



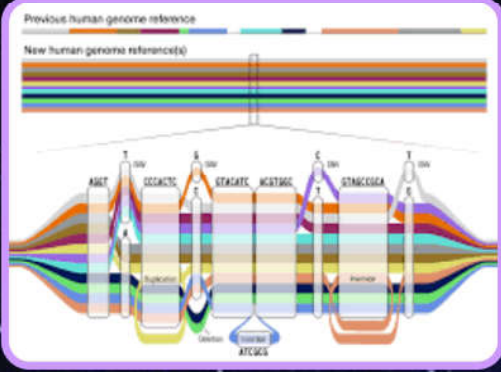
SURESH'

360°

MAY-2023

போட்டித்தேர்விற்கான மாத இதழ்

Issue : 11



- **POKHRAN-II**
- **JALLIKATTU, KAMBALA**
- **NAVIC-SATELLITE**
- **PAN GENOME MAP**
- **RAYYANAH BARNAWI**



முதன்மைத் தேர்வுக்கான உத்தி

- முதன்மைத் தேர்வுக்குப் படிப்பதற்கு முறையானத் திட்டத்தை வகுத்து அதை முழுமையாகப் பின்பற்ற வேண்டும்.
- நாட்டு நடப்புகள் குறித்த விவரங்களை தினமும் தயார் செய்ய வேண்டும். புதிய தகவல்களைத் தொடர்ந்து தெரிந்து கொள்ள வேண்டும்.
- தேர்வுக்குத் தயாராவதில் உறுதியாக இருக்க வேண்டும்.
- ஒவ்வொரு பாடத்திற்கும் ஒதுக்கப்பட்டுள்ள மதிப்பெண்களைக் கருத்தில் கொண்டு அனைத்துப் பாடங்களுக்கும் தயாராவதற்கு போதிய நேரத்தை ஒதுக்க வேண்டும்.
- தேர்வுக்குத் தயாராவது அலுப்பூட்டும் வகையில் இல்லாமல் இருப்பதை உறுதி செய்யும் வகையில் கால அட்டவணை தயாரிக்கப்பட வேண்டும்.
- 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 பாதியாகக் குறைப்பதுதான். இரண்டாவது முறை பயிலும் போது, நாம் படிக்க வேண்டிய பகுதிகளை, தேர்வுக்கு முன் உள்ள இரண்டு நாட்களில் திருப்புதல் செய்யும் வகையில், மேலும் குறைக்க வேண்டும்.
- முந்தைய ஆண்டு வினாத்தாள்களின் அடிப்படையில் விடைகளை எழுதிப் பயிற்சி செய்ய வேண்டும்.
- தேர்வை எதிர்கொள்வதற்கு ஒரு விண்ணப்பதாரர் எந்த அளவுக்குத் தயாராகியிருக்கிறார் என்பதைப் புரிந்துகொள்வதற்காக அடிக்கடி மாதிரித் தேர்வுகளை எதிர்கொள்ள வேண்டும்.
- பயிற்சியே ஒருவனை முழுமையாக்குகிறது என்பதே முதன்மைத் தேர்வுக்கான மந்திரமாக இருக்க வேண்டும்.
- 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.
- 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.
- முதன்மைத் தேர்வைப் பொறுத்தவரை, வார்த்தைகளின் எண்ணிக்கையை கவனத்தில் கொள்ளப்பட வேண்டிய மிக முக்கியமான அம்சமாகும்.
- 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.
- வினாக்களில் தரப்பட்டுள்ள கருத்துரை கொடு, கருத்து தெரிவி, விரிவாகச் சொல், காட்சிப்படுத்து, தெளிவுப்படுத்து போன்ற வார்த்தைகளின் பொருளைப் புரிந்துகொண்டு, அதற்கேற்ற வகையில் உங்கள் எழுத்துத் திறனை வெளிப்படுத்த வேண்டும்.



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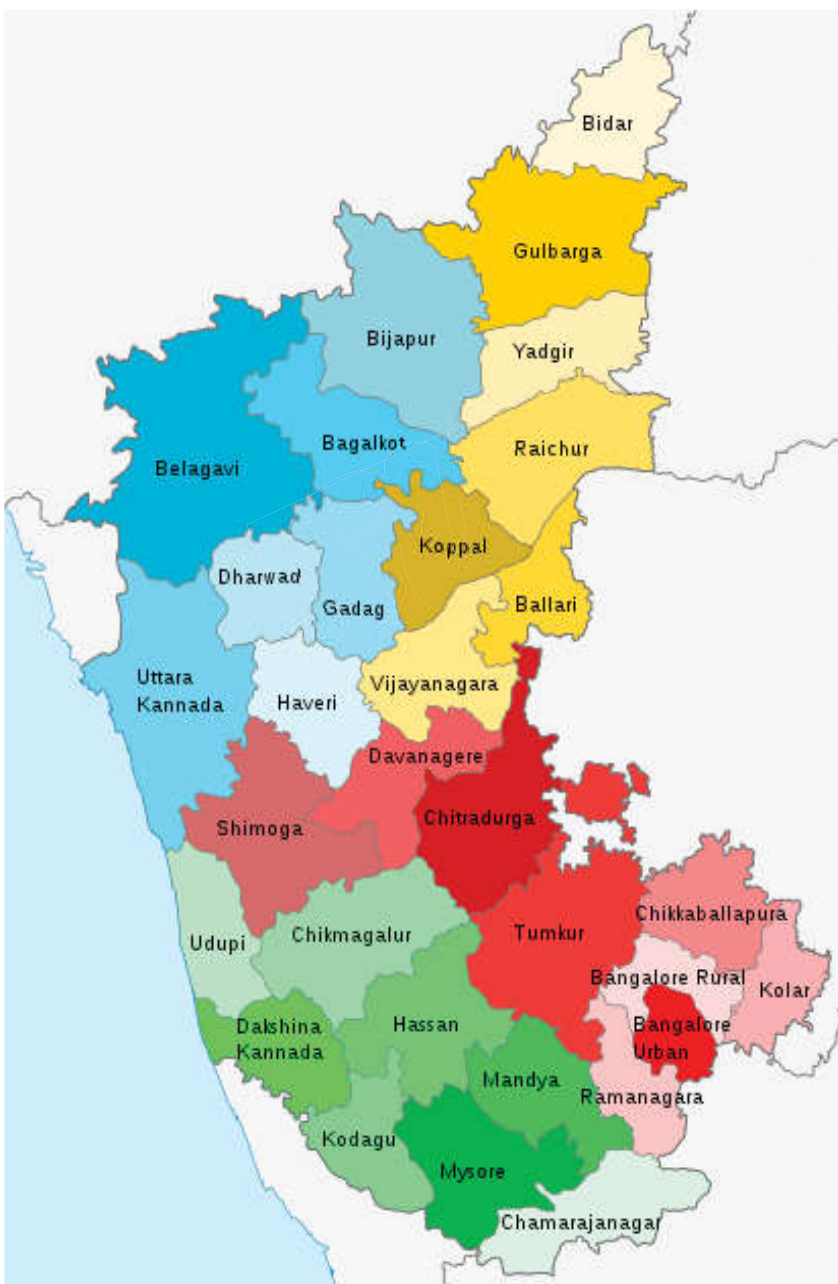
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I. Profile of State

Karnataka

About Karnataka :



- Geographically Karnataka is situated on a tableland where the Western and Eastern Ghat ranges converge into the Nilgiri hill complex, the State of Karnataka is confined roughly within 11.5 degree North and 18.5 degree North latitudes and 74 degree East and 78.5 degree East longitude.
- The neighboring states bounded with Karnataka includes Maharashtra and Goa in the North and North-West; by the Arabian sea in the West; by Kerala and Tamilnadu in the South and Andhra Pradesh in the East.
- The State extends to about 750 km from North to South and about 400 km from East to West and covers an area of about 1,91,796 sq. km being the 8th largest state holding 5.83% of the total geographical area of India
- Karnataka comprises of varied topographical structures that includes high mountains, plateaus, residual hills and coastal plains.

- The State is enclosed by chains of mountains to its west, east and south.
- It consists mainly of plateau which has higher elevation of 600 to 900 metres above mean sea level.
- The entire landscape is undulating, broken up by mountains and deep ravines.
- Plain land of elevation less than 300 metres above mean sea level is found only in the narrow coastal belt, facing the Arabian Sea.
- There are quite a few high peaks both in Western and Eastern Ghat systems with altitudes more than 1,500 metres.
- A series of cross-sections drawn from west to east across the Western Ghat generally exhibit, a narrow coastal plain followed to the east by small and short plateaus at different altitudes, then suddenly rising upto great heights.
- Then follows the gentle east and east-north-west sloping plateau.
- Among the tallest peaks of Karnataka are the Mullayyana Giri (1,925 m), Bababudangiri (Chandradrona Parvata 1,894 m) and the Kudremukh (1,895 m) from the Chikmagalur district and the Pushpagiri (1,908 m) in Kodagu district.
- Physiographically, Karnataka

State forms part of two well-defined macro regions of Indian Union; the Deccan Plateau and the Coastal plains and Islands.

