under this, 2.6 million tonnes worth of EPR certificates had been generated by plastic waste processors and around 1.51 million tonnes of those certificates had been purchased by PIBOs (Producers, Importers and Brand owners).
- Swachh Bharat Mission – Urban 2.0: The focus is on source segregation of garbage, utilising the 3Rs (reduce, reuse, recycle), scientific processing of municipal solid waste, etc.

Challenges for circular economy in India:

- Industries are reluctant to adopt the circular economy model due to supply chain limitations, lack of incentives to invest in recycling and remanufacturing processes, etc.
- Many people in India are not familiar with the concept of a circular economy and its benefits.

- India's current infrastructure may not be well-equipped to support a circular economy. For example, insufficient recycling facilities and waste management systems.
- There is a cultural resistance to the idea of reusing and recycling products in India.

Self-Reliant India Fund

Context

- As part of the Aatmanirbhar Bharat package, the Indian government announced a Rs. 50,000 crore Equity Infusion for Micro, Small, and Medium Enterprises (MSMEs) through the Fund of Funds. The initiative aims to provide equity funding to viable and promising MSMEs to help them grow and become larger units.
- The Self-Reliant India (SRI) Fund has been established to implement this plan, with Rs. 10,000 crores contributed by the Government of India and Rs. 40,000 crores from Private Equity and Venture Capital funds.
- The SRI Fund operates through a mother-fund and daughter-fund structure for equity or quasi-equity investments. The NSIC Venture Capital Fund Limited (NVCFL) is registered as the Mother Fund under the SRI Fund implementation.
- The government has also taken several other initiatives to support the MSME sector, including

the launch of the Champions 2.0 portal, the MSME Champions Scheme for financial assistance, budgetary support to Credit Guarantee Fund Trust for Micro & Small Enterprises, and the "Raising and Accelerating MSME Performance (RAMP)" program aimed at strengthening MSMEs' access to credit and markets and promoting technology upgradation.

RBI's Digital Payments Index (RBI-DPI)

Context

- According to RBI data, digital payments in India saw a year-on-year growth of over 13% at the end of March 2023.
- The RBI's Digital Payments Index (RBI-DPI) reached about 395 compared to 377 in September 2022.

Reason for the increase:

- The increase in the index was attributed to substantial growth in payment infrastructure and performance across the country.

About DPI:

- The DPI (Digital Payments Index) assesses the level of digitalization in payments nationwide and showcases the growth of different digital payment methods. It is released semi-annually and consists of five main parameters with varying weights:
  - Payment Enablers (weight 25%)

  - Payment Infrastructure – Demand-side factors (10%)
  - Payment Infrastructure – Supply-side factors (15%)
  - Payment Performance (45%)
  - Consumer Centricity (5%)

Issues faced by gig workers in India

Context

- A parliamentary panel has asked the Ministry of Labour and Employment (MoL&E) to formulate and implement welfare schemes for gig and platform workers and unorganised sector workers at the earliest.

Why?

- Since such workers do not come under the purview of the Employees' Provident Fund and Miscellaneous Provisions Act, appropriate/ specific welfare schemes for them need to be put in place by the government.

What is a gig economy?

- It is a labour market that relies heavily on temporary and part-time positions filled by independent contractors and freelancers rather than full-time permanent employees.
- Gig workers gain flexibility and independence but little or no job security.

Gig workers

- Gig workers refer to workers outside of the traditional employer-employee relationship. There are two groups of gig workers.

- **Platform workers** : When gig workers use online algorithmic matching platforms or apps to connect with customers, they are called platform workers.
- **Non-platform workers :** Those who work outside of these platforms are non-platform workers, including construction workers and non-technology-based temporary workers.
- **Gig economy in India:** According to the NITI Aayog estimates, nearly 23.5 million workers will be engaged in the gig economy by 2029.

Issues faced by gig workers:

- Since the gig economy falls outside the scope of traditional, full-time employment, gig workers usually lack basic employment rights such as
  - Minimum wages,
  - Overtime pay,
  - Medical leave, and
  - A statutorily bound resolution of employer-employee disputes.
- Gig workers display characteristics of both employees and independent contractors - as a result fall outside the ambit of statutory benefits under –
  - the Minimum Wages Act 1948, EPF Act 1952 and the Payment of Bonus Act 196 (for employees)
  - the Contract Labour (Regulation and Abolition) Act 1970 (for contract labourers)

What is the proposed law for gig workers?

- The Code on Social Security 2020, which has proposed social security schemes for gig workers and platform workers on matters relating to –
  - life and disability cover,
  - accident insurance,
  - health and maternity benefits,
  - old age protection, etc.
- However, the Code is yet to come into force.

Other efforts:

- A MoU has been signed between the MoL&E and the NLSIU (Bangalore) for assistance in framing a new scheme for the gig and platform workers as well as workers in the unorganised sector.

WTO: Agreement on Fisheries Subsidies

Context

- Trade experts and civil society members are urging India not to ratify the fisheries subsidies agreement recently agreed upon by the World Trade Organization (WTO) members.

What is the Fisheries Subsidies Agreement at WTO?

- The fisheries subsidies agreement agreed upon by the WTO prohibits subsidies for Illegal, Unreported and Unregulated (IUU) fishing and overfished stocks. It also restricts subsidies for fishing on the high seas, outside the jurisdiction of coastal countries and Regional Fisheries Management Organizations.
- Transition Period: Developing countries and Least Developed Countries (LDCs) are granted a two-year transition period under Special and Differential Treatment (S&DT) and are not obligated to implement disciplines during this period.

Exemptions:

- The agreement allows subsidies for vessels or operators not engaged in IUU fishing and permits subsidies to rebuild overfished stocks to a sustainable level.

Advantages for India:

- For India, the agreement is seen as crucial to combat large-scale IUU fishing that impacts coastal communities' livelihoods and depletes fisheries resources.

Concerns for India

1. **Impact on Livelihoods :** Reduction in subsidies may negatively affect small-scale and traditional fishers' livelihoods and income.
2. **Competitiveness :** Indian fishing industries may face challenges competing with heavily subsidized fishing operations from other nations.
3. **Resource Access :** Restrictions on subsidies for fish-

ing in certain areas may limit Indian fishing vessels' access to high-seas fishing grounds, affecting their ability to catch valuable fish stocks.

4. **Impact on the Fishing Industry** : The agreement may lead to increased operational costs for the fishing industry, impacting its overall competitiveness.

5. **Market Disruptions** : Reduced subsidies for certain fishing practices may lead to market disruptions and changing dynamics in the industry.

6. **Negotiation Leverage** : India's bargaining power in international fishing negotiations may be affected by the new agreement's provisions.

7. **Unequal for India** : Concerns have been raised that the agreement is unequal and does not address the overfishing and overcapacity issues adequately

India's stand

- India, being a low fisheries subsidizer with a sustainable approach, emphasizes that advanced fishing nations that have historically provided substantial subsidies and contributed to fish stock depletion should bear more responsibility based on the 'polluter pay principle' and 'common but differentiated responsibilities.'

Argentina

- India and Argentina have agreed to foster the bilateral exchange of young researchers and startups, particularly in the fields of biotechnology and agriculture.

- Bilateral trade between India and Argentina reached a historic peak of over USD 6 billion in 2022, with India as the 4th largest trading partner of Argentina. I

- Argentina is the second-largest country in South America after Brazil. Argentina is bordered by the Andes Mountains and Chile to the west.

- To the east of the Andes, the interior of the country is flat, fertile grassland called the Pampas.

- The eastern border of the country is the Atlantic Ocean. Bolivia is to the northwest and Paraguay is to the north.

Initiatives launched under PMFBY

Context

- Ministry of Agriculture and Farmer's Welfare launched Weather Information Network Data Systems (WINDS) portal, AIDE mobile app, and Yield Estimation System (YES-TECH) Manual with the aim to provide crucial weather-related information to farmers.

- This has been launched under PradhanMantriFasalBimaYojana (PMFBY)

Initiatives launched:

- **WINDS (Weather Information Network Data Systems) portal** : WINDS will hosts, manages, and process hyper-local weather data collected by Automatic Weather Stations and Rain Gauges/Rain watch towers at Taluk/Block and Gram Panchayat levels.

  o It will provide crucial weather-related information and data to farmers.

  o It will enhance risk assessment and decision-making in crop insurance, agriculture advisories, and disaster mitigation.

- **AIDE (App for Intermediary Enrolment) mobile app** : A mobile application was introduced to facilitate farmers' access to various government schemes and benefits. Through the app, farmers can easily enrol and avail themselves of the different agricultural schemes.

  o It will ensure a seamless and transparent process, making crop insurance more accessible and convenient for farmers

- **YES-TECH (Technology-based Yield Estimation System) Manual** : A manual aimed at implementing a technology-based system for yield estimation in agriculture. The initiative leverages technology to accurately estimate crop yields, helping farmers make informed decisions and plan effectively.

Other such initiatives available:

Project/Initiative	Description
Forecasting Agricultural output using Space, Agro-meteorology and Land based observations (FASAL) project	FASAL project utilizes space technology, agro-meteorology, and land-based observations for accurate agricultural output forecasting. It helps farmers make informed decisions based on reliable crop yield predictions.
National e-Governance Plan in Agriculture (NeGPA)	It enables farmers to access vital agricultural data and services through digital platforms.
National Agricultural Drought Assessment and Monitoring System (NADAMS)	It helps in identifying regions facing drought conditions and facilitates appropriate drought management strategies to support farmers.
ISRO's Geo-platform, Bhuvan	It offers data on plantation, pest surveillance, and weather conditions. It also promotes the use of Kisan Drones for crop assessment and facilitates the digitization of land records to improve agricultural practices.

Significance:

- These initiatives aim to bridge the gap in weather information availability and empower farmers with accurate and timely data for effective planning and decision-making in the agriculture sector.

About PMFBY:

- PradhanMantriFasalBimaYojana (PMFBY) is a crop insurance scheme launched in 2016 to provide financial support and risk coverage to farmers against crop losses due to natural calamities, pests, and diseases.

T+0 settlement

Context

- SEBI, India's securities market regulator, is working on introducing real-time settlement of transactions in the stock exchanges, known as T+0 settlement.

- Currently, the settlement process takes one day (T+1) after the trade date, but with T+0 settlement, funds and securities will be transferred instantly on the same day as the trade. This shift will bring operational efficiency, faster fund remittances, and immediate availability of money and shares for investors.

What is the T+1 settlement cycle?

- In simple terms, T+1 settlement means that securities transactions will reflect in the demat account after a day instead of two days now under the T+2 cycle. If an investor buys a stock on Thursday, it would be shown in the demat account on Friday. Now with T+0 settlement, investors can find the purchased on the same day (i.e., Thursday)

- **T+2:** Was introduced in 2017

- **T+1:** Was recently allowed in the Indian stock market (January 2023)

- **T+0:** May be introduced by the next financial year (2024)

India's great power ambitions and dilemmas

Context

- The article discusses the dilemmas India faces in pursuing its great power ambitions.

Some argue that India should prioritize uplifting its people above the poverty line and improving governance before venturing into global power politics. However, the article emphasizes that India's rise as a great power will have global consequences and should not be ignored.

Options available before India:

- To become a great power asserting its growing power internationally to address global issues, or
- To focus on its people – eliminating poverty, improving governance, etc. – before venturing into making a better world.

Tracking India's journey:

- **India of 1991:**
  - A weak, poor country with a foreign exchange reserve of $5.8 billion and a nominal GDP of $270.11 billion.
  - The collapse of India's trusted partner (the Soviet Union) and strained relations with the US.
  - The likelihood of an India-Pakistan conflict persisted despite efforts to diffuse nuclear war concerns, and violence in Kashmir was at an all-time high.
- **India of 2023:**
  - The reforms (LPG) initiated after the 1991 economic crisis led to higher GDP growth (the world's 5th largest economy and its nominal GDP could soon touch $4 trillion), forex ~$600 billion and a significant reduction in poverty.
  - India has one of the largest militaries in the world with over a hundred nuclear weapons.
  - Conflict with China (not Pakistan) worries India.
  - There is a general sense of foreign policy optimism. The US is now one of India's closest friends, and New Delhi enjoys strong relationships with several powerful states around the world.

The role played by India in world politics:

- India is one of the pivotal swing powers of the contemporary international system, strategically located and often playing both sides with great skills.
  - For example, in the ongoing Ukraine war, both the West (US) and Russian Federation want India to be on their side.
  - However, India, without taking any sides, is mediating between Ukraine and Russia to bring an end to the war.
- It's a bridge between the north and south and east and west, indirectly indicating that it is a major 'pole' in world politics.

Strength of India:

- It uses the language of mediation in global crises.
- The country's national power has increased dramatically, making it a force with system-shaping capabilities and intentions.

Challenges faced by India (domestic):

- Poverty
  - GDP per capita was $1,947 in 2021 (Bangladesh – $2,227 – 40th largest military in the world)
  - Infrastructural and governance issues. For example, a few days of rain brings the national capital to a standstill.
  - Regional, caste, ethnic and religious divisions.
- The argument:
  - GDP and military strength do not equal the well-being of a country's citizens.
  - The gross material power that a state can exert in its foreign and security policy is not comparable to the standard of living of its citizens.
- Case of India: India's domestic challenges will continue to distract the attention of its political leaders from attending to global problems – debt restructuring, climate change, global trade or non-proliferation.

Mutual Funds to introduce five new categories under the ESG Scheme

Context

- The Securities and Exchange Board of India (Sebi) has

permitted mutual funds to introduce five new categories under the ESG (environmental, social, and governance) scheme.

- Currently, mutual funds can launch only one ESG scheme under the thematic category of equity schemes.

What is ESG Scheme?

- ESG aims to encourage sustainable and ethical business practices, including climate change, pollution, human rights, corporate governance, and more. SEBI issued a guidance note in 2012, urging companies listed on Indian Stock Exchanges to disclose their ESG performance in annual reports.

- With effect from the financial year 2022-2023, filing of Business Responsibility and Sustainability Report (BRSR) has been made mandatory for the top 1000 listed companies by SEBI.

- ESG schemes are mandated to invest at least 65% of assets in listed entities with BRSR Core assurance, while the balance can be invested in companies with BRSR disclosures, starting from October 1, 2024.

How ESG differs from corporate social responsibility (CSR)?

- India has a robust CSR policy codified in the Companies Act 2013, mandating that corporations engage in initiatives that contribute to the welfare of society by spending at least 2% of their net profit over the preceding 3 years on CSR activities.

- ESG regulations differ in process and impact. For example, The U.K. Modern Slavery Act requires companies to publish the efforts they have taken to identify the risks of child labour in their supply chain, etc.