- The State has four physiographic regions namely Northern Karnataka Plateau, Central Karnataka Plateau, Southern Karnataka Plateau and Karnataka Coastal Region.

Pre History of Karnataka:

- Karnataka has many sites of Pre-historic period and most of them have found scattered on the river valleys of Krishna, Bhima, Malaprabha, Ghataprabha, Cauvery, Hemavathi, Shimsha, Tungabhadra, Manjra, Pennar, and Netravati and on their tributaries.
- It is very interesting to note that the Pre-historic studies in India started with the discovery of ash mounds at Kuggal and Kudatini in 1836 by Cuebold, a British officer in Ballari region, which then formed part of Madras Presidency.
- Subsequent discoveries have revealed the existence of Stone Age Culture with innumerable Pre-historic sites in Karnataka.

Historic Period

- Historians believe that some parts of Karnataka experienced the rule of the Nandas and the Mauryas.
- The Mauryan king Chandragupta (either 'Ashoka's Grandfather

Chandragupta I, or Ashoka's Grandson Samprati Chandragupta,) is said to have visited Shravanabelgola and spent the last years there.

- Among the fourteen Rock Edicts of Ashoka, so far found in Karnataka, 10 are Minor (two each at Nittur and Udagolam in Ballari district; one at Maski in Raichur district; one each at Gavimutt and Palkigundu in Koppal district; one each at Brahmagiri, Jatinga Rameshwara and Siddapura in Chitradurga district) edicts, and Four are Major (viz., 13th and 14th edicts found at Sannati in Kalaburagi district) Rock edicts.
- They testify to the fact that the Mauryan Empire had its jurisdiction over Karnataka also.
- It is interesting to note that, Emperor Ashoka's personal name occur for the first time in his Maski minor rock edict wherein, besides his familiar epithet "Devanampiya Piyadasi", his personal name 'Ashoka' also occur.
- Hence, his Maski edict has a unique place among all his royal edicts. The language used in the above inscriptions is Prakrit and the script used therein is 'Brahmi'.
- Scholars have accepted Brahmi script as the mother of all Indian scripts, including the Devanagari script.

Rulers of Karnataka:

- Shatavahanas (C.30 B.C - 230 A.D)
- Kadambas of Banavasi (C.345 - 540 A.D)
- Alupas of Tulunadu (C. 2nd – 14th Cen. A.D)
- Gangas of Talakad (C.350 - 1024 A.D.)
- Chalukyas of Badami (C. 540-757 A.D.)
- Rashtrakutas of Malkhed (C.753-973 A.D.)
- Chalukyas of Kalyana (C.973-1189 A.D.)
- Sevunas of Devagiri (C 1173-1318 A.D.)
- Hoysalas of Dwarasamudra (C.1052-1342 A.D.)
- Vijayanagara Empire (C.1336-1646 A.D.)
- Bahamani Kingdom (C.1347-1520 A.D.)
- Adilshahis of Vijayapura (1489-1686 A.D.)
- Keladi Kingdom
- Marathas
- Mysuru Rulers
- Hydar Ali
- Tipu Sultan

LANGUAGE HISTORY

- Kannada, the language used in Karnataka, is recognised by the Indian Constitution as one of the principal languages of the country.
- Kannada is the mother-tongue

for the majority of the people in Karnataka.

- Even the neighbouring states such as Andhra Pradesh, Maharashtra, Tamil Nadu, Kerala, Goa and Daman and Diu have a substantial number of people using Kannada as their mother-tongue.
- The language has acquired various forms, styles and dialects corresponding to the regional variations and other factors that have influenced the land.
- Kannada belongs to the group of south Indian languages popularly known as the Dravidian family of languages, with several regional dialectical variations.
- Presently, at least three well-defined regional dialects, popularly known as Mysore-Kannada, Dharwad-Kannada and MangaloreKannada are spoken in the three respective cultural centers of Karnataka i.e. Mysore, Dharwad and Mangalore.
- Within these main divisions, there are several other dialectical subdivisions such as Havyaka, Badaga, Nadava, Koosa, etc. which are local dialects mixed with other language forms.
- The written characters of the language are derived from the Brahmi script which is the parent-script for all modern Indian languages, first popularised all

over India through the edicts of Asoka.

- The earliest form of Kannada script is found in the Halmidi inscription dated 450 A.D. Many of the Badami Chalukyan records in Sanskrit are written in this script.
- The Kannada script has been changing continuously and the present Kannada script is the result of such evolutionary changes for over 2,000 years.
- The present script was standardised after the introduction of printing, in which letter forms are mechanically reproduced with unchanging uniformity.
- Since Kannada, Tamil and Telugu belong to the Dravidian family, all three languages are similar in structure.
- Though these have also passed through various stages of development, from being a dialect of the Dravidian stock to the status of a cultured language with a script of its own, the technical, scientific and philosophical vocabulary was nourished by the Sanskrit language.
- The earliest form of the language is known as Halegannada (Old Kannada) and Nadugannada (Middle Kannada) of later stages paved the way for Hosagannada (Modern Kannada).
- Halegannada nurtured classical literature and most of the

popular literature belongs to either Nadugannada or Hosagannada.

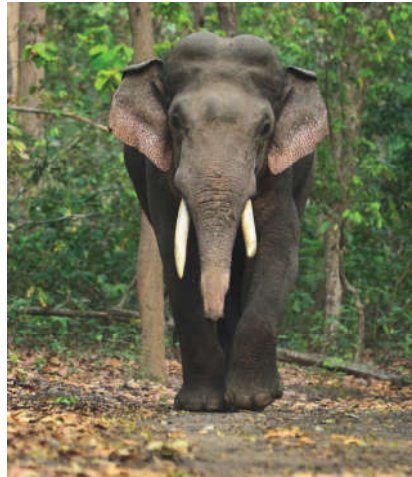
State Emblem of Karnataka



- In the state emblem of Karnataka, the Lion Capital of Ashoka is shown on top of a blue abacus, which is also the Indian State Emblem, which is also the state emblem of India.
- In addition to the galloping horse, the Dharma Chakra is in the centre, with a bull on top, and Dharma Chakra outlines on both the left and right sides, there is a bull on top of the bull.
- On both sides of the shield, there are mythical creatures known as Sharabha, and the shield is surrounded by red-headed, yellow Sharabha supporters standing on a green leafy region.
- "Satyameva Jayate," is scrawled in Devanagari below the compartment's opening.

State Animal of Karnataka: Asian Elephant

- Asian Elephant is the state animal of Karnataka.



- Its Scientific Name is *Elephas maximus*.
- They are found in India and Southeast Asia.
- Asian elephants are Asia's biggest land animals.
- The weight of an Asian elephant is 2,500-5,500 kg, and shoulder height is 2 to 3.5 m. They have small ears.
- The number of ribs on an Asian elephant varies.
- Their heads bulge on the dorsal surface, and only males have tusks.
- The heaviest reported weight of tusks is 39 kilos. Asian elephants have been categorized as Endangered on the International Union for Conservation of Nature's Red List since 1986.

State Bird of Karnataka: Indian Roller

- Indian Roller is the state bird of Karnataka.

- Their scientific name is *Coracias indica* or *benghalensis*.
- The Coraciidae family includes Indian rollers (*Coracias benghalensis*).



- It measures 30 to 34 centimetres in length, weighs 166 to 176 grams, and has a 65 to 74 centimetres wingspan.
- It has a pink face and neck, brown head and back, blue rump, and light and dark blue wings and tail.
- During the flight, deep blue patterns form on the wings.
- It is possible to find Indian rollers in West Asia and the Indian subcontinent.
- These birds may be found in open grasslands and scrub woodlands, and they have adapted well to artificial environments.
- They're often seen perched on wires and trees by the side of the road.

- Insects, particularly beetles, are the primary food of this species.
- This species has been classed as "least concern" by the International Union for Conservation of Nature (IUCN).
- Artists in beautiful costumes adorned with a wooden head-gear, carved birds and flowers, dance and at times sing along to the tune of drums, with sticks and peacock feathers in their hand.
- Traditionally, men portray all roles, including the female ones, though women are now part of Yakshagana troupes.

Karnataka's State Flower: Lotus



- The botanical name of the lotus is *Nucifera Nelumbo*.
- Lotus blossom is known as *Tavare-gadde* in Kannada.
- The following are other names for the Lotus flower: *Ambuja*, *Padma*, *Pankaja* (Sanskrit); *Ambal*, *Tamarai* (English); *Kamal* (Hindi).

KARNATAKA ART AND CULTURE:

Suggi Kunita :



- A harvest festival dance, Suggi Kunita is performed mostly by the farming community.
- A typical troupe consists of 15 to 20 actors and a Bhagavatha, who is the master of ceremonies and the main story teller.
- The performances draw crowds from far and wide, with a fair-ground atmosphere pervading the venue till dawn.

Yakshagana:



- A trip to the coastal belt would be incomplete without watching the Yakshagana – an elaborate dance drama performance unique to Karnataka Culture.
 - It is a rare combination of dance, music, song, scholarly dialogues and colourful costumes.
 - A celestial world unfolds before the audience, as loud singing and drumming form a backdrop to dancers clad in striking costumes, hence the name Yaksha (celestial) Gana (music).
 - This is a night-long event, with elaborately adorned performers dancing to the beat of drums in open-air theatres – usually by the paddy fields after the winter crop has been harvested.
- Karnataka is an area of contrasts, not just in its people but also in its lively natural environs. Karnataka has a rich mix of geographical, historical, and cultural features that appeal to a wide spectrum of visitors.
 - Karnataka has everything, from warm beaches to frigid hill stations, lush forests with rich flora and wildlife, one of the world's most spectacular waterfalls, and fascinating and adventurous climbing opportunities.
 - As you scrolled through our list, you may have discovered some fascinating facts about Karnataka, but many of you may not be aware of them.
 - Due to these factors, Karnataka is one of India's most intriguing states.

Conclusion

II. National Symbol

National Song

- The song Vande Mataram, composed in Sanskrit by Bankim-chandra Chatterji, was a source of inspiration to the people in their struggle for freedom. It has an equal status with Janagana-mana.

The National Song - First Stanza

- The text of its first stanza is mentioned here:
- Vande Mataram!
Sujalam, suphalam, malayaja
shitalam, Shasyashyamalam,
Mataram!
Vande Mataram!

Shubhrajyotsna pulakitayaminim,
Phullakusumita drumadala
shobhinim,
Suhasinim sumadhura bhashinim,
Sukhadam varadam, Mataram!
Vande Mataram, Vande Mataram!

III. EMINENT PERSONS AND PLACES, SPORTS, BOOK AUTHORS

1. EMINENT PERSONS

Rayyanah Barnawi



- Rayyanah Barnawi made history as the first Arab woman to venture into space.
- She is one of two Saudis on Axiom Space's second private mission.
- Ms Barnawi is joined on Axiom Mission 2 by fellow Saudi mission specialist Ali Alqarni.

- He is the second male astronaut from the Gulf kingdom to go to space.
- Other two astronauts are American commander Peggy Whitson and pilot John Shoffner.

Abhilash Tomy - Golden Globe Race



- Abhilash Tomy finished second in the Golden Globe Race.
- He successfully completed the

Golden Globe Race- a 30,000-mile solo, unassisted non-stop circumnavigation of the globe.

- He completed the task in 236 days and became the first Indian and first Asian to complete the Golden Globe race.
- Another Navyman Capt Dilip Dhond had earlier circumnavigated the earth unassisted but with stops.



2. SPORT'S

Neeraj Chopra



- Indian javelin thrower and Olympic Gold medalist Neeraj Chopra has achieved the top spot in the World Athletics men's javelin throw rankings.
- This marks the first time Chopra has reached the number-one position in his career. Previously, he had secured the second spot in the rankings.

About Javelin throw:

- The javelin throw is an athletic event in which athletes throw a spear-like object called a javelin as far as possible.
- It is one of the track and field events. The javelin is made of metal or fibreglass and has a pointed tip.

IPL 2023



- Chennai Superkings are crowned champions during

the Final of the Tata Indian Premier League match against the Gujarat Titans.

- With this, Chennai Superkings has 5 championships.
- Shubman Gill was named the IPL 2023 Most Valuable Player of the season.
- He Wins the Orange Cap as well for the 890 runs that he scored in 17 games.
- Yashaswi Jaiswal was named the Emerging Player of the Year.
- Devon Conway wins the Player of the Match award.
- Super striker of the season: Glenn Maxwell (strike rate of 183.49).
- Game changer of the season: Shubman Gill.
- Perfect catch of the season: Rashid Khan.
- Purple cap: Mohammed Shami (28 wickets).
- Fair play award: Delhi Capitals.

FIFA World Cup



- For the first time in history, an

image of the actual FIFA World Cup trophy and the tournament hosting year is being depicted for FIFA World Cup emblem for 2026 edition in USA, Canada and Mexico.

Laureus awards

- Lionel Messi wins the Laureus World Sportsman of the Year 2023.
- Messi won Sportsman of the Year for a second time after sharing the 2020 award with Formula One driver Lewis Hamilton.
- Ann Fraser-Pryce wins Laureus World Sportswoman of the Year 2023.
- She earned Sportswoman of the Year for the first time in her sixth nomination.
- Fraser-Pryce is the second consecutive Jamaican sprinter to win the award after Elaine Thompson-Herah.
- Chinese freeskier Eileen Gu won Action Sportsperson of the Year.
- Spanish tennis player Carlos Alcaraz won Breakthrough of the Year
- Swiss Paralympic champion wheelchair racer Catherine Debrunner won Sportsperson of the Year with a Disability.

3. Event's / Award's

World Food India 2023

Context :

- India's Ministry of Food Processing Industries is organizing the second edition of 'World Food India 2023' in New Delhi from 3rd-5th November.

Aim :

- The event aims to showcase India's food culture and attract global investments in the food processing sector. It will bring together manufacturers, producers, investors, policymakers, and organizations from across the global food ecosystem.

Focus areas :

- Leveraging millets as a super-food; positioning India as a global hub for food processing; unlocking growth potentials in strategic segments; establishing an efficient ecosystem, and promoting sustainable development.
- The event is part of India's vision to become a global leader in the food processing industry and highlights the country's production, consumption, and export potential in various food sectors.
- India is taking steps to create an inclusive and sustainable ecosystem, attract foreign

investment, and enhance the ease of doing business, in the food processing system.

- The first edition of World Food India was held in 2017. India leads the world in the production of milk, bananas, mangoes, papayas, guavas, ginger, okra and buffalo meat, and ranks second in the production of rice, wheat, potatoes, garlic, cashew nuts.
- The United Nations has declared 2023 as the International Year of Millets (IYM 2023) with the aim of increasing the production and consumption of millets worldwide.

Harvard University's Radcliffe fellowship

- Biologist Sathya Bhamadasi Biju has been chosen for Harvard University's prestigious Radcliffe fellowship.
- He is popularly known as 'the Frogman of India'.
- His work is spanning three decades and he discovered over a hundred species.
- The Delhi University professor is one of the 50 scholars who were awarded the Harvard Radcliffe Institute Fellowship for 2023-24.
- He had recently won the Kerala Sree award instituted by the

Kerala government for his outstanding contributions in the field of science.

Govind Swarup Lifetime Achievement

- The Veteran astronomer Jayant Narlikar was conferred the first Govind Swarup Lifetime Achievement Award instituted by the Astronomical Society of India (ASI)

76th World Health Assembly

- The 76th World Health Assembly is scheduled to be held in Geneva, Switzerland.
- Theme of the event is "WHO at 75: Saving lives, driving health for all."
- It will serve as a platform for representatives from all member to come together and address pressing health issues that affect people worldwide

France's highest civilian award

- Tata Group Chairman N. Chandrabosekaran has been given France's highest civilian award Chevalier de la Legion d'honneur for his contributions to strengthen the trade relationship between India and France.

57th Jnanpith Award

- Renowned Konkani novelist and short story writer Damodar Mauzo won the 57th Jnanpith Award.
- The Jnanpith Award is the oldest and the highest Indian literary award presented annually.
- It was given by the Bharatiya Jnanpith a literary and research organization, based in New Delhi.
- Mauzo was awarded the Sahitya Akademi Award in 1983.
- The first Konkani writer to win this literary award was Ravin-

dra Kelekar in 2006.

- Assamese poet Nilmani Phookan won the 56th Jnanpith Award.
- Phookan is the third Assamese writer to have received the Jnanpith.

1959 Ramon Magsaysay Award

- The Tibetan spiritual leader the Dalai Lama was presented with the 1959 Ramon Magsaysay Award after 64 years.
- The Dalai Lama fled Tibet in 1959 and has lived in India in exile since then.

- The Ramon Magsaysay Award is often called the "Nobel Prize of Asia".

Australia's highest civilian honour

- Ratan Tata has been awarded the Order of Australia, which is Australia's highest civilian honour.

The Indo-Australian Award

- Nawab of Arcot Mohammed Abdul Ali was bestowed the Indo-Australian Award for Meritorious Service at Amir Mahal, Chennai.

4. Historic Persons

Gurudev Rabindranath Tagore

Context :

- The 162nd birth anniversary of Gurudev Rabindranath Tagore was celebrated across the globe on May 7.

Gurudev Rabindranath Tagore (7 May 1861 – 7 August 1941)	
About	He was a Bengali polymath who worked as a poet, writer, playwright, composer, philosopher, social reformer and painter.
Philosophies	He propagated ideas of humanism, idealism, nationalism and internationalism. One of the most remarkable institutions established by Tagore – Visva Bharati University (1921) – ushered in a new era of Indian nationalism (incorporating all the best aspects of Western culture into the best of Indian culture).
Contributions	As a freedom fighter: For him, true freedom means the ability to be truthful and honest with oneself otherwise autonomy loses all of its worth. He viewed British rule as a symptom of the overall "sickness" of the social "disease" of the public. He wrote the song 'Banglar Mati Banglar Jol' (Soil of Bengal, Water of Bengal) to unite the Bengali population after the Bengal partition in 1905.