Five New Categories of Mutual Funds:

Categories	Description	
Exclusions	Exclude certain industries or companies based on ESG criteria.	Avoiding investments in fossil fuel companies.
Integration	Integrating ESG factors into investment decision-making.	Assessing companies' environmental practices before investing.
Best-in-Class and Positive Screening	Selecting companies with leading ESG performance in their industry.	Investing in companies with top-notch labour practices.
Impact Investing	Investing in businesses or projects with positive social and environmental impact.	Funding renewable energy projects.
Sustainable Objectives	Investing in alignment with specific sustainability goals.	Supporting companies committed to reducing waste

- Aim of the New measures: It aims to facilitate green financing and requires enhanced disclosures to mitigate greenwashing.

Wheat Board of India

Context

- Cereal Experts from India, Australia, and Canada have proposed the establishment of the Wheat Board of India, a comprehensive organization to ensure food and nutrition security through wheat for the growing population.

- The experts were attending

two-day international milling and baking technical conference that concluded in Guwahati. The event was organised by the Wheat Products Promotion Society (WPPS), a 33-year-old non-profit organisation.

Need:

- To simplify regulatory compliance: The board would address end-to-end compliance at both the Central and State government levels, covering production, storage, processing, and utilization of wheat

- To modernize wheat production and processing: The experts emphasized the importance of biofortified wheat varieties to meet nutritional needs, modernizing wheat storage and handling to reduce post-harvest losses, and promoting sustainable processing technologies.

- For the development of climate-resilient wheat varieties and improved milling technologies for higher recovery of milling streams.

India-UAE Local Currency Settlement System

Context

- India and the United Arab Emirates (UAE) have signed a pact to establish Local Currency Settlement System (LCSS) to promote the use of the Indian rupee (INR) and UAE Dirham (AED) for cross-border transactions.

- The deal was signed during the Prime Minister's recent visit to Abu Dhabi, UAE.

- Note: The RBI (Reserve Bank of India) in 2022 announced a framework for settling Global Trade in Rupees, primarily targeting trade with Russia. But this is yet to take off in a substantive manner.

What are the Key Agreements?

- LCSS:
  - It covers all current account transactions and permitted capital account transactions.
  - The LCSS will enable exporters and importers to pay in their respective domestic currencies and enable the development of an INR-AED forex market.
  - It will reduce transaction costs and settlement time, including for remittances by Indians in the UAE.
  - India could use this mechanism to pay for imports of oil and other commodities from the UAE, its 4th largest energy supplier (in FY 22-23).

- UPI-IPP:
  - The central banks of both countries have signed to cooperate on linking India's Unified Payments Interface (UPI) with the UAE's Instant Payment Platform (IPP) and RuPay switch and UAESWITCH.
  - The UPI-IPP link will enable users in both countries to make fast, safe and cost-effective cross-border transfers.
  - The linking of card switches will facilitate the mutual acceptance of domestic cards and the processing of card transactions.
  - The MoUs were signed by the respective Governors of the RBI and the Central Bank of UAE.
  - They will also explore the linking of India's Structured Financial Messaging System (SFMS) with the payments messaging system of the UAE.

- IIT Delhi campus to be set up in Abu Dhabi:
  - An MoU was signed for establishment of IIT Delhi campus in Abu Dhabi.
  - The new MoU is an addition in the 'IITs go Global' campaign.
  - This will be the second international IIT campus after IIT Madras Zanzibar, Tanzania.
  - The degrees will be offered starting 2024 with courses covering several areas such as Energy and Sustainability, AI, Computer Science and Engineering, Healthcare, Mathematics and Computing and other disciplines of engineering, sciences and humanities.

What is the Significance of Rupee Based Cross Border Transaction?

- India is looking to work out a way to mitigate exchange rate risks in the rupee-based trade to limit losses for Indian exporters.

- The rupee-based transaction is part of a concerted policy effort by India to Internationalize the Rupee to bring down the dollar demand.

- Apart from Russia, countries in Africa, the Gulf region, Sri Lanka and Bangladesh had also expressed interest in trading in rupee terms.

- The RBI's plan to settle international trade in the local currency will let importers make payments in the rupee, which will be credited to the special account of the correspondent bank of the partner country, while exporters will be paid from the balances in the designated special account.

How has been India- UAE Bilateral Relations?

- Diplomatic Ties:
    - India and the UAE established diplomatic relations in 1972.
    - The greater push has been achieved in bilateral relations when the visit of India's Prime Minister to the UAE in August 2015 marked the beginning of a new strategic partnership between the two countries.
    - Further, during the visit of the Crown Prince of Abu Dhabi to India in January 2017 as the chief guest at India's Republic Day celebrations, it was agreed that bilateral relations were to be upgraded to a comprehensive strategic partnership.
    - This gave momentum to launching negotiations for an India-UAE comprehensive economic partnership agreement.

- Bilateral Trade:
    - Bilateral trade between India and the UAE was worth ~USD 85 billion in 2022-23 making the UAE India's 3rd-largest trading partner for 2022-23 and India's 2nd-largest export destination.
    - India is the 3rd largest oil importer in the world and the UAE was its 4th biggest supplier of crude in 2022.
    - In 2022, India became the first country with which the UAE signed a Comprehensive Economic Partnership Agreement.
    - The UAE, which imports most of its food requirements, has pledged USD 2 billion to develop a series of food parks in India.
    - Many Indian companies have set up manufacturing units either as joint ventures or in Special Economic Zones for cement, building materials, textiles, engineering products, consumer electronics, etc. in the UAE.
    - Many Indian companies have also invested in the tourism, hospitality, catering, health, retail, and education sectors.

Defense Exercises:

- Bilateral:
    - In-UAE BILAT (bilateral naval exercise)
    - Desert Eagle-II (bilateral air force exercise).
    - Exercise Desert Flag-VI: UAE

- Multilateral:
    - Pitch Black: Biennial, multilateral air combat training exercise of Australia.
    - Red Flag: Multilateral air exercise of the USA.

Urea Gold

Context

- Urea Gold is a new variety of urea coated with sulphur, launched by Prime Minister NarendraModi in Rajasthan's Sikar.

- Aim: It is designed to address sulphur deficiencies in the soil, benefiting farmers by enhancing agricultural productivity.

- Urea Gold is said to be better

than conventional forms of Urea (including Neem coated urea)

- Slow release: Sulphur-coated urea facilitates a gradual release of nitrogen, thereby enhancing its availability and uptake by crops.

- Extended Life: The inclusion of humic acid in Urea Gold further extends its lifespan as a fertilizer.

- Reduces overall fertilizer usage: According to the report, 15 kg of Urea Gold provides comparable benefits to 20 kg of conventional urea, making it a more efficient and effective choice for farmers.

About Urea:

- The main function of Urea fertilizer (40% of Nitrogen content) is to provide the plants with nitrogen to promote green leafy growth. It also aids the photosynthesis process of plants. Since urea fertilizer can provide only nitrogen and not phosphorus or potassium, it's primarily used for bloom growth.

GST revenue collection

- The Tamil Nadu and Puducherry Goods and Services Tax (GST) zone has contributed 8.12% of all of India's GST revenue.

- It also provided 4.72% of the all-India Central Excise Revenue in 2022-23.

- The year-on-year national growth in GST revenue collection is 21% during 2022-23

compared to the previous year.

- Likewise, the Tamil Nadu and Puducherry Zone revenue has shown a 19% increase in 2022-23 compared to last year.

- Tamil Nadu stands third in the large State category after Karnataka and Maharashtra.

SIPCOT BizBuddy Outreach

- A new initiative called 'SIPCOT BizBuddy Outreach' inaugurated recently.

- It aims at improving the industrial ecosystem in Tamil Nadu.

- The first ever outreach event held at the SIPCOT Oragadam Industrial Park.

- The annual outreach events will now be held across all industrial parks of SIPCOT starting this year

Electronic goods' export

- Tamil Nadu has become the top exporter of electronic goods in India.

- It exports nearly tripling in the 2022-2023 financial year to $5.37 billion.

- Tamil Nadu has accounted for a share of 22.8 % of India's exports valued at $ 23.57 billion.

- In the previous year, It stood third contributing $ 1.864 billion or 11.98 % to India's total export of $ 15.59 billion in the sector.

- Now TN has Surpassing Uttar Pradesh, Karnataka and Maharashtra.

- Which district in Tamilnadu is the export hub for automobiles & electronics?
   a) Kancheepuram
   b) Chennai
   c) Chengalpattu
   d) Thiruvallur
   Ans :

6,000 crore Proposals for investments

- The Tamil Nadu Cabinet cleared 10 industrial projects, which will bring in Rs.6,000 crore in investments.

- They have a potential to create 27,000 jobs.

- Of the 10 projects, two are electric-vehicle projects, three are in general manufacturing, and one in electronics hardware.

- There is one project in the technical textile space.

- Godrej Consumer Products Limited will set up a plant in Tamil Nadu.

- Last year, the government unveiled the Life Sciences Policy, 2022, and the Research & Development Policy, 2022.

- The main goal of the R&D Policy is to double the R&D expenditure from the government, higher education and private sectors by 2030.

- It will transform Tamil Nadu into a knowledge-based economy by 2030, driving manufacturing and services excellence.

- The Life Sciences Policy was aimed at attracting Rs. 20,000

crore in investments and generate 50,000 jobs.

- This will be transforming the State into the most preferred destination for researchers in biologics, biosimilars and medical technology.

BRICS Urbanization Forum

- This year, the forum has its first in-person follow-up in the vibrant South African city of Durban, South Africa.

- It aims to delve into key urban developmental issues and explore how cities globally are enhancing their resilience to meet emerging challenges.

- The last edition of the forum was hosted online under the presidency of China in 2022.

- The BRICS Urbanisation Forum that was inaugurated in New Delhi in February 2013.

First Government bank to allow UPI payments through credit cards

- Canara Bank has announced that it has become India's first Public Sector Bank to offer UPI (Unified Payments Interface) payments to merchants through RuPay Credit Card.

- This new feature is available within the bank's popular "Canara ai1" Banking Super App.

- The bank has partnered with NPCI (National Payments Corporation of India) to introduce this facility.

- It enables Canara Bank customers to make quick and seamless payments to merchants using their RuPay Credit Card, providing them with greater flexibility and convenience.

- This joint initiative aims to provide safe, secure, and convenient payment transactions for Canara Bank customers.

- The introduction of RuPay Credit Cards on UPI opens new opportunities for both customers and merchants, revolutionizing the credit ecosystem.

Financial Stability Report for June 2023

- The Gross Non-Performing Assets (GNPA) of the scheduled commercial banks, declined to a 10-year low of 3.9 per cent in March 2023.

- It is expected to fall further to 3.6 per cent by March 2024.

- But nearly 10 per cent of retail borrowers are missing monthly payments.

- The write-off to GNPA ratio increased in 2022-23 due to large write-offs by private sector banks.

- It had been declining consecutively through 2020-21 and 2021-22.

RBI GOVERNOR SHAKTIKANTA DAS: FINANCIAL STABILITY REPORT

- Tech helping reach, depth of financial intermediation
- Opportunities for growth, financial inclusion via digitalisation
- Had to reassess global standards of financial norms on new risks
- Global cooperation among regulators of paramount importance
- Regulators, regulated entities must commit to financial stability

Highlights of the 50th GST Council Meeting

- The 50th Meeting of the GST Council took place in New Delhi.

- It decided to reduce the GST rate on uncooked/unfried snack pellets to 5%.

- The Council has exempted IGST on medicines and Food for Special Medical Purposes (FSMP) when imported for personal use.

- To encourage better utilization of LD slag, the GST rate on LD slag has been reduced from 18% to 5%.

SBI Ecowrap report

- State Bank of India's Economic Research Department's report, SBI Ecowrap, said that India is likely to get the tag of the world's third largest economy by FY28.

- India should surpass both Japan and Germany in 2027 at the current rate of growth.

- The incremental increase by India between 2022-2027, is more than the current size of Australia's economy at $1.8 trillion.

- India is likely to add $0.75 trillion in every 2 years.

- This implying that India is all set to touch $20 trillion by 2047.

- Maharashtra and Uttar Pradesh will break the $500 billion mark in 2027 (or FY28)

World Investment Report 2023

- United Nations Conference on Trade and Development released a World Investment Report 2023.

- Foreign Direct Investment (FDI) in developing countries in Asia remained flat at $662 billion during 2022, as compared to the previous year.

- Overall global FDI declined by 12% to $1.3 trillion in 2022.

- In Asia, the incoming FDI was highly concentrated in China (and Hong Kong), Singapore, India, and United Arab Emirates (UAE).

- During 2022, FDI inflows to India rose by 10% on an annual basis to $49 billion.

- China registered a 5% yearly growth to $189 billion.

- Singapore and UAE grew by 8% and 10% to $141 billion and $23 billion, respectively.

- Developing countries, including India, which have attracted FDI in clean energy to the tune of $544 billion in 2022

State of Food Security and Nutrition in the World 2023 report

- It is an annual flagship report jointly prepared by the Food and Agriculture Organisation of the United Nations (FAO), International Fund for Agricultural Development (IFAD), United Nations Children's Fund (UNICEF), World Food Programme (WFP) and World Health Organisation (WHO).

- It aims to inform on progress towards ending hunger, achieving food security and improving nutrition and to provide an in-depth analysis of key challenges for achieving this goal in the context of the SDG.

- The theme of the report is "Urbanisation, agrifood systems transformation, and healthy diets across the rural-urban continuum".

- Over 700 million people was facing hunger in the world in 2022.

- 2.4 billion individuals did not have consistent access to nutritious, safe, and sufficient food in 2022.

- In 2021, 22.3% (148.1 million) children were stunted (too short for their age), 6.8% (45 million) were wasted (too thin for their height), and 5.6% (37 million) were overweight.

- Previously self-sustaining rural regions, especially in Africa and Asia, are now found to be increasingly dependent on national and global food markets.

India's first PPP model ATL

- OPPO India in collaboration with NITI Aayog's Atal Innovation Mission (AIM) has announced the establishment of an Atal Tinkering Lab (ATL) in Kerala.

- This collaboration marks the

establishment of the first-ever Atal Tinkering Lab, based on the PPP (Public-Private Partnership) model.

- This initiative aims to create an empowered future-ready workforce and nurture entrepreneurship and technological skills among the youth.

- Till 2022, 10,000 ATLs were established across 35 States and UTs in India though government grants.

2. Socio Economic Issues

Trafficking in Border Areas

Context

- The government has announced plans to assist border states and union territories in setting up homes for the rehabilitation of trafficking victims, particularly children and minors.

Ministry

- The Women and Child Development Ministry will provide financial aid to these regions to establish shelters that will offer protection, rehabilitation, and support services to victims of trafficking.

Provisions

- These homes will provide essentials such as shelter, food, clothing, counselling, and primary healthcare facilities.

What is Human trafficking?