	<p>He actively participated in the Swadeshi movement (1905). Being shocked when it broke into communal violence, he withdrew from the movement.</p> <p>He wrote the 'Amar Sonar Bangla' (adopted as the national anthem of Bangladesh later) and 'Jana Gana Mana' (adopted as the national anthem of independent India later) which helped ignite a feeling of nationalism amongst people.</p> <p>For Hindu-Muslim unity, he started the Rakhi festival.</p> <p>He renounced the Knighthood in protest of the Jallianwala Bagh massacre (1919).</p>
	<p>As a social reformer:</p> <p>He constantly questioned the importance of caste in India's discourse.</p> <p>In his poem – 'The Sacred Touch' (in the Harijan) and drama – 'Chandalika', he shunned untouchability as being inhumane.</p> <p>His works – Chokher Bali (on themes like widowhood, patriarchy and child marriage), Maanbhajan, and Aparichita (shunning the practice of dowry) – touched upon almost all the social evils of that time.</p>
Works	<p>He published his first poems at the age of 16 under the pen name 'Bhanusimha'.</p> <p>His notable works include Gitanjali, Ghare-Baire, Gora, Manasi, Balaka, and Sonar Tori.</p> <p>He is also remembered for his song 'Ekla Chalo Re'.</p> <p>For all his contributions he is widely known as 'Kavi guru'.</p>
Tagore vs Gandhit	<p>He was a good friend of Mahatma Gandhi and is said to have given him the title of Mahatma.</p> <p>However, both disagreed on key issues at times.</p> <p>For example, Tagore sharply criticised Gandhi, after he blamed the prevalence of untouchability for the massive earthquake in Bihar.</p> <p>Tagore renounced British imperialism, yet he did not fully support or agree with Gandhi and his Non-cooperation movement.</p>
Awards	<p>In 1913 he became the first non-European to have won the Nobel Prize in Literature for his novel 'Geetanjali'. Knighthood was given to him by Lord Hardinge in 1915.</p>
Relevance today	<p>Tagore's ideas on nationalism, humanism, internationalism and divinity stay as alive and relevant.</p>

Gopal Krishna Gokhale

Context:

- Prime Minister has paid homage to Gopal Krishna Gokhale on his birth anniversary.

About Gopal Krishna Gokhale

<p>Gopal Krishna Gokhale (1866-1915) was an Indian political leader and a social reformer during the Indian independence movement.</p>	
Ideology	Worked towards social empowerment, expansion of education, struggle for freedom in India for three decades and rejected the use of reactionary or revolutionary ways.
Legislatures	Between 1899 and 1902, member of the Bombay Legislative Council, followed by work at the Imperial Legislative Council from 1902 till his death (1915). Played a key role in framing the Morley-Minto reforms of 1909. He advocated for the expansion of legislative councils, opposed the indentured labour system
Role in INC	Associated with the Moderate Group of Indian National Congress (joined in 1889). Became president of INC in 1905 in Banaras session. Intensely campaigned for the release of Lala Lajpat Rai in 1907.
Works	Established the Servants of India Society in 1905 for the expansion of Indian education. Associated with the Sarvajanic sabha journal started by Govind Ranade. Founded the Ranade Institute of Economics in 1908. Started the English weekly newspaper, The Hitavada (The people's paper).
Mentor to Gandhi and Jinnah	Regarded by Mahatma Gandhi as his political guru. Gandhi wrote a book in Gujarati dedicated to the leader titled 'Dharmatma Gokhale'. M A Jinnah wanted to become a "Muslim Gokhle".
Famous Quotes	<p>"What Bengal thinks today, India thinks tomorrow"</p> <p>"It is better to prepare for 1000 days of struggle than to be caught unaware for a single day."</p> <p>Gandhi Ji, in his autobiography, described Gokhale as "pure as crystal, gentle as a lamb, brave as a lion and chivalrous to a fault and the most perfect man in the political field."</p>

Colonel John Pennycuik

- Colonel John Pennycuik was a British engineer who is known for constructing the Mullaperiyar dam in India during the British era. His dam transformed the Cumbum Valley into a fertile belt, filled with paddy fields, vegetable gardens, coconut plantations, flower gardens, and vineyards.

Elayaperumal

- Elayaperumal, a late Dalit leader, played a crucial role in the abolition of hereditary priesthood in Tamil Nadu. The recommendations of the committee headed by Elayaperumal formed the basis for the historic amendment to the Tamil Nadu Hindu Religious and Charitable Endowments Act, passed by the Tamil Nadu Assembly in 1970. This amendment aimed to abolish the system of hereditary priesthood and allow individuals of all castes to become priests.

5. Books

My life as a Comrade

- KK Shailaja, the former health minister of Kerala, who gained worldwide recognition for her success in managing the Covid-19 pandemic, has released a memoir entitled "My Life As A Comrade".
- Ms. Shailaja credits scientific thinking as an integral part of her decision-making process and reveals that her Ammamma (Grandmother), inspired her with her actions in tackling a smallpox outbreak in Kerala.

Georgi Gospodinov

- Bulgarian writer Georgi Gospodinov and translator Angela Rodel have won the International Booker Prize for their novel "Time Shelter."

- The book explores the impact of nostalgia and memory through a story set in a clinic that recreates different decades of the past. It examines the allure of escaping the present and the consequences of vanishing memories.
- Lessons that can be drawn from the book "Time Shelter":
- The book cautions against excessive nostalgia and the temptation to escape from the present. It highlights the importance of living in the present and embracing the opportunities it brings. "Time Shelter" underscores the importance of striking a balance between preserving the past and embracing the future.

Ruskin Bond

- Author Ruskin Bond wrote a book titled "The Golden Years: The Many Joys of Living a Good Long Life".

"Droupadi Murmu: From Tribal Hinterlands to Raisina Hills"

- A book titled "Droupadi Murmu: From Tribal Hinterlands to Raisina Hills" was authored by Kasturi Ray.

'The Indian Metropolis: Deconstructing India's Urban Spaces'

- A book titled 'The Indian Metropolis: Deconstructing India's Urban Spaces' was authored by Feroze Varun Gandhi

IV. History - Historical Events

25th anniversary of Pokhran-II

Context :

- On May 11, 1998, codenamed Operation Shakti (literally, "strength")/Pokhran-II, India conducted three nuclear bomb test explosions at the Indian Army's Pokhran Test Range.

Timeline of Operation Shakti/Pokhran-II:

Foundation of India's nuclear programme laid by physicist

Homi J Bhabha:

- Tata Institute of Fundamental Research (TIFR): India's first research institution dedicated to the study of nuclear physics opened (1945) in Bombay, after Bhabha's successful lobbying.
- Department of Atomic Energy (DAE): Founded in 1954 with Bhabha as director.

The threat of China and Pakistan:

- The 1962 Sino-Indian War and China's subsequent nuclear

bomb test at Lop Nor in 1964.

- The 1965 India-Pakistan war, with China openly supporting Pakistan.
- Therefore, India was surrounded by two unfriendly nations and needed to take steps towards building self-sufficiency.

The "discriminatory" NPT:

- By the 1960s, discourse around nuclear disarmament and non-proliferation as the Cold War arms race pushed the US and the USSR to great extremes.

- In 1968, the Non-Proliferation Treaty (NPT) came into existence, defining nuclear-weapon states as those that have built and tested a nuclear explosive device before January 1, 1967 – the US, Russia (formerly USSR), the UK, France and China.
- This disallows any other state from acquiring nuclear weapons.
- The government of India refused to accede to the terms of the treaty because it failed to address India's concerns.

Pokhran-I/Operation Smiling Buddha:

- By the 1970s, Vikram Sarabhai (Bhaba's successor at the DAE) had worked to significantly broaden India's nuclear technology.
- The Indira Gandhi government showed political will and on May 18, 1974, India carried out its first nuclear test at the Pokhran test site.
- This test was conceptualised as a "peaceful nuclear explosion" with "few military implications".

International sanctions on India post-Pokhran-I:

- The world was not willing to buy India's version of the motive behind Pokhran-I and countries like the US and Canada imposed significant sanctions.
- These sanctions (majorly on tech transfer) would be a major setback for India's nuclear journey and majorly decelerate its progress.

The period between the two tests:

- Domestic political instability: The Emergency of 1975 and PM Morarji Desai's opposition to nuclear weapons brought the programme to a grinding halt.

1980s:

- Dr APJ Abdul Kalam was made in charge of India's missile programme (1983) and India exponentially increased its plutonium stockpiles.

1990s:

- With the fall of the USSR in 1991, India lost one of its biggest military allies.
- The US continued to provide military aid to Pakistan.
- Discussions regarding a Comprehensive Test Ban Treaty (CTBT) were also underway in the UN (it would be finalised in 1996, but India did not sign it).

Pokhran-II – Projecting India's strength:

- In 1995, permission for carrying out a nuclear test was granted. However, logistical and political reasons pushed back the tests further.
- In 1998, the Atal Bihari Vajpayee government showed political will and successfully conducted Operation Shakti.
- Unlike the 1974 test, the Indian Government declared itself as a state possessing nuclear weapons following Pokhran-II.
- Though the test invited sanctions from some countries (like the US), the condemnation was far less than in 1974.

- The test helped India enter the highly guarded club of countries with the capability to deploy nuclear weapons, helping it to cement its status as a dominant nation-state.

India's nuclear doctrine (presented in 1999) since Pokhran-II:

- It highlighted a credible minimum deterrence (CMD) and a no-first-use (NFU) policy, while concurrently supporting non-proliferation and universal disarmament.
- The sole purpose of India's nuclear deterrence is to deter adversaries' use or threat of use of nuclear weapons.
- The policy changed India's image and the US (once an adversary of India's nuclear programme) signed a civil nuclear deal with India in 2008, acknowledging India as a responsible nuclear player.

Way ahead:

- India needs actions at two levels for sustainable national security:
- To address immediate security threats by intelligently building sufficient and resilient retaliatory capability to signal credible deterrence.
- To make long-term innovative diplomatic investments towards the creation of a global environment conducive to peace and universal nuclear disarmament.
- Simultaneously, India can leverage the economic, political and cultural appeal to showcase the advantages of its philosophy of nuclear deterrence.

V. Polity

'Forum Shopping'

Context :

- Recently, CJI Chandrachud has condemned 'forum shopping'.
- Forum shopping refers to the practice of litigants or lawyers deliberately selecting a particular judge or court where they believe the judgment will be more favourable to their case. This practice involves choosing a court that is likely to provide the most favourable outcome, rather than following the standard legal process.

Issues with Forum Shopping:

- It circumvents the normal course of justice and can lead to an imbalance in the workload of courts.
- The Supreme Court has condemned this practice. It has no sanction in law and must be discouraged.

Ethical issues :

- Unfair advantage; Manipulation of the legal system
- Recourse available with courts in case of 'forum Shopping':
- Courts may exercise discretionary powers and refuse jurisdiction over a matter if another court or forum is more suitable. This ensures that cases are allocated to the appropriate bench and promotes fairness and justice.

- Courts can impose fines on litigants

SC judgements on 'Forum Shopping':

- SC in 1998 (Chetak Construction Ltd. vs. Om Prakash): "A litigant cannot be permitted choice of the forum," and that every attempt at forum shopping "must be crushed with a heavy hand."
- SC (2017) ('Union of India & Ors. vs. Cipla Ltd.'): SC laid down a "functional test" to be adopted for forum shopping.
- SC (2022) (Vijay Kumar Ghai vs. State of W.B.): Supreme Court termed forum shopping as a "disreputable practise by the courts" that "has no sanction and paramourty in law".

Global Alliance for National Human Rights Institutions

- The U.N. recognised Global Alliance of National Human Rights Institutions (GANHRI) deferred the accreditation of National Human Rights Commission, India (NHRC-India).
- This came two months after seven human rights watchers/institutions wrote to GANHRI objecting to NHRC India's 'A' rank.
- This is the second time in a decade.
- The United Nations' Paris Prin-

ciples was adopted in 1993 by the U.N. General Assembly.

- They provide the six international main criteria benchmarks against which National Human Rights Institutions (NHRI) can be accredited.
- The GANHRI consists of sixteen, 'A' status NHRIs, four from each region, namely, the Americas, Europe, Africa, and the Asia-Pacific.
- 'A' status accreditation also grants participation in the work and decision-making of the GANHRI, as well as the work of the Human Rights Council and other U.N. mechanisms.
- The NHRC-India has been set up under the Protection of Human Rights Act passed by Parliament in 1993.
- It has been accredited as an 'A' Status NHRI since the beginning of the accreditation process for NHRIs in 1999.
- It retained the accreditation in 2006, 2011, and in 2017 also after a deferment.

India's New Parliament: Need and Significance

Context:

- In the 75th year of Independence, India's new Parliament building, embodying the culture, pride and spirit of the entire nation, was recently inaugurated by the PM of India.

- 19 opposition parties boycotted the inauguration event, accusing the central government of sidelining President Droupadi Murmu – the country's first tribal head of state.



The old Parliament:

- At the coronation of George V as Emperor of India in 1911, the announcement of the transfer of the seat of Gol from Calcutta to the ancient Capital of Delhi was made.
- The GoI Act 1919 provided for a bicameral legislature for India and the need for the new was felt.
- The parliament building's construction took six years (and Rs 83 lakhs) – from 1921 to 1927, and its circular shape is believed to be inspired by the Chausath Yogini temple at Mitawli village in MP's Morena district.

Need for a new Parliament building:

- Existing Parliament is old: The existing Parliament house (which will be converted into a 'Museum of Democracy' after the new Parliament becomes operational) is almost a century-old Heritage Grade-I building, showing signs of distress and over-utilization.
- Narrow seating space for MPs:
 - The present building was never designed to accommodate a bicameral legislature for a full-fledged democracy.

- The Central Hall has seating capacity only for 440 persons and when the Joint Sessions are held, the problem of limited seats amplifies.
- The number of Lok Sabha seats is likely to increase significantly from the current 545 after 2026.
- Distressed infrastructure: The addition of services like water supply, sewer lines, etc., has led to seepage of water at several places and impacted the aesthetics of the building.
- Safety concerns: For example, fire safety, structural safety (Delhi is currently in Seismic Zone-IV), etc.
- Obsolete communication structures: Communications infrastructure and technology is antiquated in the existing Parliament, and the acoustics of all the halls need improvement.
- Inadequate workspace for employees.

The new Parliament:

NEW PARLIAMENT BUILDING
WHAT IT WILL BE LIKE TOI

A four-storey structure
Total area: **64,500 sq m**
Seating capacity: **1,224 MPs**
Cost: **Rs 970cr**
Estimated completion: **2022**

ADDITIONS

- A grand Constitution Hall to showcase India's democratic heritage
- Lounge for MPs
- Library
- Multiple committee rooms
- Dining areas
- Ample parking space

Part of **Central Vista redevelopment project**

Tata Projects Limited has won the bid for its construction

Unlike the present Parliament, the new building will not have a Central Hall

- It is part of the Central Vista Project – the ongoing redevelopment project to revamp India’s central administrative area (designed by Sir Edwin Lutyens and Sir Herbert Baker during British colonial rule) located near Raisina Hill, New Delhi.
- It is designed by Ahmedabad-based HCP Design, Planning and Management under architect Bimal Patel and has been built by Tata Projects Ltd.

Main features of the new Parliament building:

- A “Platinum-rated Green Building” with about 65,000 sq m built-up area, which will be divyang friendly.
- The triangular shape ensures the optimum utilisation of space.



- A larger Lok Sabha hall (888 seats) based on the peacock theme (India’s national bird) and a larger Rajya Sabha hall (384 seats) based on the lotus theme (India’s national flower).
- The Lok Sabha may accommodate up to 1,272 seats for joint sessions of Parliament.
- A state-of-the-art Constitutional Hall symbolically and physically puts the Indian citizens at the heart of our democracy.
- A Central Lounge that will complement the open courtyard (with a banyan – the national tree) will be a place for members to interact with each other.
- Ultra-modern state-of-the-art features like a digitised voting system, well-engineered

acoustics and audiovisual systems in the two chambers.

Interior decorations:

- Murals depicting maps of ancient India-protected monuments of ASI and UNESCO, etc.
- 3 ceremonial entrance halls with huge brass images of Mahatma Gandhi, Chanakya, Gargi, Sardar Vallabhbhai Patel, B.R. Ambedkar, and the Chariot Wheel from the Sun Temple at Konark are on display.
- Reflecting the cultural diversity of India in line with the “Made in India” initiative Tripura’s epitome bamboo wood flooring and carpets from UP’s Mirzapur embellished the new Parliament.

Some other magnificent Parliament buildings

Name	Location	Image
Binnenhof	The Hague, Netherlands	
National Parliament House	Dhaka, Bangladesh	

The Capitol	Washington DC, US	
The Great Hall of the People	Beijing, China	
The National Assembly Complex	Abuja, Nigeria	
The Palace of Parliament	Bucharest, Romania	
The Reichstag	Berlin, Germany	

Significance of the new Parliament: Symbol of the vision and aspirations of India, the spirit of change and continuity and will witness the making of India as 'Aatmanirbhar Bharat'.

Expectations from the new Parliament:

- The trend of increasing disruptions and long periods of dead-lock is antithetical to the spirit of Parliament – law-making through debate, discussion, and consensus.
- Hence, the new Parliament offers an opportunity to seriously introspect on Parliamentary

conduct and make Parliament more efficient and productive.

Conclusion:

- The new Parliament should not only be the fountainhead/ epitome of architectural excellence but should also work as a lighthouse to guide India in its ambitious journey of 'new India@100'; 'Ek Bharat, Shrestha Bharat', etc.

Power to promulgate/re-promulgate ordinances

Context:

- To overturn a unanimous decision of the SC's Constitution

Bench [which gave the Delhi govt control over services in the NCT], the central government has issued an Ordinance.

About the Ordinance:

- It gave the Lieutenant Governor of Delhi power over services.
- It established a National Capital Civil Service Authority.
 - The authority will comprise the CM and two senior IAS officials.
 - It would decide matters by majority votes – which may lead to a situation in which the view of the elected CM could be overruled.