- Human trafficking refers to the illegal trade and exploitation of individuals through force, coercion, or deception for various purposes such as forced labour, sexual exploitation, and organ trafficking. It involves the recruitment, transportation, harbouring, or receipt of people by means of threat, fraud, or abduction for the purpose of exploitation.

India's Status

- India is both a source and destination country for human trafficking, with neighbouring countries like Nepal, Bangladesh, and Myanmar being the main sources.

Constitutional Status

- Article 23 prohibits human trafficking and begar (forced labour without payment).
- Article 24 forbids the employment of children below the age of 14 years in dangerous jobs like factories and mines.

Schemes

- The Women and Child Development Ministry have been providing financial assistance under the Nirbhaya Fund to establish Anti Human Trafficking Units (AHTU) across the country, including in border guarding forces like the BSF and SSB.
  - As of now, 788 AHTUs, including 30 in border guarding forces, are functional.
- Sponsorship under the Mission Vatsalya Scheme, which focuses on the protection and welfare of children.

- Anti-Trafficking Nodal Cell (Ministry of Home Affairs)

Manual Scavenging

Context

- According to the Ministry of Social Justice and Empowerment (MoSJE), all unsanitary latrines had been made sanitary under the Swachh Bharat Abhiyaan and the problem of manual scavenging is eliminated.

The practice of manual scavenging in India:

- **Meaning:** Manual scavenging includes the disposal of human excreta manually from dry latrines, and public streets and the maintenance and sweeping of septic tanks, sewers and gutters.
- **Prevalence in India:** As many as 58,000 people worked as manual scavengers as of 2018.
  - In 2022, 48 people died due to hazardous cleaning of sewers in 2022. This number was 49 in 2021, 19 in 2020, and 117 in 2019.
  - The practice, which is considered the worst remaining evidence of untouchability, is most prevalent among people from lower castes/Dalits.

Attempts to abolish manual scavenging:

- Salient features of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013:

- It bans manual scavenging.

  ○ It widened the definition of manual scavengers by including it in all forms of manual removal of human excreta.

  ○ It lays a key focus on rehabilitating manual scavengers by organising training programs (at a stipend of Rs. 3000) and offering scholarships to their children.

  ○ It makes the offence of manual scavenging cognizable and non-bailable.

  ○ It makes it obligatory for employers to provide protective tools to the workers.

Other efforts:

- The scheme for rehabilitation of manual scavengers: Under this, ~58,000 identified sewer workers have been given a one-time cash payout of Rs. 40,000 each.

  ○ In addition, ~22,000 of them have been connected to skills training programmes.

- NAMASTE scheme: For 100% mechanisation of sewer work. The scheme (launched in 2022) for the rehabilitation of manual scavengers has now been merged with the NAMASTE scheme.

Concerns:

- Lack of funding: The Union Budget 2023-24 showed no allocation for the rehabilitation scheme and Rs.100 crore allocation for the NAMASTE scheme.

- Less than half of the identified sewer workers are connected to skills training programmes.

- Despite all efforts, manual scavenging is still practised in India. Just 520 districts across the country had declared themselves free of manual scavenging.

Best practices:

- The Bandicoot Robot is the world's first robotic scavenger, developed as a Make in India and Swachh Bharat Abhiyan initiative by the startup Genrobotics.

- Kerala became the first state in the country to use robotic technology (Bandicoot) to clean all its commissioned manholes.

Global Peace Index

- The 2023 Global Peace Index (GPI) was released by the Institute for Economics & Peace (IEP).

- 79 countries becoming less peaceful and 84 countries becoming more peaceful.

- Violence cost the world $17.5 trillion or 12.9% of GDP in 2022.

- Iceland has been declared the most peaceful country in the world for the 15th time in succession.

- India stands at 126 ranks out of 163 countries in the Global Peace Index.

- Afghanistan is the least peaceful country in the world for the fifth consecutive year.

- It is followed by Yemen, Syria, Russia, and South Sudan.

- In Cambodia, the most encouraging case among these, the incidence of poverty fell from 36.7% to 16.6%.

- It halved the number of poor people, from 5.6 million to 2.8 million, all within 7.5 years.

Report on unsafe drinking water

- The report named, Burden of disease attributable to unsafe drinking water, sanitation and hygiene: 2019 update, was released recently by the WHO.

- Half of the world's population still does not have adequate access to drinking water, sanitation and hygiene.

- It caused the death of at least 1.4 million people and 74 million disability-adjusted life years (DALY) in 2019.

- Globally, 771 million people lack access to safe water and 1.7 billion people don't have a toilet.

- Unsafe drinking water, sanitation and hygiene (WASH) were responsible for 395,000 deaths among children under five years of age.

- This includes 273,000 deaths from diarrhoea and 112,000 deaths from acute respiratory infections.

- Soil-transmitted helminthiases affect an estimated 1.5 billion people or 24 per cent of the world's population.

- Diarrhoeal diseases accounted for the majority of the attributable burden with more than a million deaths and 55 million DALYs.

- Acute respiratory infections identified as the second-largest contributor, with 356,000 deaths and 17 million DALYs.

- 10 per cent of the burden of undernutrition — Protein-energy malnutrition (PEM) representing a total of 8,000 deaths and 825,000 DALYs in this age group.

- Almost 384,000 diarrhoea deaths and 20 million DALYs in 2019.

Study about the Children

- Recently, a study published in the journal Nature has shed light on the impact of welfare schemes on brain development, particularly in children from low-income families.

- The study, based on brain scans of over 10,000 children aged 9-11 from 17 U.S. states, aimed to explore the relationship between poverty and brain development and the role of anti-poverty policies in mitigating its effects.

What are the Key Highlights of the Study?

- Poverty's Effect on Brain Development:
  - Previous studies have consistently demonstrated that growing up in low-income families can adversely affect brain development and cognitive abilities.
  - In 2015, three studies reported that human children and young adults growing up in low-income families had lower cortical volume and did relatively poorly in tests for academic performance. The cortex is the outer layer of the brain.
  - Children from low-income families showed a higher risk of having a smaller hippocampus, a structure crucial for learning and memory.

Impact of Anti-Poverty Policies:

- Generous anti-poverty policies were found to substantially lower the risk of a smaller hippocampus in children from low-income families.

- The size of the hippocampus correlated positively with family socioeconomic status.

- Researchers found a significant three-way interaction between family income, cost of living, and cash assistance programs in predicting hippocampal volume.

- In low-income households residing in high-cost-of-living states, and received generous cash benefits, their hippocampal volumes were, on average, 34% larger than those who lived in low-income households in states with a relatively higher cost of living and lower cash benefits.

Welfare Schemes and Mitigating Biological Effects:

- Access to more financial resources through welfare schemes can shield families from chronic stressors associated with low income, potentially influencing hippocampal development.

- Anti-poverty policies can reduce stress levels and allow families to make decisions that lead to decreased stress, such as working fewer hours.

Future Implications and Limitations:

- Longitudinal Study:
  - The researchers plan to examine how policy changes since the data collection period have influenced the mental health and brain development trajectories of the participants.
  - Monitoring the long-term impact of policy changes can provide valuable insights into the effectiveness of anti-poverty measures.

- Addressing Socioeconomic Disparities:
  - The study highlights the

importance of investments in social safety net programs to address socioeconomic disparities in neurodevelopment.

○ Such programs can potentially lower the costs associated with mental health, education, and economic challenges resulting from socioeconomic inequalities.

• In a given year in India, official poverty lines are higher in some States than in others because (2019)

(a) poverty rates vary from State to State

(b) price levels vary from State to State

(c) Gross State Product varies from State to State

(d) quality of public distribution varies from State to State

• Ans: (b)

UNESCO endorses banning smartphones from schools

Context

• UNESCO's Global Education Monitoring Report 2023 warns against the uncritical adoption of digital technology in educational settings, as there is little robust evidence of its added value in education.

Negative impact of mobile devices on children's learning:

Negative Impact	Examples
Distraction	Students get distracted during lectures or study time due to notifications from social media apps.
Reduced Attention Span	Children find it difficult to focus on a single task for an extended period due to constant multitasking on devices.
Decreased Reading Habit	Children spend more time on mobile games and videos than reading books or educational material.
Impaired Sleep	Excessive use of mobile devices before bedtime leads to sleep disturbances and reduced sleep duration.
Cyberbullying	Children experiencing cyberbullying through social media platforms, lead to emotional distress and impact their learning.
Reduced Face-to-Face Interaction	Overreliance on virtual communication leads to decreased social skills and communication abilities.
Lack of Physical Activity	Spending excessive time on mobile devices leads to a sedentary lifestyle, affecting overall health and academic performance.
Inaccurate Information	Children may come across misleading or false information online, impacting their understanding and knowledge.
Privacy Concerns	Sharing personal information on social media or other platforms without understanding the potential risks to privacy.
Addiction	Developing addictive behaviour towards mobile devices leads to withdrawal symptoms when not using them.

Recommendations:

- The report endorses banning smartphones in schools when technology integration does not improve learning or worsens student well-being.

- Excessive screen time has been linked to poorer well-being, less curiosity, self-control, emotional stability, and higher anxiety and depression diagnoses in children.

- Advocates for data privacy laws to protect children's information

- **Use:** The issues and recommendations can be used in question-related to education/learning at school/Screen addiction among children.

XI. Science and Technology

US-China chips war

Context

- The US-China chips war has prompted India to position itself as a player in the semiconductor technology field through a significant partnership with the US.

What is the US-China chips war?

- The US-China chips war revolves around the rivalry between the two economic powers for dominance in semiconductor technology. The US has implemented restrictions to prevent China from gaining a technological advantage, while also investing in domestic chip manufacturing. China, on the other hand, aims to achieve self-sufficiency in semiconductors through its "Made in China 2025" plan. The war has disrupted global semiconductor supply chains and led to a shift in alliances and trade patterns. In this war, Semiconductors have emerged as the 'new oil'

Advantages for India in Semiconductor Technology:

- **Strategic Partnership with the US** : India has positioned itself as a player in the critical semiconductor technology field with US's Micron during the recent PM's visit. Earlier, in 2022, India- US initiative on Critical and Emerging Technologies (iCET) deal was also signed.

- **Government Support and Investment :** The Indian government has allocated significant funds and resources, amounting to Rs 76,000 crore ($10 billion), to support the development of the semiconductor industry in the country. E.g. through the PLI scheme.

- **Skilled Workforce :** India boasts a large pool of skilled professionals in engineering and technology.

- **Growing Domestic Market :** India offers a vast and expanding domestic market for semiconductors and related products.

- **Cost Competitiveness :** India has a competitive advantage in terms of cost, offering relatively lower labour and operational costs compared to some other countries.

- **Infrastructure Development** : The Indian government has been actively working on developing the necessary infrastructure to support semiconductor manufacturing e.g., the establishment of fabrication plants (fabs) and semiconductor clusters.

What are Semiconductors?

- A semiconductor is a material that has electrical conductivity between that of a conductor and an insulator. Semiconductors are used to create electronic circuits, such as transistors and diodes, which control the flow of electric current. They are commonly made from materials like silicon or germanium and are essential for various applications, including computers, smartphones, Integrated Circuits, defence systems, and AI

India's initiatives:

- Production-linked incentive (PLI) scheme for the semiconductor industry

- Three entities(Vedanta-Fox-conn, international consortium ISMC and Singapore-based IGSS Ventures) that had applied to build the chips
- **Semicon India Programme:** Launched in 2021 with an outlay of Rs 76,000 crore, the programme seeks to support the development of the semiconductors and the display manufacturing ecosystem in India.
- Fiscal support for a design-linked initiative (DLI) schemeto drive global and domestic investment related to design software, IP rights etc.

Global Initiatives for Semiconductors:

- Semiconductor friend-shoring among the Quad members by USA, to building "resilient, diverse and secure supply chains of critical and emerging technologies".
- US-led "Chip 4 Alliance" with Japan, South Korea and Taiwan to restrict Chinese access to chip tech.
- Taiwan produces over 60% of the world's semiconductors and over 90% of the most advanced ones.
- "Made in China 2025" plan: to get self-sufficiency in semiconductor

Challenges for India:

- India is currently at least two decades behind in chip manufacturing

- It lacks the necessary infrastructure, uninterrupted power and water supply, and a skilled workforce.
- There is a need for the development of a comprehensive chip ecosystem and ancillary industries in India.

Organic Light Emitting Diodes (OLEDs)

- Organic Light Emitting Diodes (OLEDs) are used to create a digital display in many devices. What are the advantages of OLED displays over Liquid Crystal displays?
  1. OLED displays can be fabricated on flexible plastic substrates.
  2. Roll-up displays embedded in clothing can be made using OLEDs.
  3. Transparent displays are possible using OLEDs.
- Select the correct answer using the codes given below:
  (a) 1 and 3 only
  (b) 2 only
  (c) 1, 2 and 3
  (d) None of the above statements is correct
  Ans : (c)

TEJAS

Context

- The indigenous Light Combat Aircraft (LCA) called Tejas has completed seven years of service in the Indian Air Force.

About Light Combat Aircraft (LCA):

- The LCA programme was started by the Government of India in 1984 to replace ageing Mig 21 fighter planes. The government established the Aeronautical Development Agency (ADA) (under the Department of Defence Research and Development) to manage the LCA programme.
- **Designed by :** Aeronautical Development Agency (ADA)
- **Manufactured by :** Hindustan Aeronautics Limited (HAL)

Features

- Lightest, smallest, and tailless multi-role supersonic fighter aircraft in its class.
- Designed to carry a range of air-to-air, air-to-surface, precision-guided weapons.
- Air-to-air refuelling capability, carefree handling, enhanced manoeuvrability, multi-mode airborne radar, and self-protection suite
- Maximum payload capacity of 4000 kg.
- Maximum speed of Mach 1.8.
- The range of the aircraft is 3,000 km.

Variants

- **Tejas Trainer:** 2-seater operational conversion trainer for training air force pilots.
- **LCA Navy:** Twin- and single-seat carrier-capable for the Indian Navy.
- **LCA Tejas Navy MK2:** Phase 2 of the LCA Navy variant.

- **LCA Tejas Mk-1A:** Improvement over the LCA Tejas Mk1 with a higher thrust engine.
- **LCA Mk2** is an upgraded version of the LCA Tejas Mk1. It will replace Jaguars, MiG-29s, and Mirage 2000s. The General Electric GE-414 engine (from the USA) will power the LCA Mk2.

Robots for SDGs

- The United Nations (UN) introduced 51 robots, including nine humanoid robots, at the AI for Good Global Summit held in Geneva. The summit aimed to accelerate the achievement of the United Nations' Sustainable Development Goals (SDGs) by 2030.
- These robots were equipped with functions aligned with the SDGs, such as healthcare robots capable of understanding emotions and displaying empathy, E.g.,
- Grace an advanced nursing humanoid robot developed by Hanson Robotics
- Singularity NET assists elderly individuals
- **Use:** The example can be used to show how technology can help in achieving SDGs

LIGO-India

Context

- LIGO-India, a new gravitational-wave observatory, is set to put India on the research map and contribute to our understanding of the Universe.
- Currently, there are two LIGO setups in the US, and a third one will be built in the Hingoli district of Maharashtra, India. The facility's construction is expected to be completed by 2030.
- LIGO (Laser Interferometer Gravitational-wave Observatory) is a physics experiment designed to detect gravitational waves, which are ripples in the fabric of spacetime caused by massive objects in accelerated motion.