Ordinance	
Meaning	It is a law enacted by the Executive (President in the case of Union and Governor in the case of State) to meet extraordinary/urgent circumstances.
Extraordinary / urgent circumstances	Article 123 of the Indian Constitution empowers the President [Article 213 – Governor] to promulgate Ordinances during recess of Parliament.
Article 123	If at any time, except when both Houses of Parliament are in session, the President is satisfied that circumstances exist which render it necessary for him to take immediate action, he may promulgate Ordinances.
Real authority that decides to bring the Ordinance	Under Article 74, the President acts on the advice of the Council of Ministers. Hence, it is in effect the government that decides to bring the Ordinance.
Effect	An Ordinance shall have the same force and effect as an Act of Parliament. However, the government is required to bring an Ordinance before Parliament for ratification.
Life	If the government fails to get an Ordinance ratified by the Parliament, it will lapse at the expiration of 6 weeks from the reassembly of Parliament. Maximum life of an Ordinance = 6 months (recess) + 6 weeks The Ordinance may lapse earlier – if the President withdraws it or if both Houses pass resolutions disapproving it (imply that the government has lost majority.)

Criticism	<p>As lawmaking is a legislative function, Ordinance power is provided to meet urgent situations.</p> <p>However, the governments adopt the Ordinance route to bypass the legislature.</p> <p>Repromulgation of an Ordinance, which extends life of an Ordinance, allows the executive to further seize legislative power.</p>
SC verdicts on the issue	<p>RC Cooper Case 1970: If an Ordinance is issued solely to bypass the Parliament, the President's decision to promulgate the Ordinance can be challenged.</p> <p>D C Wadhwa v. State of Bihar 1986: If the Government ignores the legislature and repromulgate an Ordinance, it would be a colourable exercise of power.</p> <p>Krishna Kumar Singh v. State of Bihar 2017: Reiterated that the Governor's power to issue an Ordinance is in the nature of an emergency power. Repeated re-promulgations without bringing the Ordinance to the legislature would be unconstitutional.</p>

The National Capital Territory of Delhi (Amendment) Ordinance 2023

Context:

- The President of India exercised legislative power under Article 123 of the Constitution to promulgate The Government of National Capital Territory of Delhi (Amendment) Ordinance, 2023.
- Need to promulgate the Ordinance: The Ordinance negates a Constitution Bench judgment of the SC, that brought "services" under the Government of National Capital Territory of Delhi (NCTD).

The scope of the Court's verdict:

- While interpreting Article 239AA(3)(a), the Court ruled

that the Legislative Assembly of the NCTD has jurisdiction over entries in List II (The State list) and List III (The Concurrent list), except three entries in List II (public order, police, and land).

- The Union of India has executive power only over these three entries in List II over which the NCTD does not have legislative competence.
- Consequently, executive power over "services" (List II) can be exercised exclusively by the Government of the NCTD.

Key highlights of the Government of NCTD (Amendment) Ordinance 2023:

- Creation of National Capital Civil Service Authority (NCCSA):
 - It will be headed by the CM

of Delhi, with the Chief Secretary and Principal Home Secretary of Delhi being the other two members.

- It will make recommendations to the Lieutenant Governor (LG) regarding the transfer, posting, vigilance and other incidental matters wrt to AISs and DANICS serving the Delhi government.
- All matters are required to be decided by a majority of votes. This means that the decision of the elected CM can be overruled by the two senior bureaucrats.

Role of LG:

- The L-G will pass orders to give effect to the recommendations passed by the NCCSA.

- In case the L-G differs from the recommendation made, s/he may return the recommendation for reconsideration by the NCCSA.
- Therefore, the final decision will lie with the LG.
- Changes brought by the Ordinance:
 - It inserted "services" of List II into Article 239AA(3) (a), thereby expanding the scope of matters (under the control of the Union) from 3 to 4.

The Constitutionality of the Ordinance	
In terms of Article 368	In terms of Articles 141 and 144
The power conferred on Parliament (under Article 239AA) is to make fresh laws for giving effect to or supplementing the provisions contained in various clauses of Article 239AA.	When a Constitution Bench of the SC declares/interprets the law, the same is binding on all courts and authorities in India.
Therefore, altering the scope of Article 239AA(3)(a) requires Constitutional Amendment under Article 368.	Articles 123, 141, and 144 are in Part V (The Union) of the Constitution. None has a non-obstante clause.
Consequently, the ordinance promulgated under Article 123 to expand the scope of Article 239AA(3)(a) is liable to be struck down.	Therefore, Article 74 could not override Article 144.
Kumar Singh vs State of Bihar (2017): A seven-judge Bench of the SC held that the satisfaction of the President under Article 123 is not immune from judicial scrutiny; not a parallel source of law-making or an independent legislative authority.	

Conclusion:

- The Union of India's decision to prefer review (Article 137) and promulgate an ordinance (Article 123) simultaneously is ill-conceived.

Important Articles of the Indian Constitution discussed above	
Article 74	It provides for a Council of Ministers which shall aid the President in the exercise of the President's functions.
Article 123	It empowers the President to promulgate ordinances during the recess of Parliament (when either/both the houses of the parliament are not in session).
Article 137	It deals with the review of judgments or orders by the Supreme Court.
Article 141	It stipulates that the law declared by the Supreme Court shall be binding on all Courts within the territory of India.
Article 144	All authorities, civil and judicial, in the territory of India, shall act in aid of the Supreme Court.
Article 239AA(3)(a)	The Legislative Assembly of the NCT can make laws on all the matters in the State List/Concurrent List [except police, public order and land].
Article 368	The Parliament may in the exercise of its constituent power amend by way of addition, variation or repeal any provision of the Constitution in accordance with the procedure laid down in this article.

Article 142

Context:

- The Supreme Court of India has ruled that it can directly grant divorce to couples under Article 142 (1) of the Constitution, which allows it to do "complete justice" in any cause or matter.

What did SC say?

- The court can waive the mandatory six-month waiting period for divorce under The Hindu Marriage Act (HMA), 1955, and allow the dissolution of the marriage on grounds of an irretrievable breakdown even

if one of the parties is not willing.

Significance of the decision:

- The decision enables couples to bypass the time-consuming process of obtaining a decree of divorce through family courts, which have a large number of similar cases pending.

About Article 142:

Topic	Information
	Article 142 (1) provides discretionary power to the Supreme Court as it states that the SC in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it.
Application	Release of AG Perarivalan, one of the life convicts in the Rajiv Gandhi assassination case; Cleansing of Taj Mahal and granting justice to many undertrials; Ayodhya dispute case
Significance	It has been invoked to protect the rights of different sections of the population and serves as a check on the government, acting as a system of checks and balances with the legislature. It provides complete justice to various deprived sections of society or protects the environment
Example of judicial overreach	Ban on the sale of alcohol along national and state highways where the court extended the ban to State highways as well
Negative Impact	Article 142 has some negative aspects such as ambiguity, promoting judicial overreach, and unaccountability. The phrase "complete justice" is still unclear and judgments passed by the Supreme Court have created confusion.

Article 355

Context:

- The Centre has taken control of security in Manipur (by allegedly invoking Article 355),

deploying 12 companies of the Border Security Force (BSF) and airlifting anti-riot vehicles to the northeastern state.

- The move comes after at least

ten people were killed by mobs, and several villages and community-specific urban localities were destroyed during tribal clashes.

Article 355 of the Indian Constitution:

Aspect	Description
Definition	Article 355 empowers the Union government to protect every state in India against external aggression and internal disturbances.

Article 356 Vs Article 355	Article 356 empowers the President to impose President's Rule in a state in case of a failure or breakdown of constitutional machinery, while Article 355 empowers the Union government: To protect every state in India against external aggression and internal disturbances To issue directions to any state to ensure compliance with the Union's laws and regulations
Part of Constitution	Part XVIII of the Indian Constitution, titled "Emergency Provisions".
Principle	Based on the principle of "duty to protect" enshrined in the Constitution.
Restrictions	Directions can only be given when there is a failure of the state machinery to comply with or give effect to any Union law or regulation; should be of an urgent nature and may not extend beyond the necessary period for remedying the failure; state government should be given an opportunity to submit its views before issuance.
Duration	Not specified in the Constitution.
Withdrawal	Can be withdrawn by the Union government when the situation is normalized or the state government requests it to do so.
Circumstances of imposition	Failure of the state to comply with the Union's directions; threat to the security of India; threat to unity and integrity of India due to violent activities by any group or organization; request for assistance from the Union to maintain public order when the situation in the state cannot be controlled by the state's own forces.
Scope of judicial review	The satisfaction of the President in invoking Article 355 is subject to judicial review and can be challenged in court if it violates any fundamental rights or constitutional provisions.