What are Gravitational Waves?

- Gravitational waves are ripples in the fabric of space and time that travel at the speed of light. They are created by the motion of massive objects, such as black holes or neutron stars, which generate gravitational waves when they orbit or collide with each other.
- According to Albert Einstein's theory of general relativity, any object with mass warps the space-time around it. When two massive objects orbit each other or collide, they produce ripples or waves in space-time that propagate outward at the speed of light.
- Gravitational waves are extremely weak and difficult to detect. They were first directly detected by the Laser Interferometer Gravitational-Wave Observatory (LIGO) in 2015, a century after they were predicted by Einstein's theory.

Majorana zero modes

Context

- Researchers at Microsoft have announced a breakthrough in creating Majorana zero modes, a type of particle that could greatly advance quantum computing.

About Majorana zero modes:

- Majorana zero modes are unique particles that could

make quantum computers less fragile and more computationally powerful.

- The particles, also known as Majorana fermions, were first proposed by Italian physicist EttoreMajorana in 1937. They possess special properties that make them their own antiparticles, which is advantageous for building quantum computers.

- Majorana zero modes can be used as qubits, the fundamental units of information in quantum computing, and have the potential to protect encoded information from decoherence, a major challenge in quantum computing.

- Additionally, these particles could enable topological quantum computing, which offers computational advantages and additional degrees of freedom for algorithms. Despite the promising potential, Majorana zero modes have not been directly observed yet, and further research and improvements in technology are needed to fully realize their benefits.

ISRO to transfer SSLV to the private sector

Context

- The Indian Space Research Organisation (ISRO) is planning to transfer its Small Satellite Launch Vehicle (SSLV) to the private sector after conducting two successful flights of the rocket.

- The SSLV is designed to provide on-demand services for launching satellites weighing up to 500 kg into low-Earth orbit. Small rockets like the SSLV are specifically designed for nano and micro-satellites, offering dedicated launch services without the need for larger rockets.

- The move to transfer the SSLV to the private sector aligns with India's goal of increasing private sector participation in the space industry. The commercial satellite launch services sector in India is expected to contribute $13 billion to the economy by 2025, according to a recent report.

Chandrayaan-3

Context

- Chandrayaan-3 is India's upcoming lunar mission, which aims to be the world's first mission to soft-land near the lunar south pole.

What is Chandrayaan-3 Mission?

- Chandrayaan-3 is India's third

moon mission and is a follow-up of Chandrayaan-2 (2019) which aimed to land a rover on the lunar South Pole. The Mission will have three major modules- the

- Propulsion module (will carry the lander and rover configuration till 100 km lunar orbit)

- Lander module (capability to soft land and deploy Rover)

- Rover (will carry out in-situ chemical analysis of the lunar surface)

Challenges of landing on the South Pole:

- Previous spacecraft have mostly landed near the equatorial region of the Moon, a few degrees latitude north or south of the lunar equator. Landing near the equator is easier and safer due to the hospitable terrain, smooth surface, absence of steep slopes, and ample sunlight for solar-powered instruments.

- The lunar south pole, on the other hand, presents a challenging terrain with extreme

temperatures and areas that are in permanent shadow, receiving no sunlight.

Why ISRO wants to explore the Moon's south pole?

- **Water Resources:** The south pole region is believed to have water molecules in substantial amounts, possibly trapped as ice in the permanently shadowed craters.
  - Exploring and confirming the presence of water is essential for future human missions and the potential utilization of lunar resources.

- **Scientific Discoveries:** The extreme environment and the presence of permanently shadowed regions provide a preserved record of the Moon's history and the early Solar System.

- **Clues to Earth's History:** The Moon is thought to have formed from debris generated by a giant impact between a Mars-sized object and the early Earth.
  - By studying the lunar south pole, scientists can gain insights into the materials and conditions that existed during the formation of the Earth-Moon system.

- **Global Collaborations:** ISRO-NASA successfully confirmed the presence of water from the data taken by Chandrayaan-1. Indo-Japan collaboration, LU-PEX aims to send a lander and rover to the Moon's south pole around 2024.

- **Technological Advancements:** By undertaking missions to this region, ISRO can develop and demonstrate innovative technologies for soft landing, navigation, resource utilization, and long-duration operations that can be applied in future space missions.

Comparision of Chandrayaan-1, 2 and 3

Mission	Chandrayaan-1	Chandrayaan-2	Chandrayaan-3
Launch Year	2008	2019	July 14, 2023
Objectives	Study lunar surface	Study the lunar surface and land rover on the lunar South Pole	Demonstrate landing capabilities for Lunar Polar Exploration Mission
Components	Orbiter, Moon Impact Probe	Orbiter, Lander (Vikram), Rover (Pragyan)	Propulsion module, Lander, Rover
Findings	Confirmed presence of lunar water, lunar caves, tectonic activity, faults, and fractures	Building on the evidence of water molecules shown by Chandrayaan-1	–
Communication	Communication issues after 312 days of operation	Lander crash-landed, rover unable to operate	–
Launch Vehicle	PSLV	GSLV-Mk 3	LVM3
Landing Site	–	Lunar South Pole	Lunar South Pole
Major Partners	–	–	Japan (for Lunar Polar Exploration Mission)

About LVM3:

- Launch Vehicle Mark 3 (LVM3) (previously known as GSLV-MK III) is a three-stage launch vehicle consisting of two solid propellants S200 strap-ons on its sides and a core stage comprising L110 liquid stage and C25 cryogenic stage. The vehicle is also dubbed as one of the heaviest for its ability to carry satellites up to 8,000 kg.

- What is India's plan to have its own space station and how will it benefit our space programme?

- The Mangalyaan launched by ISRO

  1. is also called the Mars Orbiter Mission

  2. made India the second country to have a spacecraft orbit the Mars after USA

  3. made India the only country to be successful in making its spacecraft orbit Mars in its very first attempt

- Which of the statements given above is/are correct?

  (a) 1 only

  (b) 2 and 3 only

  (c) 1 and 3 only

  (d) 1, 2 and 3

  Ans: C

- Who is the Tamizhan worked as the project director at Chandrayaan 3?

  a) Mayilsamy

  b) Veera Muthuvel

  c) Shivan

  d) Sivathaanupillai

  Ans : (b)

- What is slingshot Technology?

  a) To send space Payloads to the far solar system using as little fuel as possible

  b) Technology of deflecting an asteroid on course to hit eath

  c) Production of submarines to withstand High pressure in the sea.

  d) Production of High yielding oilseed crops within short period of time

  Ans : (a)

NASA's Perseverance rover finds diverse organic matter on Mars

Context

- NASA's Perseverance rover has discovered evidence of organic compounds in a Martian crater, providing insights into the potential habitability of Mars.

- The study, published in the journal Nature, reveals a more complex organic geochemical cycle on Mars than previously thought, indicating the presence of multiple reservoirs of potential organic molecules on the planet.

Key Findings:

- The findings suggest that Mars has experienced aqueous processes and that water may have played a significant role in the existence of organic matter.

- The research team used an instrument called the Scanning Habitable Environments with Raman and Luminescence for Organics and Chemicals (SHERLOC) to detect the organic compounds.

- The rover's landing site in Jezero Crater, which was once a lake basin, shows a high potential for past habitability, as it contains minerals such as carbonates, clays, and sulphates that could preserve organic compounds and traces of prehistoric life.

- Which part of the moon will Chandrayaan - 3 fly from Sri-Harikotta to explore?

  a) South

  b) North

  c) East

  d) West

  Ans : (a)

Small Modular Reactors (SMRs)

Context

- This article discusses India's shift towards Small Modular Reactors (SMRs) as a strategic move in the nuclear energy sector.

SMRs

- They are advanced nuclear reactors with a capacity of up to 300 MW per unit, offering advantages such as simplicity, safety, and cost-effectiveness.

- SMRs can be factory-made and transported to a site for installation.

- SMRs are economical and time-efficient, and unlike traditional reactors that require refuelling every 1-2 years, SMRs only need refuelling every 3-7 years.

Status of India's nuclear power:

- India has over 22 nuclear reactors in 7 power plants across the country which produce 6780 MW of nuclear power
- India aims to raise nuclear power to 10% of its energy mix by 2035.

Global Status of SMRs:

- Worldwide over 70 SMR designs are under development in 17 countries e.g., S.'s NuScale Power company, whose 600 MW SMR plant design has been approved by the Nuclear Regulatory Commission.
- Russia's 77 MW SMR, AkademikLomonosov, was operational as early as 2019.
- In the U.K., Rolls-Royce is setting up a manufacturing facility for SMRs.

Why does India need more nuclear power?

- Very limited growth potential for hydropower because of conserving biodiversity, the costs of rehabilitating and compensating landowners and the seismological factors in the Himalayas.
- India has nearly 210 gigawatts of coal capacity, producing 73% of the electricity of India, which is not environmentally friendly.

- Wind and solar powers are intermittent or variable.

India's strategy:

- India's strategy for nuclear energy transition involves transitioning from larger nuclear power plants to smaller ones, specifically Small Modular Reactors (SMRs). The government aims to engage the private sector through public-private partnerships to set up SMRs across the country. The long-term goal is to raise nuclear power to 10% of India's energy mix by 2035.

NitiAayog's suggestions for SMRs include:

- Encouraging private sector participation through public-private partnerships.
- Implementing comprehensive regulatory changes to ensure safety standards and monitoring.
- Modifying foreign investment policies to attract domestic and foreign companies for SMR development in India.

93% DPT3 immunisation coverage in 2022: WHO

Context

- According to the World Health Organization (WHO), India's coverage rate for the DPT3 vaccine (diphtheria, pertussis, and tetanus) reached an all-time high of 93% in 2022.
- This surpassed the pre-pandemic best of 91% in 2019 and

showed a significant increase from the 85% recorded in 2021. In the WHO South-East Asia Region, the DPT3 coverage rate also recovered to pre-pandemic levels at 91% in 2022, up from 82% in 2021.

Key Findings:

- The region also witnessed improvements in the coverage of the measles vaccine, which rose to 92% in 2022 from 86% in 2021.
- The number of zero-dose children (those who haven't received any dose of the DPT vaccine) halved to 2.3 million in 2022 from 4.6 million in 2021, while the number of partially vaccinated children decreased to 650,000 in 2022 from 1.3 million in 2021.
- India and Indonesia were credited for the region's strong immunization recoveries, as they made significant efforts to improve vaccination rates.
- The report highlighted the importance of closing gaps in immunization coverage at the subnational level to prevent outbreaks of vaccine-preventable diseases.

About DTP:

- DTP vaccine can prevent

diphtheria, tetanus, and pertussis. Diphtheria and pertussis spread from person to person. Tetanus enters the body through cuts or wounds.

- DIPHTHERIA (D)can lead to difficulty breathing, heart failure, paralysis, or death.
- TETANUS (T)causes painful stiffening of the muscles. Tetanus can lead to serious health problems, including being unable to open the mouth, having trouble swallowing and breathing, or death.
- PERTUSSIS (aP), also known as "whooping cough," can cause uncontrollable, violent coughing that makes it hard to breathe, eat, or drink. Pertussis can be extremely serious especially in babies and young children, causing pneumonia, convulsions, brain damage, or death. In teens and adults, it can cause weight loss, loss of bladder control, passing out, and rib fractures from severe coughing.

Semiconinida 2023

Context

- Prime Minister inaugurates SemiconIndia 2023 in Gujarat, emphasizing India's potential to become a global semiconductor hub and its commitment to innovation and technology.

What is Semicon India?

- It is an annual conference organized by the India Semiconductor Mission (ISM) with the primary objective of promoting the growth and development of India's semiconductor industry.

Objectives:

- It aims to showcase India's capabilities in semiconductor design and manufacturing while facilitating networking and knowledge exchange among participants.

What are Semiconductors?

- They are materials with unique electrical properties, crucial in manufacturing various electronic devices and playing a significant role in modern technology.
  - About India Semiconductor Mission (ISM):
  - About India Semiconductor Mission (ISM)
- The ISM was launched in 2021 under the aegis of the Ministry of Electronics and IT (MeitY) as a comprehensive program for the development of sustainable semiconductor and display ecosystem in India
- **Aim :** To provide financial support to companies investing in semiconductors, display manufacturing and design ecosystems. ISM aims to serve as the nodal agency for the efficient, coherent and smooth implementation of the schemes.
- **Components :** Scheme for setting up of Semiconductor Fabs and Display Fabs in India (fiscal support to eligible applicants for setting up of Semiconductor Fabs); Scheme for setting up of Compound Semiconductors / Silicon Photonics etc. Design Linked Incentive (DLI) Scheme

- **Why India Needs Semiconductor Industry? :** Semiconductors are crucial for modern economics, powering electronic gadgets and devices. These microchips, also known as Integrated Circuits (ICs), are mainly made of silicon and germanium. India's semiconductor consumption is projected to exceed USD 80 billion by 2026 and USD 110 billion by 2030. The manufacturing of these chips is concentrated in a few countries, including the United States, Taiwan, South Korea, Japan, and the Netherlands.

- **Other Initiatives related to Semiconductors :** Semiconductor Laboratory (SCL) Modernization; Support for Compound Semiconductors; Production Linked Incentives (PLI); Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme.

Intelligent Traffic Management System

- Mysuru city will introduce Intelligent Traffic Management System, equipped with AI-powered cameras at 25 locations. The system will automatically capture violations such as helmetless riding, triple-riding on two-wheelers, driver-on-call, seat belt violation, and signal jump. Once a violation is captured, a challan will be
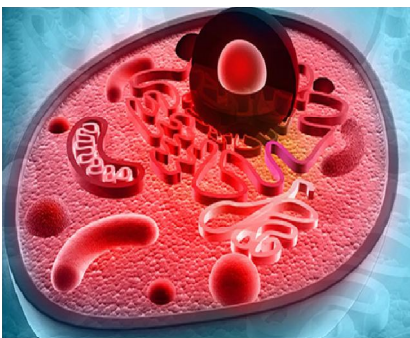
generated, and a notice will be sent to the vehicle owner's address.

- A similar type of Traffic Management System is operational in cities like Bengaluru, Ahmedabad etc.
- Usage: Such an example can be used in governance questions related to urban management.

A mechanism that quietly removes unfit cells before you're born

Context

- Research on the early stages of human embryonic development and the role of specific cells known as the inner cell mass has gained importance recently.
- The inner cell mass contains pluripotent cells, meaning they have the potential to differentiate into all the different cell types that make up the human body. These cells are of great interest to scientists as they are responsible for shaping the entire human body.
- In a study conducted in 2016, researchers discovered a subset of non-committed cells within the inner cell mass. Unlike the majority of cells in the inner cell mass that go on to contribute to the developing embryo, these non-committed cells seem to die off early in the development process.
- Further investigation revealed that the non-committed cells lack the expression of a gene called HERVH, which is critical for maintaining pluripotency in human embryonic stem cells.
- Instead, these cells express transposons, also known as "jumping genes," which can insert themselves into different parts of the genome, potentially causing DNA damage and leading to cell death.
- HERVH, despite being a type of transposon itself, appears to protect the pluripotent cells from the harmful effects of other transposons. By the end of this early developmental stage, the cells that express HERVH survive and become the "good" cells that will form the embryo, while the non-committed cells that lack HERVH expression die through cell death.
- The study refers to the early human embryo as a "selection arena," where cells compete to survive based on their gene expression patterns.

The DNA Technology (Use and Application) Regulation Bill 2019

Context

- The Union government withdrew the DNA Technology (Use and Application) Regulation Bill 2019 from the LokSabha.

What is DNA technology?

- DNA/Deoxyribonucleic acid is the genetic material of the cell and contains all of the instructions for cells to carry out their structure and function.
- DNA technology is the study and manipulation of genetic material, which includes sequencing, analysis, and cutting-and-pasting of DNA.
- Using this technology, scientists are able to manipulate DNA to study the biology of living organisms and to improve human life (treatment of diseases).
- However, the technology can be abused through unauthorised access to databanks and unauthorised disclosure of information.

Background of the Bill:

- First proposed in 2003 (by the Ministry of S&T), the Bill has gone through numerous changes, led by both the Department of Biotechnology and the Law Ministry, over the years.
- In 2019, it was referred to the Parliamentary Standing Committee on S&T after being introduced in the LokSabha.
- In 2021, the panel's report was released, which highlighted that the Bill could be misused to target segments of society based on religion, caste or political views.

- About the DNA Technology (Use and Application) Regulation Bill:

- It seeks to create a regulatory framework for obtaining, storing and testing DNA samples of human beings –

  o Mainly for the purposes of criminal investigations, and

  o With the objective of establishing the identity of a person.

  o The proposed law seeks to bring in a supervisory structure –

  o To oversee practices (already used in criminal investigations, establishment of parentage, and search for missing people), and

  o Frame guidelines and rules so that the DNA technology is not misused.

- It also specifies –

  o The circumstances under which a person can be asked to submit DNA samples,

  o The purposes for which such requests can be made, and

  o The exact procedure for handling, storing and accessing these samples.

- The Bill proposes to set up institutional structures:

- At the national level,

  o **DNA regulatory board:** The board is proposed to be the main regulatory authority and would frame the rules and guidelines for DNA collection, testing and storage.

  o **DNA data bank:** It would be the repository of all DNA samples collected from various people under specified rules.

- Regional centres of the board as well as the data bank can be set up at the state level too.

- Powers of the DNA regulatory board: The testing of DNA samples can be carried out only at laboratories that are authorised to do so by the regulatory board.

Objections against the Bill:

- Three issues – whether DNA technology is foolproof, whether the provisions adequately address the possibility of abuse of DNA information, and whether the privacy of the individual is protected.

- DNA information can be extremely revelatory and collecting and storing such intrusive information could lead to abuse and violation of a person's privacy.

The government's argument:

- Nearly 60 countries have enacted similar legislation and all important matters related to privacy, confidentiality and data protection have been taken into account.

- Very limited information is proposed to be stored in the indices, which can tell nothing about the individual and only act as a unique identifier.

Why is Bill withdrawn?

- As per reports, most of the provisions of the Bill were broadly covered in the Criminal Procedure (Identification) Act 2022 brought by the Ministry of Home Affairs.

Fluorochemicals

Context

- Researchers at the University of Oxford have achieved a groundbreaking breakthrough by developing a new technique to produce fluorochemicals without using hazardous hydrogen fluoride (HF) gas.

What are Fluorochemicals and how are they produced?

- Fluorochemicals are essential chemical compounds used in various industries, including polymers, agrochemicals, pharmaceuticals, and lithium-ion batteries. They are known for their unique properties, including high thermal stability and resistance to chemicals.

- Traditionally, fluorochemicals are produced through an energy-intensive process involving the use of hazardous hydrogen fluoride (HF) gas. HF is generated by reacting a crystalline mineral called fluorspar (CaF_2) with sulfuric acid under harsh

conditions. This process has safety risks and environmental consequences due to HF spills.

What is the New Method?

- Inspired by the natural biomineralization process that forms teeth and bones, researchers successfully activated solid-state calcium fluoride (CaF_2) through a mechanochemical process. This innovative method, named Fluoromix, allows for the direct synthesis of over 50 different fluorochemicals from CaF_2 with impressive yields of up to 98%.

- **Significance:** The new approach has the potential to enhance safety and environmental impact, streamline the supply chain, and reduce energy demands in the rapidly expanding global fluorochemical industry.

Sixth Person (Geneva patient) cured of HIV

Context

- A sixth person, known as the Geneva patient, has likely been cured of HIV after receiving a stem cell transplant for leukaemia. His virus level remained undetectable 20 months after discontinuing antiretroviral therapy.

- However, his cells are still susceptible to HIV, leaving the possibility of the virus returning.

What is a stem cell transplant?

- A stem cell transplant (SCT) is a medical procedure in which healthy stem cells are infused into a patient to replace damaged or diseased stem cells. Stem cells are special human cells that can replicate and differentiate into various types of cells in the body. The transplant aims to restore the body's ability to produce healthy blood cells, boost the immune system, and treat certain diseases like leukaemia and lymphoma.

Can SCT be used for treating all HIV patients?

- Stem cell transplant is unlikely to become a routine treatment for HIV due to challenges in finding matching donors and the mutation being mainly found in Caucasians. Stem cell transplantation also comes with risks, such as the risk of patient rejection and the virus finding other ways to infect cells.

Why Caucasians are able to recover while other races are not?

- The recovery of HIV through stem cell transplantation has been more commonly observed in Caucasians because a specific gene mutation known as CCR5 delta 32 is more prevalent in this racial group. People who inherit two copies of this mutation (one from each parent) are naturally resistant to certain strains of HIV due to the lack of receptors on their immune cells that the virus uses to enter and infect the cells.

- Effective antiretroviral therapy remains the primary treatment for HIV, suppressing the virus and allowing CD4 immune cell count to bounce back. Although it doesn't remove the virus completely, it reduces viral particles to undetectable levels and prevents transmission to others.

- Other patients who have achieved HIV remission through stem cell transplantation include the Berlin patient, the London patient, and the New York patient. Stem cell therapy using umbilical cord and adult stem cells may make transplants possible in people from other races as well.

Key points of the guideline:

- It emphasizes the critical role of HIV viral suppression and undetectable virus levels in enhancing individual health and preventing transmission of the virus.

- Countries integrate Mpox (monkeypox) detection, prevention and care with existing and innovative HIV and sexually transmitted infection prevention and control programmes.

- People living with HIV who achieve an undetectable level of the virus through consistent use of antiretroviral therapy (ART) do not transmit HIV to their sexual partner(s) and are at low risk of vertically transmitting HIV to their children.

Controlled Human Infection Studies (CHIS)

Context

- India is taking its first step towards introducing Controlled Human Infection Studies (CHIS), a research model used in other countries for vaccine and treatment development.

What is CHIS?

- It is a research model used to intentionally expose healthy volunteers to pathogens in a controlled environment to study diseases and develop vaccines and treatments for diseases like malaria, typhoid, and dengue. The goal is to gain insights into disease pathogenesis and find efficient and cost-effective ways to prevent and treat infectious diseases.

The issues with CHIS (Controlled Human Infection Studies) include:

- **Ethical Sensitivity:** CHIS involves intentionally exposing healthy volunteers to pathogens, raising concerns about deliberate harm and protecting participants' rights.
- **Disproportionate Payment:** Concerns about inducements and potential financial incentives for volunteers to participate in risky studies.
- **Third-Party Risk:** The risk of transmission of the pathogen to individuals outside the study, leading to potential community spread.
- **Research with Vulnerable Participants:** Ensuring that vulnerable individuals, such as pregnant women or children, are not exposed to undue risks during CHIS.
- **Technical and Clinical Challenges:** Ensuring proper scientific procedures and safety protocols are followed in the controlled environment.
- **Legal Contentions:** Addressing potential legal issues related to participant consent and liability.
- **Socio-Cultural Context:** Considering unique socio-cultural factors that may impact the acceptability and feasibility of CHIS in different communities.
- The Indian Council of Medical Research's (ICMR) Bioethics Unit has introduced a consensus policy statement, open for public comment, to address the ethical concerns associated with CHIS. The aim is to conduct research in India while protecting human participants and ensuring ethical principles are upheld.

Unifying Quantum theory and General Relativity

How are scientists trying to unify the two theories?

- Scientists are researching how atoms falling into a black hole emit radiation and its quantum behaviour, resembling Hawking radiation. Their calculations on this radiation, known as "horizon brightened acceleration radiation entropy," reveal insights into the Einstein principle of equivalence.
- This work aims to unify quantum theory and general relativity into a single theory called "quantum gravity," enhancing our understanding of the universe from tiny particles to immense galaxies.

India's First Cannabis Medicine Project

Context

- Jammu is set to lead India's first Cannabis Medicine Project, a collaboration between CSIR-IIIM Jammu and a Canadian firm under PPP.

Aim:

- The project aims to harness the potential of cannabis for medical purposes, particularly in treating neuropathies, cancer, and epilepsy.
- To address drug abuse awareness in J&K and Punjab
- Emphasizing the medicinal benefits of cannabis.

Significance:

- The cannabis research project holds promise for discovering

therapeutic properties of the plant, previously known for abuse, and obtaining regulatory approvals for clinical studies and drug development.

- It will foster investment opportunities in Jammu and Kashmir
- The project will boost CSIR-IIIM's reputation as a prestigious scientific research institute in India

About Cannabis:

- Cannabis (also called marijuana), a psychoactive drug from the cannabis plant, has been used for recreational and medicinal purposes for centuries. In India, possession of prohibited drugs is an offence, but medical use is allowed. Cannabis-based medical treatment utilizes compounds like THC and CBD to manage conditions like chronic pain, nausea, muscle spasms, and epilepsy, interacting with the body's endocannabinoid system.

Satellite network portal site

Context

- The Gujarat government's Department of Science and Technology (DST) has signed a memorandum of understanding with One Web India Communications Pvt Ltd to establish a 'satellite network portal site' in Mehsana, Gujarat.
- This site will serve as a signal and data downlink and uplink terminal for satellite communication. One Web's satellite constellation operates in low Earth orbit (LEO), providing high-speed and low-latency communication.

- The project requires civil infrastructure work, regulatory approvals from the Indian National Space Promotion and Authorisation Centre (IN-SPACe), and spectrum allocation from the Telecom Regulatory Authority of India (TRAI).
- The decision to set up the SNP in Gujarat was based on geographical and business interests, with Gujarat's long coastline making it suitable for maritime sector coverage. The state's favourable business climate and policies also influenced the decision.
- One Web is a UK-based company, but India's Bharti Enterprises is a major investor and shareholder, and they are partnering with Hughes Communications India Pvt Ltd (HCIPL), a joint venture between Hughes and BhartiAirtel Limited, to sell end-user services in India.

Why is the oral polio vaccine still crucial to eradicate polio?

Context

- It seems that the last mile to realising the dream of a polio-free world is going to be challenging.

Why?

- The US, UK and Israel recently

reported polio cases in unvaccinated people after having been polio-free for more than a decade.

- Their silent outbreaks in countries with excellent sanitation and hygiene infrastructure have raised eyebrows, adding a new dimension to the Global Polio Eradication Initiative (GPEI).
- **Polioviruses**: These are enteroviruses that are transmitted primarily by the faecal-oral route. There are different types of polio vaccines available.
- **The oral polio vaccine (OPV)**: It is a live attenuated vaccine, that contains weakened polioviruses (all three types – 1, 2, and 3) to induce an immune response in the human body without causing disease.

The advantages of the OPV:

- Inexpensive and easy to administer to a large population and can help prevent transmission.
- It triggers a robust immune response in the gut lining (called the mucosal immune response) in addition to the significant immune response in the blood (the systemic immune response).
- It is excellent at preventing

disease as well as person-to-person transmission of the virus.

- It is also easier to manufacture as the "seed virus" required for the vaccine is an attenuated (weakened form) virus.

Drawbacks of the OPV:

- Its 'uptake' by the immune system after being administered is not as good as is desirable, especially in developing countries like India.
- The OPV can reverse the virus's neurovirulence in rare cases, leading to vaccine-associated paralytic poliomyelitis (VAPP).
- When the virus's ability to jump from one person to another is restored, the result can be vaccine-derived paralytic poliomyelitis (VDPVs).

The inactivated polio vaccine (IPV):

- It contains inactivated polioviruses (all three types) and is administered by injection.
- It induces a strong systemic immune response, thus protecting against paralytic poliomyelitis, without any risk of causing VAPP or VDPV.
- Its downside is that it hardly elicits mucosal immunity and is thus unable to prevent silent infections and transmission. So, in the event of an outbreak, only the OPV is used.
- Also, manufacturing the IPV requires a high level of biosafety measures, because wild viruses are chemically inactivated.

- As a result, most economically developing countries are unable to produce it locally and are forced to import it from richer countries.
- A global switch to tackle the disadvantages of both vaccines:
- 90% of VAPP and VDPV cases have been due to poliovirus type 2 and this virus was eradicated worldwide in 1999.
- As a result, the OPV has attenuated versions of types 1 and 3 of the viruses (since April 2016).
- This was accompanied by the introduction of IPV in countries that still depended on OPV in their national immunisation programmes.
- **Risks associated with this global switch:** The number of VDPV cases increased after April 2016 – the cases in the US, UK and Israel were all VDPVs

Why did the global switch fail?

- Limited supply/ availability of the IPV due to a sudden increase in the demand for IPV after the switch

Cost/ logistics

- As the new OPV lacked the type-2 poliovirus, the population immunity against the type-2 virus dropped, giving the virus a new lease of life.
- The interruption in routine immunisation during COVID-19 also played a part in increasing the fraction of unvaccinated

and/or under-vaccinated individuals.

How can OPV help?

- A child vaccinated with only the IPV will resist the virus's ability to cause a paralytic disease, but will still be at risk of being infected, contributing to silent transmission of both vaccine-derived and wild polioviruses.
- Hence, it would be dangerous and unethical to discontinue OPV in a hasty manner.