For Issues in Manipur:

Issue	Explanation
Hill-Valley Tensions	The central valley of Manipur (10% of the geographical area of Manipur) is home to the Meitei and Meitei Pangals who constitute roughly 64% of the state's population. The remaining 90% of the state's geographical area comprises hills surrounding the valley, which are home to the recognized tribes (e.g., Kuki and Nagas), making up about 35% of the state's population.
Meitei for ST Status Demand	The Meitei community (living in the valley) wants to be included in the state's Scheduled Tribes list. The demand has been led by the Scheduled Tribes Demand Committee of Manipur (STDCM) since 2012. They argue that being left out of the ST list has caused the community to be victimized without any constitutional safeguards.
Manipur High Court Order	A single judge of the Manipur High Court passed an order asking the government to consider the demand of the Meitei community for ST status. The order has been opposed by tribal groups in the state.
The opposition	Both the demand and the order, passed by a single judge of the High Court, have been strongly opposed by groups representing the state's tribal communities (living in Hills)

Reason behind opposition	<p>Opposition to the inclusion of the Meitei in the Scheduled Tribe (ST) category by hill tribe in Manipur is due to:</p> <p>Meitei's dominant population and political representation (40 out of 60 Assembly constituencies of the state are in the valley)</p> <p>Fear of job loss for hill tribes</p> <p>Meitei language is already included in the 8th Schedule and sections of the Meitei community are already classified as Scheduled Castes or Other Backward Classes with access to opportunities associated with that status.</p>
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National Medical Devices Policy

- The Union Cabinet approved the National Medical Devices Policy, 2023.
- It aims to place the medical devices sector on an accelerated path of growth with a patient-centric approach to meet the evolving healthcare needs of patients.
- It is expected to facilitate an orderly growth of the medical device sector to meet the public health objectives of access, affordability, quality, and innovation.
- It will help the sector grow from the present \$11 billion to \$50 billion in the next five years.

S&T: NITI Aayog's Compendium on Best Practices in Social Sector 2023

- Every day, in this section we are bringing best practices from each category. Today's best practices will cover the 'Science and technology'

Initiatives:

Initiative	Nodal Agency	Objective
National AI Portal (INDIAai)	National e-Governance Division (NeGD), Ministry of Electronics and IT (MeitY), in partnership with NASSCOM	To create a unified AI ecosystem in India and promote knowledge creation, fostering economic growth and social empowerment through a one-stop digital platform for AI-related developments in the country.
Santhe Kaushalkar - Self-Help Group and Artisan Profiling Platform	UNDP Karnataka and Department of Planning, Programming, Monitoring and Statistics, Government of Karnataka	To create a rural self-help group (SHG) and artisan profiling platform (with digital Identity) that provides profiles of rural SHGs/artisans engaged in the manufacturing of various products and artefacts, and facilitates their connection with potential buyers and customers.
Innovations for Defence Excellence (iDEX)	Defence Innovation Organisation (DIO) under the aegis of the Department of Defence Production, Ministry of Defence	To foster innovation and technology development in the defence and aerospace sector by engaging industries including MSMEs, start-ups, individual innovators, R&D Institutes, and academia, and promote self-reliance. The MoD also procures the newly innovated products as per the Defence Acquisition Procedure 2020 (DAP-2020) from iDEX winners.

Model Prisons Act 2023

Context:

- The Indian government has prepared a new Model Prisons Act to replace the current 130-year-old 'Prisons Act, 1894', with a focus on rehabilitation and reform of prisoners instead of retributive deterrence.

What is Criminal Justice System in India?

- The Criminal Justice System (CJS) in India is a set of legal and institutional frameworks that govern the detection, investigation, prosecution, and punishment of criminal offences.
- The CJS in India is mainly guided by three major legal documents:

- The Indian Penal Code
- The Code of Criminal Procedure
- The Indian Evidence Act.
- CJS has four subsystems:
 - Legislature (Parliament)
 - Enforcement (Police)
 - Adjudication (Courts)
 - Corrections (Prisons, Community Facilities)

Need for new Prison Act:

	Examples/Facts
Outdated laws	The Indian Prison Act was enacted in 1894 and amended several times, but it fails to address modern-day prison challenges.
Human rights violations	E.g., custodial deaths, torture, and overcrowding are widespread in Indian prisons.
Focus on rehabilitation	The current prison system focuses more on punishment than rehabilitation, which leads to high recidivism rates (committing offence again). A new act should emphasize the need for rehabilitation programs and better integration of prisoners into society upon release.
Improved healthcare	Many Indian prisons lack adequate healthcare facilities, leading to higher mortality rates.
Technology integration	The current prison system is largely manual and paper-based, leading to delays and inefficiencies.
Overcrowding	According to the latest data available from the National Crime Records Bureau (NCRB), the occupancy rate of Indian prisons is over 117%, indicating severe overcrowding.
Staff training	Many Indian prison staff lack adequate training, leading to incidents of human rights abuses, corruption, and mismanagement. E.g., In 2020 it was reported that the Puzhal Central Prison in Chennai, Tamil Nadu had only one guard for every 100 prisoners.

Key features of Model Prisons Act 2023 are:

Feature	Description
To incentivise good conduct	Ensure legal aid to prisoners, provision of parole, furlough and premature release
For women and transgender inmates	Ensure the physical and mental well-being of these vulnerable inmates and provide separate accommodations
Reformation	Move away from the retributive deterrence approach and transform prisoners into law-abiding citizens

Security assessment	Ensure the safety of both prisoners and prison staff by segregation of prisoners
Grievance Redressal	Provide a mechanism for prisoners to raise concerns and receive appropriate responses
Prison development board	Establish a board to oversee and advise on prison development and management
Use of technology	Bring transparency and efficiency to prison operations
Use of prohibited items	Discourage prisoners and prison staff from using prohibited items, such as mobile phones, in prisons
High-security jails	Ensure the proper management and security of high-risk prisoners by the establishment of high-security jails
Open and semi-open jails	Provide different types of facilities to accommodate different types of prisoners

Implementations:

- Prisons in India and 'persons detained therein' are a State subject and MPA 2023 will serve as a "guiding document" for States. Therefore it is not binding on the states.

Previous other recommendations:

- SC appointed Justice Amitava Roy (retd.) The committee recommended several measures to address the issue including:
 - Speedy trials
 - Increasing the number of lawyers for prisoners
 - Setting up special fast-track courts for petty offences
 - Promoting the concept of plea bargaining

Initiative for prison reforms in India:

- The Modernisation of Prisons Project (2021-26) aims to enhance security and facilitate prisoner rehabilitation in India through the use of modern security equipment; E-Prisons Project, Model Prison Manual

2016, and National Legal Services Authority (NALSA).

Conclusion:

- The Model Prison Act 2023 is aimed at improving prison administration and conditions, protecting the rights of prisoners, and promoting their rehabilitation and reintegration into society.
- It is expected to bring much-needed reforms to the Indian prison system and align it with international standards.

Judicial recusals

Context:

- Calling it an attempt to indulge in 'bench hunting', a former SC judge refused to recuse himself from hearing a plea.

What is recusal?

- It is the act of declining to take part in an official activity, such as a court case because the administrative or court authority presiding over it has a conflict of interest.
- This conflict of interest can arise

in many ways – from holding shares in a litigant company to having a prior or personal association with a party.

The practice of judicial recusals stems from:

- The cardinal principles of due process of law:
 - Nemo judex in sua causa – no person shall be a judge in his own case.
 - Justice must not only be done but must also be seen to be done.
- The oath of office: Both the SC and HC judges promise to perform their duties without fear or favour, affection or ill-will, in accordance with the III Schedule of the Constitution.
- Restatement of the Values of Judicial Life adopted by the SC: It forbids a judge from deciding a case where he holds pecuniary interest unless the concerned parties clarify that they have no objections.

Recent instances of judicial recusals:

- In the afore-mentioned case involving a former IPS officer (Sanjiv Bhat), recusal was sought on the ground that there was a likelihood of bias since the same Judge, a Gujarat HC judge had reprimanded the IPS officer.
- The CJI rejected an application seeking his recusal from hearing petitions seeking legal recognition of same-sex marriages.
- Justice Gita Gopi of the Gujarat HC recused herself from hearing Rahul Gandhi's appeal seeking a stay on his conviction in the criminal defamation case.

Why do judges recuse?

- To prevent the perception that the judge was biased while deciding a case.
- When an appeal is filed in the SC against an HC judgment delivered by the concerned judge before his elevation.

What is the procedure for recusal?

- Although several SC judgments have dealt with the issue, India has no codified rules governing recusals.
- There are two kinds of recusals – automatic (where a judge himself withdraws from the case) or when a party raises a plea for recusal.
- The decision to recuse rests solely on the conscience and discretion of the judge and no party can compel a judge to withdraw from a case.

- If a judge recuses himself, the case is listed before the Chief Justice for allotment to an alternate Bench.

Do judges have to record reasons for recusal?

- Since there are no statutory rules governing the process, it is often left to the judges themselves to record reasons for recusals.

Concerns:

- The majority of the time, the grounds for recusal are not made public, which endangers judicial transparency.
- However, the Delhi HC recently ruled that any investigation into the reasons for recusal would constitute an interference with the course of justice.

What rules have the SC formulated in the past?

- *Ranjit Thakur v. Union of India* (1987): To determine if a judge should recuse, what is relevant is the reasonableness of the apprehension of bias in the mind of the concerned party.
- *State of West Bengal v. Shivnanda Pathak* (1998): Judicial bias is a condition of mind which renders the judge incapable of impartiality in a particular case.
- *SC Advocates-on-Record Association v. Union of India* (2015): Where a judge has a pecuniary interest, no further inquiry is needed to establish whether there is a 'real danger' of bias.
- *Indore Development Authority v. Manoharlal and Ors* (2019):

Merely having a legal opinion does not disentitle one from being impartial.