The success story of India:

- The polio vaccination programme has successfully reduced the prevalence of polio cases by 99.9% worldwide since it was launched in 1988.
- On 13 January 2023, India completed 12 polio-free years – a remarkable achievement that was made as a result of consistent, determined efforts and genuine commitment at all levels.
- Since the transmission of wild poliovirus is rampant in India's neighbouring countries (mainly Pakistan), it has persisted with pulse polio rounds that administer OPV.

Phospine in Venus

- Scientists detected phosphine at deeper level in Venus' atmosphere than before using the James Clark Maxwell Telescope (JCMT) at Mauna Kea Observatory, Hawaii.
- Scientists in 2020 detected the
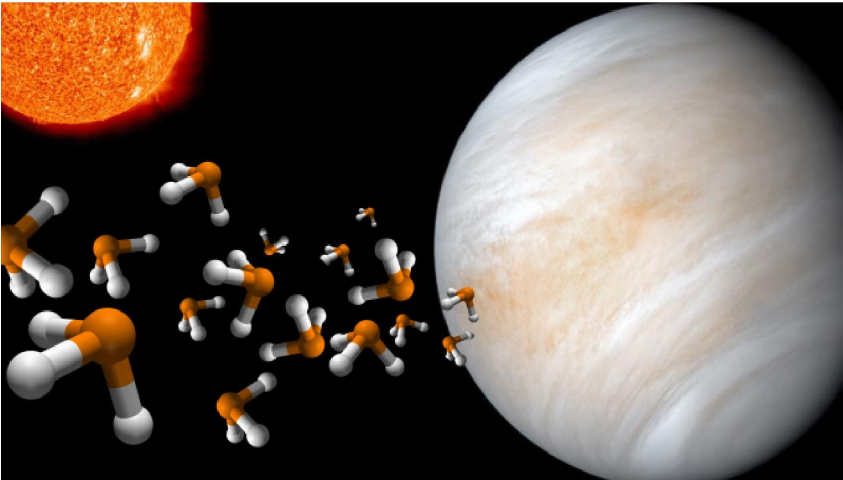
presence of phosphine gas in the clouds of Venus.

- That discovery led to much debate and excitement about the presence of life on Venus given that phosphine is a molecule associated with biological activity on Earth.

Does life exist on Venus?

- Phosphine on Earth is known to be synthesized by bacteria thriving in environments with extremely low levels of oxygen.

- Phosphine has been detected in the deeper layers of Venus' clouds.

- Scientists have acknowledged that while the detection of phosphine could potentially serve as a biosignature, it could also be attributed to other mechanisms that are currently not completely comprehended.

- A prevalent perspective suggests that phosphine could potentially be produced by introducing phosphorus-containing rocks into the upper atmosphere, subjecting them to erosion through processes involving water, acid, and other factors, resulting in the formation of phosphine gas.

What is Phosphine (PH3)?

- It is a phosphorus atom with three hydrogen atoms attached and is highly toxic to people.

- On rocky planets such as Venus and Earth, phosphine can only be made by life whether human or microbe.

- Phosphine is made naturally by some species of anaerobic bacteria, organisms that live in the oxygen-starved environments of landfills, marshlands, and even animal guts.

- To produce phosphine, Earth bacteria take up phosphate from minerals or biological material and add hydrogen.

- Phosphine also arises non-biologically in certain industrial settings.

- Used as a chemical weapon during World War I.

- Phosphine is still manufactured as an agricultural fumigant, is used in the semiconductor industry, and is a by-product of meth labs.

What are the Key Facts About Venus?

- Venus is Earth's closest planetary neighbor. It is also known as earth's twin.

- Similar in structure but slightly smaller than Earth, it is the second planet from the Sun.

- Venus is wrapped in a thick and toxic atmosphere that traps in heat.

- Surface temperatures reach a scorching 880 degrees Fahrenheit, hot enough to melt lead. It is the hottest planet in the solar system.

- Highly dense, 65 miles of cloud and haze, puts atmospheric pressure more than 90 times what's felt on Earth's surface.

- Also, the planet's atmosphere is primarily suffocating carbon dioxide and sulfuric acid clouds.

Treatment for Duchenne Muscular Dystrophy

Why in News?

- A collaborative effort between doctors from Tamil Nadu, India, and scientists from Japan has resulted in the development of a disease-modifying treatment for Duchenne Muscular Dystrophy (DMD).

What is the Disease Modifying Treatment for DMD and Major Findings?

- This treatment utilizes a food additive called beta-glucan,

derived from the N-163 strain of the yeast Aureobasidiumpullulans.

- The six-month-long clinical study involved 27 children with DMD, of which 18 were in the treatment group and 9 in the control group.
    - In addition to regular treatment, all participants (age >3) received the beta-glucan as a food supplement.

The study yielded the following notable findings:

- Reduction in Muscle Weakness and Damage: Evidence indicated a reduction in muscle weakness and damage among the treatment group.
- It also led to improved Muscle Strength.
- **Safety and Lack of Adverse Reactions:** No adverse reactions were observed in the participants, and the treatment showed no side effects on the liver and kidneys.
- **Note**: Beta-glucan is a polysaccharide (a complex sugar) that has anti-inflammatory, immunomodulatory and antioxidant properties.

What is Duchenne Muscular Dystrophy?

- About:
    - Duchenne Muscular Dystrophy (DMD) is a rare genetic disease characterized by the inability of muscles to produce dystrophin, an enzyme that aids in muscle

wear and tear as well as its regeneration.

- It affects only male children.
    - The absence of dystrophin leads to muscle damage, resulting in muscle weakness and ultimately wheelchair-bound conditions in early teens and consequent premature deaths.
- Common Symptoms:
    - Progressive muscle weakness and atrophy (loss of muscle bulk) that begins in the legs and pelvis and later affects the arms, neck and other areas of the body.
    - Difficulty walking, running, jumping, climbing stairs and getting up from a lying or sitting position.
    - Frequent falls, waddling gait (abnormal walking pattern) and toe walking.
- Prevalence:
    - According to a 2020 study on the global epidemiology of DMD, the pooled global DMD prevalence was 7.1 cases per 100,000 males and 2.8 cases per 100,000 in the general population.
    - Also, it has approximately 5,000 patients in Japan and 80,000 in India.
- Current Treatments:
    - Currently, there is no known cure for DMD. Treatment aims to control symptoms to improve quality of life.
- Available treatments for DMD

include gene therapy, exon-skipping, and disease-modifying agents such as anti-inflammatory medications and steroids.

Advancements in Smart Windows

Why in News?

- Researchers at the Centre for Nano and Soft Matter Science in Bengaluru have introduced a new dimension to smart window technology by combining hierarchical double network polymers with liquid crystals.

What is a Hierarchical Double Network of Polymers?

- Hierarchical Double Networks of Polymers are a type of interpenetrating polymer networks (IPNs).
    - IPNs are soft matter systems that combine different polymer networks to optimize various properties.
    - IPNs have potential applications in fields like smart windows, and sensors.
- Hierarchical Double Networks combine rigid and soft networks to achieve desired thermal, electrical, and optical properties.
- They can be tailored to specific

requirements, such as mechanical, optical, and electrical properties.

Polymer:

- Polymers are large molecules composed of smaller molecules called monomers, which are linked together in a chain-like structure.
- Examples of polymers include common materials like plastic and rubber.

What are the Advancements in Smart Windows?

- Enhanced Control with Double Networks:
  - ○ These double networks combine different materials and allow for precise manipulation of their properties.
  - ○ Integration of multiple functionalities into a single window system.

Combining Light and Temperature:

- The research team has utilized both light and temperature control to create double networks. Light is used to form a self-assembled polymer network, while temperature triggers the formation of a second network that traps the first one. This unique combination of stimuli provides advanced control over the window's properties.

Trapping Liquid Crystals:

- The double network structure effectively traps liquid crystals, which are responsible for

regulating light transmission. This enables the smart windows to switch between transparency and opacity, providing privacy and energy-saving features.

Benefits:

- **Energy Efficiency:** They consume very little energy, making them environmentally friendly and cost-effective.
- **Privacy Control:** The windows can change from transparent to opaque, giving users control over their privacy.
- Smart windows capable of switching between high and low haze states.
- **High Resolution:** The use of modern techniques allows for precise control over the level of opacity, providing excellent resolution.

New Diarrhoea Causing Parasite: Entamoebamoshkovskii

Context

- The recent three-year surveillance study by the National Institute of Cholera and Enteric Diseases (ICMR-NICED) reveals the emergence of Entamoebamoshkovskii (E. Moshkovskii) as a leading pathogen causing diarrhoea outbreaks in the Kolkata region.
- The previously non-pathogenic amoeba, Entamoebamoshkovskii, has now become the primary cause of amoebic infections, surpassing the once

dominant pathogen, E. histolytica.

What are the Key Findings of the Study?

- Prevalence of Entamoebamoshkovskii:
  - ○ The study found that over 3% of patients with diarrhoea were infected with E. moshkovskii, making it the leading cause of amoebic infections in humans in Kolkata.
- The decline of E. histolytica:
  - ○ Infections caused by E. histolytica, the previous predominant amoeba pathogen, were decreasing, while E. moshkovskii was taking its place.
- Unique Seasonal Pattern:
  - ○ Unlike E. histolytica, which usually peaked during the wet season and decreased during the dry season, E. moshkovskii infections in Kolkata exhibited two distinct infection peaks coinciding with the summer and post-fall seasons.
- Age Predominance:
  - ○ E. moshkovskii infections were most prevalent in children aged 5-12 years.
- Pathogenic Potential:
  - ○ The study indicated that E. moshkovskii may act as a "potential" pathogen, causing diarrhoea and gastrointestinal disorders, rather than solely being a

commensal of the human gut.

- Molecular Identification:
  ○ Due to the morphological similarities between E. histolytica and E. moshkovskii, PCR-based molecular identification was used to differentiate between the two.

- E. moshkovskii was identified in over 50% of diarrhoea cases caused by amoebic parasites.

What is Entamoebamoshkovskii?

- About:
  ○ It belongs to the same genus as E. histolytica but has distinct genetic and biochemical traits.
  ○ Originally isolated from sewage in Moscow in 1941.
  ○ Found in soil, water, and animals.

- Symptoms:
  ○ Causes problems like diarrhea, tummy pain, fever, and dehydration.
  ○ It can damage the intestines, leading to ulcers, bleeding, or even serious issues like infections in the liver.

- Transmission:
  ○ People can get infected by eating contaminated food or drinking contaminated water.
  ○ Direct contact with poop can also spread the infection.

- Diagnosis Challenges:

  ○ Looks like Entamoebahistolytica under a microscope, so it's hard to tell them apart.
  ○ Special tests like PCR or DNA sequencing are needed for accurate identification.

- Treatment:
  ○ Treating infections caused by Entamoebamoshkovskii can be tricky.
  ○ The usual drugs used for amoebic infections may not work well.
  ○ More research is needed to find the best treatment options.

Organic Matter on Mars

Achievements of Indians in Science & Technology

Context

- The United States National Aeronautics and Space Administration's (NASA) Perseverance rover has uncovered evidence of organic compounds in a Martian crater.

- The rover's landing site in Jezero Crater shows a high possibility for past habitability. The presence of various minerals, including carbonates, clays, and sulphates, indicates its history as an ancient lake basin.

What are Organic Compounds?

- Organic compounds are molecules that primarily contain carbon and hydrogen, and

often other elements such as oxygen, nitrogen, phosphorus and sulfur.

- They are the key building blocks of life on Earth, as they form the basis of proteins, nucleic acids, carbohydrates, lipids and other biomolecules.

- They can also be produced by non-biological processes, such as volcanic activity, meteorite impacts, lightning strikes and cosmic radiation.

What are the Major Findings Related to Presence of Organic Matter in Mars?

- Earlier missions had already identified organic chemicals with Martian origin in meteorites and the Gale Crater.

- Only the Mars Phoenix lander and the Curiosity rover had previously detected organic carbon on Mars using advanced techniques such as evolved gas analysis and gas chromatography-mass spectrometry.

- The latest research through Perseverance Rover introduces a novel instrument, the Scanning Habitable Environments with Raman and Luminescence for Organics and Chemicals (SHERLOC) instrument, which helps locate basic chemical compounds on Mars.
  ○ It reveals that Mars possesses a more intricate organic geochemical cycle.

- Multiple reservoirs of potential organic molecules are sug-

gested to exist on the planet, expanding the possibilities for habitability.

- The study also found molecules associated with aqueous processes, indicating that water may have played a significant role in Mars's range of organic matter.

- The extended presence of key building blocks necessary for life implies that Mars may have been habitable for longer periods than previously assumed.

Note:

- SHERLOC is the first instrument on Mars that can perform fine-scale mapping and analysis of organic molecules.

- It uses a laser to illuminate the surface of rocks and soils, and measures the fluorescence or glow emitted by organic compounds when exposed to ultraviolet light.

- SHERLOC can also identify the minerals associated with organic compounds, which can provide clues about their origin and preservation.

What is the Perseverance Rover?

- **About:** Perseverance is a car-sized Mars rover designed to explore the Jezero crater on Mars as part of NASA's Mars 2020 mission.
  - It was manufactured by the Jet Propulsion Laboratory and launched on July 30, 2020.
  - It landed on Mars on February 18, 2021, after a seven-month journey.

- **Power Source:** A Multi-Mission Radioisotope Thermoelectric Generator (MMRTG) which converts heat from the natural radioactive decay of plutonium (Plutonium Dioxide) into electricity.

- Major Objectives:
  - Seek signs of ancient life and collect samples of rock and soil for possible return to Earth.
  - Study the geology and climate of Mars and how they have changed over time.
  - Demonstrate technologies that could enable future human exploration of Mars, such as producing oxygen from the Martian atmosphere and testing a miniature helicopter.

What are the Various Mars Missions?

- India's Mars Orbiter Mission (MOM) or Mangalyaan (2013)

- ExoMars rover (2021) (European Space Agency)

- Tianwen-1: China's Mars Mission (2021)

- UAE's Hope Mars Mission (UAE's first-ever interplanetary mission) (2021)

- Mars 2 and Mars 3 (1971) (Soviet Union)

- Consider the following statements: (2016)

- The Mangalyaan launched by ISRO

  1. is also called the Mars Orbiter Mission

  2. made India the second country to have a spacecraft orbit the Mars after USA

  3. made India the only country to be successful in making its spacecraft orbit the Mars in its very first attempt

- Which of the statements given above is/are correct?

  (a) 1 only

  (b) 2 and 3 only

  (c) 1 and 3 only

  (d) 1, 2 and 3

  Ans: (c)

Bird Flu Outbreaks in Mammals

Why in News?

- The recent surge in bird flu outbreaks among mammals has alarmed international agencies, including the Food and Agriculture Organization (FAO), the World Health Organization (WHO), and the World Organisation for Animal Health(WOAH, founded as OIE).

- The agencies express concern that as mammals are biologically closer to humans than birds, the virus could potentially adapt to infect humans more easily.

What is Bird Flu?

- About:
  - Bird flu or Avian influenza refers to the disease caused by infection with avian influenza Type A viruses.
  - Infrequently, the virus can infect mammals from birds, a phenomenon called spillover, and rarely can spread between mammals.

- Outbreak in Wild Birds and Poultry:
  - The most common type of bird flu virus is H5N1, which belongs to the goose/Guangdong-lineage of H5N1 avian influenza viruses that first emerged in 1996/1997.
  - Since 2020, this virus has caused an unprecedented number of deaths in wild birds and poultry in many countries in Africa, Asia, Europe and the Americas.
  - In 2022, WOAH reported H5N1 high pathogenicity avian influenza outbreaks in poultry and wild birds in 67 countries across five continents.

- These outbreaks resulted in the loss of over 131 million domestic poultry due to death or culling in affected farms and villages.
  - An additional 14 countries have reported outbreaks in 2023.

- Outbreaks in Mammals and Potential Hazard for Humans:
  - Since 2022, approximately 10 countries have reported cases of avian flu outbreaks in both land and sea mammals.

- Examples include farmed mink in Spain, seals in the United States, and sea lions in Peru and Chile.

- These outbreaks have been documented in 26 species, with the recent detection of H5N1 in cats in Poland.
  - There is a concern that infected mammals may serve as mixing vessels for influenza viruses, potentially leading to the emergence of new, more harmful viruses that could affect both animals and humans.

- However, the WHO has only received reports of a few mild cases in people who had close contact with infected birds.

Status in India:

- With effect from September 3, 2019, the World Organization for Animal Health declared the India free from the Avian Influenza (H5N1).

- However, in December 2020 and early 2021, outbreaks of avian influenza H5N1 and H5N8 were reported in poultry in 15 states in India.

- Urgent Measures to Curb the Spread: To mitigate the risks associated with bird flu outbreaks, the international agencies including FAO, WHO, WOAH recommended the following measures:

- They urged countries to share genetic data of viruses from humans and animals in publicly accessible databases.

- Enhancing biosecurity measures and applying good hygiene practices in farms and poultry value chains.

- Ensuring rapid detection, reporting, and response to animal outbreaks.

- Strengthening influenza surveillance in both animals and humans.

- Conducting thorough epidemiological and virological investigations around animal outbreaks and human infections.

- Promoting collaboration

between animal and human health sectors.

Types of Influenza Virus

- H1N1 virus is sometimes mentioned in the news with reference to which one of the following diseases? (2015)
  (a) AIDS
  (b) Bird flu
  (c) Dengue
  (d) Swine flu
  Ans: (d)

INDIAai

Context

- INDIAai is an initiative under Digital India Corporation, and Meta, India, has signed anMoU to foster collaboration in the field of Artificial Intelligence (AI) and Emerging Technologies.

What is INDIAai?

- It is a joint venture between the Ministry of Electronics and Information Technology (MeitY), the National e-Governance Division (NeGD), and NASS-COM. It is a knowledge portal, research organization, and ecosystem-building initiative focused on preparing the nation for an AI-driven future.

Objectives:

- To establish a framework for co-operation and to make Meta's open-source AI models available for use by the Indian AI ecosystem.
- To advance research and development in AI and Emerging

Technologies, seeking breakthroughs in AI technology and its applications.

- Establishing a Centre of Excellence to nurture the startup ecosystem of AI and other Emerging Technologies.
- Building datasets in Indian Languages to enable translation and large language models, prioritizing low-resource languages to foster social inclusion and improve government service delivery.
- Enhance accessibility to AI compute resources for researchers, startups, and organizations with limited resources.

Airbus C-295 aircraft

Context

- Airbus and Tata Advanced Systems Limited (TASL) are working together to establish an aircraft manufacturing facility in Vadodara (Gujarat).
- Under a Rs. 22,000-crore deal with the Indian Air Force, 56 C-295MW transport aircraft will be procured to replace the Avro aircraft. Of these, 16 aircraft will be manufactured in Spain, and 40 will be produced in India by Airbus and Tata jointly.
- This is the first time a private sector company would be manufacturing a full aircraft in India.

About C-295:

- The C-295 is a modern transport aircraft with a capacity of

9 tonnes and can carry up to 71 troops or 50 paratroopers. It has a flight endurance of up to 11 hours, enabling multi-role operations in all weather conditions.

- It will replace the Indian Air Force's ageing Avro-748 planes, which are British-origin twin-engine turboprops with a 6-tonne freight capacity.

Scorpene-class diesel-electric submarines

Context

- India is set to procure three additional Scorpene-class diesel-electric submarines, with the contract expected to be finalized by the end of 2024 (under Indian Navy's project 75)
- More about the News:
  - The first submarine delivery is likely to take place around 2031.
  - The new submarines will have higher indigenous content and will be equipped with the DRDO-developed Air Independent Propulsion (AIP) system, enhancing their endurance.
- This move aims to bolster the Indian Navy's submarine fleet, which currently consists of 16 conventional submarines and is expected to deplete over the next decade due to ageing vessels.

Project-75

- The Indian Navy's Project 75

involves the construction of six Scorpene-Class attack submarines. These conventional-powered submarines, weighing 1,500 tonnes and capable of diving up to 300 meters, are being manufactured by Mazagon Dock Shipbuilders Limited (MDL) (Mumbai) with technology support from France's Naval Group.

○ The first submarine in the series, INS Kalvari, was commissioned in 2017

○ Second submarine INS Khanderi in 2019

○ The third one is INS Karanj in 2021

○ The fourth one is INS Vela in 2021

○ Fifth one, INS Vagir, in January 2023

○ A sixth submarine, Vagsheer, is undergoing trial phases and is expected to be delivered to the Navy in early 2024.

US-led Artemis Accord

- India signed the three-year-old Artemis Accords, a US-led international partnership on planetary exploration and research.

- The Accords have been signed by 26 countries till now, including Japan, Australia, the UK, France, and Canada.

- A set of 13 principles, the Artemis Accords is closely linked to the Artemis Program.

- It aims to return astronauts to the lunar surface, build a space camp there, and carry out deep space exploration.

- It contains a set of principles and guidelines for the civil exploration and use of the Moon, Mars, comets and asteroids.

First regional AI news anchor 'Lisa'

- An Odia-based news station Odisha TV introduced its first AI news anchor to the world, Named Lisa.

- Lisa is capable of speaking multiple languages and can present news in Odia, English, and other languages.

- Earlier, in March, the India Today Group also introduced their first AI news anchor, Sona.

- News Anchor 'Lisa' has been introduced by artificial intelligence technology is which state?
  a) Odisha
  b) Kerala
  c) Tamilnadu
  d) West Bengal
  Ans : (a)

- Who first coined the term Artificial Intelligence?
  a) John Macarthy
  b) Geoffrey Hinton
  c) Mark Zuckerberg
  d) Elon Musk
  Ans : (a)

Planet LTT9779 b

- Astronomers have found the most reflective planet ever discovered using data from the European Space Agency's (ESA) Cheops satellite.

- The planet has a thick layer of reflective metal clouds, essentially turning it into a gigantic mirror when viewed by observatories.

- The newly-discovered LTT9779 b, planet reflects a massive 80 per cent of the light it receives from its host star.

- Venus has a thick cloud layer that reflects about 75 per cent of the Sun's light.

- The Earth only reflects around 30 per cent of the incoming sunlight.

- This exoplanet is about the size of Neptune.

- The metallic clouds are mostly made of silicate.

- There are also other metals like titanium mixed into the clouds.

- The blazing-hot exoplanet is so close to its host star that it completes an orbit in less than a day.

- LTT9779 b can form metallic clouds despite being so hot because the atmosphere is oversaturated with silicate and metal vapours.

Inter-organ communication

- IIT-M have developed a computational approach called "multicens" to understand inter-organ communication network in humans.

- Multicens will help uncover key molecular mediators of inter-organ communication.

- They used the genomic infor-

mation available for various tissues to develop this method.

- Exchange of information between organs and tissues allows organisms to adapt to changes in their environment, assess their energy reserves and maintain overall well-being.

Google's 'Perspectives' Search

- Google has recently launched a new search feature called Perspectives.

- It is aiming to provide users with a broader range of viewpoints on various topics.

- It encompasses a wide range of content types, including long- and short-form videos, images, and written posts.

- These materials are sourced from discussion boards, Q&A sites, and popular social media platforms.

Euclid Space Telescope

- The European Space Agency plans to survey billions of galaxies using the Euclid Space Telescope.

- The new Euclid space telescope was launched on a SpaceX Falcon 9 rocket.

- Euclid is a visible to near-infrared space telescope developed by the European Space Agency (ESA) and the Euclid Consortium.

- This mission aims to better understand dark energy and dark matter by accurately measuring the acceleration of the universe.

RoboMapper

- Researchers have successfully created a robot called Robo-Mapper.

- It is capable of conducting experiments to develop new semiconductor materials efficiently and sustainably.

- It takes a different approach by automating the process and miniaturizing the material samples using modern printing techniques.

- The robot has been found to be nearly 10 times faster than previous automated techniques.

- The process also reduced greenhouse gas emissions of the characterisation process by 10 times.

PSLV-C56

- ISRO successfully launched the PSLV-C56 carrying Singapore's DS-SAR satellite and six other satellites.

- The DS-SAR satellite is developed under a partnership between DSTA (representing the Government of Singapore) and ST Engineering.

- The co-passengers on the missions are VELOX-AM, ARCADE, SCOOB-II, NuLIoN, Galassia-2 and ORB-12 STRIDER.

Jupiter 3

- SpaceX launched Hughes Network Systems' Jupiter 3 satellite.

- It is designed to modernize an old-school approach to space-

based internet access.

- The nine-tone and a bus sized satellite Jupiter 3, also called EchoStar XXIV.

- It is the largest commercial communications satellite ever built.

India - Childhood Diabetes and Fatalities

- India saw the highest number of childhood diabetes cases and deaths in 2019 in the world.

- The study was published in the journal JAMA Network.

- The country also has the highest disability-adjusted life-years (DALY).

- One DALY represents the loss of the equivalent of one year of full health, according to the World Health Organization.

- Globally, in 2019, there were 227,580 cases of childhood diabetes, 5,390 deaths and 519,117 DALYs.

- This represents a 39.4 per cent increase in incident cases since 1990.

- The largest increase in cases (52.06 per cent) was recorded in children aged 10 to 14 years.

- The smallest increase (30.52 per cent) in those aged between 1 and 4 years.

- The incident rate in India was

10.92 and 11.68 in 1990 and 2019, respectively.

- In contrast, the global number of diabetes-associated deaths in children dropped by 20 per cent to 5,390 in 2019 from 6,719 in 1990.

Global AIDS Update Report 2023

- HIV remains a major global public health issue, having claimed 40.4 million [32.9–51.3 million] lives so far.

- There were an estimated 39.0 million [33.1–45.7 million] people living with HIV at the end of 2022.

- Two thirds of whom (25.6 million) are in the WHO African Region.

- In 2022, 6,30,000 [4,80,000–8,80,000] people died from HIV-related causes.

- 1.3 million [1.0–1.7 million] people acquired HIV during the same period.

- WHO, the Global Fund and UNAIDS all have global HIV strategies that are aligned with the SDG target 3.3 of ending the HIV epidemic by 2030.

- By 2025, as per the 95:95:95 strategy
  - 95% of all people living with HIV (PLHIV) should have a diagnosis,
  - 95% of those should be taking lifesaving antiretroviral treatment (ART) and
  - 95% of PLHIV on treatment should achieve a suppressed viral load for the benefit of the person's health and for reducing onward HIV transmission.

- In 2022, these percentages were 86(%) [73–>98%], 89(%) 75–>98%] and 93(%) [79–>98%], respectively.

XII. Miscellaneous

Ex SALVEX
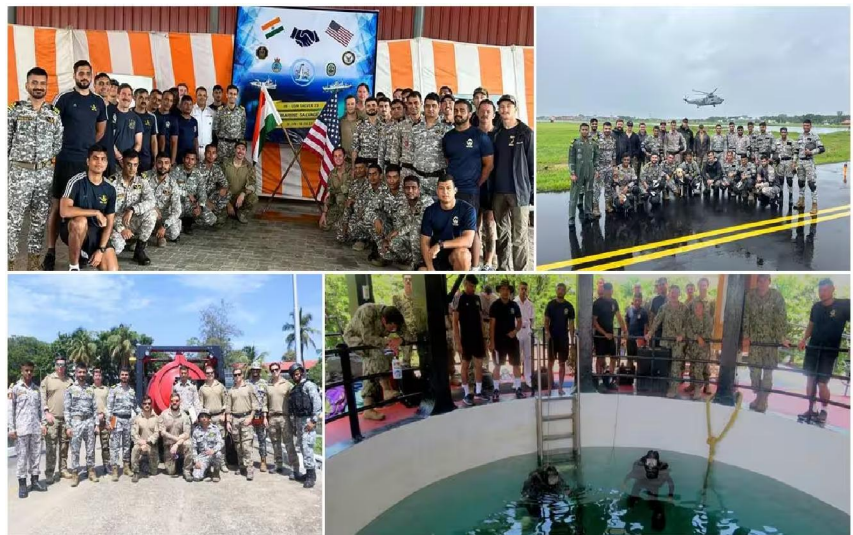
Context

- The Indian Navy and the US Navy recently collaborated for the seventh edition of the IN-USN Salvage and Explosive Ordnance Disposal (EOD) exercise, known as SALVEX.

- During the ten-day exercise, the teams engaged in knowledge and experience sharing in maritime salvage. They focused on various disciplines, including mine detection and neutralization, wreck location, and salvage.

- Through joint training, the participants developed lasting bonds and improved their operational capabilities, promoting interoperability and adopting the best practices from each other's maritime traditions.

- SALVEX 2023 is regarded as a significant milestone in naval cooperation, highlighting the dedication to excellence in salvage operations and EOD expertise demonstrated by the Indian and US Navies.

Global Peace Index 2023

Context

- The 17th edition of the Global Peace Index (GPI) was released, ranking 163 independent states and territories based on their level of peacefulness.

Important findings:

- Most Peaceful: Iceland retaining its position as the most peaceful country, followed by Denmark, Ireland, New Zealand, and Austria.

- Least Peaceful: Afghanistan remains the least peaceful country, followed by Yemen, Syria, South Sudan, and the Democratic Republic of the Congo.

- India: It has climbed two spots to the 126th position, showing over 3% improvement in peacefulness attributed to reductions in violent crime, improved relations with neighboring countries, and decreased political instability.

- An overall deterioration in global peacefulness: Over the past fifteen years, the global average score of peacefulness has declined by five percent, indicating a decline in peace worldwide.

Global Peace Index

- Produced by the Institute for Economics and Peace (IEP), the Global Peace Index (GPI) is the world's leading measure of global peacefulness. It measures the state of peace across three domains:
  - The level of Societal Safety and Security,
  - The extent of Ongoing Domestic and International Conflict,
  - The degree of Militarisation.

About Institute for Economics and Peace

- The Institute for Economics and Peace is a global think tank headquartered in Sydney, Australia. It aims to create a paradigm shift in the way the world thinks about peace. Other reports published by IEP is Global Terrorism Index, Ecological Threat Report, Safety Perceptions Index.

Performance Grading Index for Districts (PGI-D) 2.0

Context

- The Department of School Education and Literacy (DoSE&L), under the Ministry of Education, has released the Performance Grading Index for Districts (PGI-D) combined report for 2020-21 and 2021-22.

- This index assesses the performance of the school education system at the district level by creating a comprehensive analysis.

- PGI is aligned with new initiatives of the National Education Policy (NEP) 2020, to monitor indicators relating to Goal 4 of Sustainable Development Goals (SDGs)

Findings

- None of the districts secured the top two grades — Daksh and Utkarsh. Most districts were in the bottom three grades (less than 10% to 30%).

- It is grouped under 6 categories, Outcomes, Effective Classroom Transaction, Infrastructure Facilities & Student's Entitlements, School Safety & Child Protection, Digital Learning and Governance Process.

- This is the PGI 2.0. The first PGI was released in 2017-18. PGI 2.0 has classified states/UTs into ten grades, where the highest achievable grade is 'Daksh' and the lowest grade is 'Akanshi-3'.

- Assessment is done in the 6 domains, viz., Learning Outcomes (LO), Access (A), Infrastructure& Facilities (IF), Equity (E), Governance Process (GP) and Teachers Education and Training (TE&T).

Global Report on the Food Crises (GRFC) 2023 and Global Parliamentary Pact

Context

- The Global Report on the Food Crises (GRFC) 2023 released recently estimated that between 691 million and 783 million people in the world suffered from hunger in 2022

(showing levels far higher than pre-pandemic 2019)

What is food security?

- Food security is defined (from the World Food Summit of 1996) thus: "When all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active, and healthy life".

The report highlights that:

- Global hunger remains high
- The prevalence of undernourishment is far above pre-COVID-19 pandemic levels
- Stunting and child wasting have declined
- Childhood obesity has shown a non-significant increase
- The number of people unable to afford a healthy diet remains substantial (about 3 billion people)
- The cost of a healthy diet has increased globally
- A comparison of food insecurity among rural, peri-urban and urban populations reveals that global food insecurity is lower in urban areas.
- A significant number of people will be chronically undernourished by 2030

What are the key drivers of food insecurity?

- Economic downturns in major economies
- Pandemic-related disruptions in 2020 led to job losses and reduced incomes for many people

Ukraine war

- Flawed governmental policies
- Increasing urbanisation that drives changes through the agrifood systems

Solutions recommended by the report:

- **Identify vulnerable population groups :** Through informed decision-making and effective action through targeted policies and programs
- **Promote sound nutrition :** Make nutrition a priority in government policy, supported by civil society and the private sector
- **Support healthier food outlets :** Enable access to healthy diets
- **Encourage fresh and minimally processed food sales :** Provide policy incentives for shops to sell more fresh and minimally processed foods
- **Improve street food safety and quality :** Address infrastructure and regulatory gaps to enhance nutritional safety and quality
- **Build rural infrastructure :** Develop quality rural and feeder roads to connect remote farms and enterprises to main road networks
- **Support linkages between small farms and enterprises :** Invest in warehousing, cold storage, electrification, digital tools, and water supply
- **Leverage local governments :** Involve local governments in implementing policies for affordable and available healthy diets

Related news:

- Global parliamentarians have formed a new multilateral body to address the issues of poverty, hunger, and malnutrition in the agrifood system.
- At the Global Parliamentary Summit against Hunger and Malnutrition in Chile, parliamentarians from 64 countries

signed the Global Parliamentary Pact, committing to push for reforms in the agrifood system to make food sustainable and accessible to all.

Features of the Pact:

- The pact includes drafting legislation for food equity and budgetary support

- **Aim:** The initiative aims to meet the UN's Sustainable Development Goals of zero poverty, hunger, and malnutrition by 2030

- **Political Support:** The pact lends political support to policies concerning agrifood system reform, including drafting legislation for equitable food distribution and providing budgetary support.

- **Progress Reporting:** Parliamentarians pledged to report progress on various reforms, ensuring accountability in achieving the goals.

- **Legislative Impact:** The pact has led to the processing and approval of 35 laws covering various aspects, such as family farming, responsible investment in agriculture, gender equality, and food loss and waste.

- The United Nations Food and Agriculture Organization facilitates the parliamentary initiative on agrifood systems, with 45 national, regional, and sub-regional parliamentary networks committing to it.

What is the Agrifood system?

- The agrifood system refers to the entire process of producing, processing, distributing, and consuming food, including all the activities and actors involved in the food supply chain. It encompasses agricultural production, food processing, transportation, storage, retail, and consumption.

Heat Index

Context

- The Indian Meteorological Department (IMD) has recently introduced the Heat Index on an experimental basis.

- The Heat Index is designed to offer general guidance for regions in India where the apparent temperature, also known as the "feel-like" temperature, is higher due to a combination of heat and humidity, causing discomfort for people.

- The Heat Index is calculated using an equation similar to the one used by the National Weather Service, National Oceanic and Atmospheric Administration (NOAA) in the USA. It takes into account the impact of humidity on high temperatures to provide a more accurate representation of how the weather feels to humans, indicating the level of discomfort.

- The Heat Index is categorized into colour codes for easy interpretation:

- **Green:** Experimental Heat Index below 35°C

- **Yellow:** Experimental Heat Index in the range of 36-45°C

- **Orange:** Experimental Heat Index in the range of 46-55°C

- **Red:** Experimental Heat Index above 55°C

	temperature (°F)															
		80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
Relative Humidity (%)	40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
	45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
	50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
	55	81	84	86	89	93	97	101	106	112	117	124	130	137			
	60	82	84	88	91	95	100	105	110	116	123	129	137				
	65	82	85	89	93	98	103	108	114	121	128	136					
	70	83	86	90	95	100	105	112	119	126	134						
	75	84	88	92	97	103	109	116	124	132							
	80	84	89	94	100	106	113	121	129								
	85	85	90	96	102	110	117	126	135								
	90	86	91	98	105	113	122	131									
	95	86	93	100	108	117	127										
	100	87	95	103	112	121	132										

Legend: ☐ Caution ☐ Extreme Caution ☐ Danger ☐ Extreme Danger

15th Edition of NOMAD-IC ELEPHANT-23

- Indian Army contingent comprising 43 personnel has embarked on a journey to Mongolia to participate in the 15th edition of the bilateral joint military exercise named "NOMADIC ELEPHANT-23."

- The exercise is scheduled in Ulaanbaatar, Mongolia from 17 to 31 July 2023. NOMADIC ELEPHANT is a training event conducted alternatively in Mongolia and India.

- India is also an active participant in an annual week-long joint training exercise called the Khaan Quest, hosted by Mongolia.

Energy Transition Index

Context

- India has been ranked 67th globally on the World Economic Forum's Energy Transition Index, making it the only major economy with accelerating energy transition momentum across all dimensions.

- The top five countries on the list are Sweden, Denmark, Norway, Finland, and Switzerland.

- The report highlighted India's achievements in reducing energy and carbon intensity, achieving universal energy access, and managing electricity affordability. India also fared relatively well during the recent energy crisis due to a low share of natural gas in power generation and increased use of existing capacities.

- Singapore was the only other major economy showing momentum in sustainability, energy security, and equity.

Farmers Distress Index

- The Central Research Institute for Dryland Agriculture (CRIDA) of ICAR worked on a kind of an early warning system called 'farmers distress index'.

- It is a first of its kind for India.

- The main aim behind creating such an index is to minimise the agrarian distress in the form of crop loss / failure and income shock.

- Based on these 21 questions, the degree of distress will be identified.

- The index will have values from 0-1.

- A value between 0-0.5 will indicate 'low distress', 0.5-0.7 will indicate 'moderate' distress and above 0.7 will indicate 'severe' distress.

Meta launches "Threads"

- Meta's Instagram officially unveiled Threads app.

- Threads attracted 70 million users in just two days.

- Thread users will need an Instagram account to log in.

- Deactivating your Threads profile will not deactivate your Instagram account.

- The app closely resembles Twitter visually, although some of the wording has been changed.

- Which company has introduced "Threads" instead of Twitter?
  a) Google
  b) Meta
  c) Space X
  d) Facebook
  Ans : (b)

UN report on Gender parity

- This is released by two UN agencies – UN Women and UN Development Programme.

- The bodies collated data from 114 countries and analysed them based on the twin indices of Women's Empowerment Index (WEI) and the Global Gender Parity Index (GGPI).

- On an average, women are empowered to achieve only 60 per cent of their full potential.

முதன்மைத் தேர்வுக்கான உத்தி

1. முதன்மைத் தேர்வுக்குப் படிப்பதற்கு முறையானத் திட்டத்தை வகுத்து அதை முழுமையாகப் பின்பற்ற வேண்டும்.

2. நாட்டு நடப்புகள் குறித்த விவரங்களை தினமும் தயார் செய்ய வேண்டும். புதிய தகவல்களைத் தொடர்ந்து தெரிந்து கொள்ள வேண்டும்.

3. தேர்வுக்குத் தயாராவதில் உறுதியாக இருக்க வேண்டும்.

4. ஒவ்வொரு பாடத்திற்கும் ஒதுக்கப்பட்டுள்ள மதிப்பெண்களைக் கருத்தில் கொண்டு அனைத்துப் பாடங்களுக்கும் தயாராவதற்கு போதிய நேரத்தை ஒதுக்க வேண்டும்.

5. தேர்வுக்குத் தயாராவது அலுப்பூட்டும் வகையில் இல்லாமல் இருப்பதை உறுதி செய்யும் வகையில் கால அட்டவணை தயாரிக்கப்பட வேண்டும்.

6. திருப்புதலின் போது நேரத்தை மிச்சப்படுத்துவதற்காக, முதல் முறை அல்லது இரண்டாவது முறை பயிலும் போது முக்கிய அம்சங்களை அடிக்கோடிட்டு வைத்திருக்க வேண்டும் / முன்னிலைப்படுத்த வேண்டும். நாம் முதன்முறை படிப்பதன் நோக்கம் தேவையற்ற விசயங்களை விலக்கி, நாம் படிக்க வேண்டிய பாடங்களின் அளவைப் பாதியாக குறைப்பதுதான். இரண்டாவது முறை பயிலும் போது, நாம் படிக்க வேண்டிய பகுதிகளை, தேர்வுக்கு முன் உள்ள இரண்டு நாட்களில் திருப்புதல் செய்யும் வகையில், மேலும் குறைக்க வேண்டும்.

7. முந்தைய ஆண்டு வினாத்தாள்களின் அடிப்படையில் விடைகளை எழுதிப் பயிற்சி செய்ய வேண்டும்.

8. தேர்வை எதிர்கொள்வதற்கு ஒரு விண்ணப்பதாரர் எந்த அளவுக்குத் தயாராகியிருக்கிறார் என்பதைப் புரிந்துகொள்வதற்காக அடிக்கடி மாதிரித் தேர்வுகளை எதிர்கொள்ள வேண்டும்.

9. பயிற்சியே ஒருவனை முழுமையாக்குகிறது என்பதே முதன்மைத் தேர்வுக்கான மந்திரமாக இருக்க வேண்டும்.

10. எந்தவொரு பாடத்திற்குமான பயிற்சியில் சேரும் தேர்வர்கள், அதற்கான மாதிரித் தேர்வுகளில் முழு ஈடுபாட்டுடன் பங்கேற்க வேண்டும். முதன்மைத் தேர்வுக்கும், முதல்நிலைத் தேர்வுகளுக்கும் இடையிலான முக்கியமான வேறுபாடு என்னவென்றால், முதல்நிலை தேர்வுக்கான மாதிரித் தேர்வுகளை மூன்றாவது நபரின் துணை இல்லாமல் ஆன்லைனிலோ, ஆஃப்லைனிலோ தனித்தே எழுதலாம். ஆனால் முதன்மைத் தேர்வைப் பொறுத்தவரை மூன்றாவது நபரைக் கொண்டு மதிப்பீடு செய்வது மிகவும் அவசியமாகும். மதிப்பீடு செய்யும் மூன்றாவது நபர் ஒரு வல்லுநராகவோ, அல்லது சிறந்த ஒரு பயிற்சி நிறுவனமாகவோ இருக்கலாம்.

11. முதன்மைத் தேர்வு என்பது தேர்வர் அறிந்துள்ள தகவல்களையும் அவரது நினைவுத் திறனையும் மட்டுமே சோதிப்பதாக இல்லாமல், அவர்களின் புரிதலின் ஆழம், அறிவுசார் திறன்கள் ஆகியவற்றை மதிப்பிடுவதை நோக்கமாகக் கொண்டது ஆகும். பொதுபாடத் தாள்களில் அனைத்து வினாக்களுக்கும் விடை அளிக்க வேண்டும். வினாக்களின் தன்மை ஒவ்வொரு தாளுக்கும் மாறுபடும். ஆனால், அதிக வினாக்கள் இருக்கும் என்பதால் தேர்வர் விடைகளை வேகமாக எழுத வேண்டும். விடையளிக்க வேண்டிய வார்த்தைகளின் வரம்பும் அதிகமாக இருக்கக் கூடும்.

12. முதன்மைத் தேர்வைப் பொறுத்தவரை, வார்த்தைகளின் எண்ணிக்கையை கவனத்தில் கொள்ளப்பட வேண்டிய மிக முக்கியமான அம்சமாகும்.

13. முதன்மைத் தேர்வுகளை எழுதுவதற்கான அணுகுமுறையில் தேர்வர்கள் மிகவும் தெளிவாக இருக்க வேண்டும். தேர்வு அறையில், வினாத்தாளைப் பெற்ற பிறகு, விடைகளை வேகமாக எழுத வேண்டி இருக்கும் என்பதால், சிந்திப்பதற்கு நேரம் இருக்காது. எனவே, வினாக்களை புத்திசாலித்தனமாகத் தேர்வு செய்து விடை அளிக்க வேண்டும்.

14. வினாக்களில் தரப்பட்டுள்ள கருத்துரை கொடு, கருத்து தெரிவி, விரிவாகச் சொல், காட்சிப்படுத்து, தெளிவுப்படுத்து போன்ற வார்த்தைகளின் பொருளைப் புரிந்துகொண்டு, அதற்கேற்ற வகையில் உங்கள் எழுத்துத் திறனை வெளிப்படுத்த வேண்டும்.