Practice in foreign jurisdictions:

- The United States has a well-defined law on recusals, which details the grounds for recusal – financial or corporate interest, a case in which the judge was a material witness or a lawyer, and a relationship to a party.
- The United Kingdom's law laid down a standard to look at the likelihood of bias from the perspective of a fair-minded and reasonable observer.

Conclusion:

- It is the judge's 'constitutional duty' to be 'transparent and accountable' and therefore reasons must be indicated for recusal (*Justice Kurien Joseph*).
- There is a need for 'procedural and substantive rules to deal with the growing frequency of recusal pleas (*Justice Madan Lokur*).

Power to promulgate/re-promulgate ordinances

Context:

- To overturn a unanimous decision of the SC's Constitution Bench [which gave the Delhi govt control over services in the NCT], the central government has issued an Ordinance.

About the Ordinance:

- It gave the Lieutenant Governor of Delhi power over services.
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SC verdicts on the issue	RC Cooper Case 1970: If an Ordinance is issued solely to bypass the Parliament, the President's decision to promulgate the Ordinance can be challenged. D C Wadhwa v. State of Bihar 1986: If the Government ignores the legislature and repromulgates an Ordinance, it would be a colourable exercise of power. Krishna Kumar Singh v. State of Bihar 2017: Reiterated that the Governor's power to issue an Ordinance is in the nature of an emergency power. Repeated re-promulgations without bringing the Ordinance to the legislature would be unconstitutional.

Water dispute between Andhra Pradesh and Telangana

Context:

- The water dispute between Andhra Pradesh and Telangana, stemming from the Krishna River, remains unresolved even after nine years since the bifurcation of the combined state.

About the Dispute:

- The dispute began with the erstwhile Hyderabad and Mysore states and later continued between successors Maharashtra, Karnataka and Andhra Pradesh.
- It originated from the Gentlemen's Agreement signed in 1956, which aimed to protect the Telangana region's interests regarding water resources.
- In 1969, the Krishna Water Disputes Tribunal (KWDT) was set up under the Inter-State River Water Dispute Act, of 1956, and presented its report in 1973. It divided water between Karnataka, Maharashtra and Andhra Pradesh.
- After the bifurcation of the state, both states have proposed new projects (e.g., the project to increase Krishna water utilization above the Srisailem Reservoir) without proper clearance from river boards and authorities as required by the Andhra Pradesh Reorganisation Act, 2014.

- This led to complaints and disputes between the two states. Also, Telangana has been pushing for an equal share.

Legal Provisions:

- The Andhra Pradesh Reorganisation Act, 2014 mandates for the constitution of an Apex Council by the Central Government for the supervision of the functioning of the Godavari River Management Board and Krishna River Management Board.
- The Apex Council comprises the Union Water Resources Minister and the Chief Ministers of Telangana and Andhra Pradesh.

Constitutional provisions:

- Inter-State River Water Disputes: Under Article 262, Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
- The Parliament enacted two laws, the River Boards Act (1956) and the Inter-State Water Disputes Act (1956).

About River board:

- The River Boards Act provides for the establishment of river boards by the Central government for the regulation and development of inter-state rivers and river valleys.
- A River Board is established at the request of state

governments concerned to advise them.

About Inter-State Water Disputes Act:



- It empowers the Central government to set up an ad hoc tribunal for the adjudication of a dispute between two or more states in relation to the waters of an inter-state river or river valley.
- The decision of the tribunal is final and binding on the parties to the dispute.
- Neither the Supreme Court nor any other court is to have jurisdiction in respect of any water dispute which may be referred to such a tribunal under this Act.

Way forward:

- To address water disputes effectively, it is necessary to establish a permanent tribunal with Supreme Court's appellate jurisdiction and amend Article 262 and the Inter-State Water Disputes Act.
- Communication channels must be improved for consensus-building, and the central body should represent states adequately.
- The Ministry of Jal Shakti has issued a gazette notification defining the jurisdiction of river management boards, which can help overcome challenges. Clear demarcation of power for each state should be followed.

Other Inter-State River Water Sharing Disputes:

River (s)	States
Ravi and Beas	Punjab, Haryana, Rajasthan
Narmada	Madhya Pradesh, Gujarat, Maharashtra, Rajasthan
Krishna	Maharashtra, Andhra Pradesh, Karnataka, Telangana
Vamsadhara	Andhra Pradesh, Odisha
Cauvery	Kerala, Karnataka, Tamil Nadu, Puducherry
Godavari	Maharashtra, Andhra Pradesh, Karnataka, Madhya Pradesh, Odisha
Mahanadi	Chhattisgarh, Odisha
Mahadayi	Goa, Maharashtra, Karnataka
Periyar	Tamil Nadu, Kerala

About	Description
<p>Godavari River</p> 	<p>The river (Source: Trimbakeshwar near Nasik; Length: 1465km) extends over the states of Maharashtra, Telangana, Andhra Pradesh, Chhattisgarh and Odisha in addition to smaller parts in Madhya Pradesh, Karnataka and the Union territory of Puducherry. Its tributaries are: Pravara, Purna, Manjra, Penganga, Wardha, Wainganga, Pranhita (combined flow of Wainganga, Penganga, Wardha), Indravati, Maner and the Sabri</p>
<p>Krishna River</p> 	<p>The river (source: Mahabaleshwar (Satara); Length: 1400 km; third-longest river in India, after the Ganges and Godavari; fourth-largest in terms of water flows, after the Ganges, Indus and Godavari). It runs from four states Maharashtra, North Karnataka and the rest of its journey in Telangana and Andhra Pradesh before it empties into the Bay of Bengal. Its tributaries are Tungabhadra, Mallaprabha, Koyna, Bhima, Ghataprabha, Yerla, Warna, Dindi, Musi and Dudhganga.</p>
<p>Srisaillam project</p>	<p>It is constructed across the Krishna River in Nagarkurnool district, Telangana and Nandyal district, Andhra Pradesh. It is the 2nd largest (1670 MW; after Koyna Dam 1960 MW) capacity working hydroelectric station in India. The dam was constructed in a deep gorge in the Nallamala Hills.</p>

VI. PUBLIC AWARENESS AND GENERAL ADMINISTRATION

Use of Regional Language in Courts

Context :

- Union Law Minister has stated that regional languages should be used in courts in every state.

About the Languages to be Used in Courts in India:

	Courts
Article 348(1)(a)	Unless Parliament by law provides otherwise, all proceedings before the Supreme Court and in every High Court shall be conducted in English.
Article 348(2)	The Governor of a state may, with the previous consent of the President, authorise the use of Hindi or any other language used for any official purpose, in proceedings in the High Court except for any final judgement, decree or order (which has to be in English) E.g., the States of Uttar Pradesh, Bihar, Rajasthan and Madhya Pradesh have already authorised the use of Hindi
Official Languages Act 1963	It empowers the Governor of a state to, with the previous consent of the President, authorise the use of Hindi/the official language of the state, in addition to English, for the purpose of any judgement, decree or order passed by the High Court of that state. However, the judgement should follow an English translation.
Subordinate Courts (District Courts, etc.)	Regional language determined by the state government

National Programme for Prevention & Control of Non-Communicable Diseases (NP-NCD)

Context :

- The National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) in India has been renamed the National Programme for Prevention & Control of Non-Communicable Diseases (NP-NCD)

due to the addition of new diseases and health initiatives.

- It has been renamed to subsume all types of NCDs.
- Also, Comprehensive Primary Healthcare Non-Communicable Disease (CPHC NCD IT) system has been renamed as the National NCD Portal

What is non-communicable disease?

- Non-communicable diseases

(NCDs) are a group of chronic medical conditions that are not caused by infectious agents and cannot be transmitted from one person to another but are caused by a combination of genetic, environmental, and lifestyle factors.

- Eg., cardiovascular diseases, cancer, diabetes, chronic respiratory diseases, and mental disorders.

About NPCDCS/NP-NCD:

Aspect	Details
Aim	NPCDCS was launched in 2010 with a focus on strengthening infrastructure, human resource development, health promotion, early diagnosis, management and referral of common non-communicable diseases (NCDs) under the National Health Mission
Management	NCD Cells are being established at the National, State and District levels for programme management. NCD Clinics are also being set up at District and Community Health Centres (CHC) levels to provide services for early diagnosis, treatment, and follow-up for common NCDs.
Other measures to control NCD	WHO's Global action plan for the Prevention and Control of NCDs 2020 to 2030; Affordable Medicines and Reliable Implants for Treatment (AMRIT) Deendayal outlet, Jan Aushadhi stores

Tripartite Memorandum of Settlement

- A tripartite Memorandum of Settlement between the Centre, Assam government and representatives of Dimasa National Liberation Army/Dimasa Peoples' Supreme Council (DNLA/DPSC) was signed in New Delhi.
- As a result of this agreement, over 168 cadres of DNLA are joining the mainstream by laying down their arms.
- The pact will bring a complete end to the insurgency in the Dima Hasao district of Assam.
- Under the agreement, Dimasa Welfare Council will be set up by the Government of Assam.
- It will protect, preserve and promote a social, cultural, and linguistic identity.
- It will also, assist to meet political, economic and educational aspirations and will ensure speedy and focused development of the Dimasa people residing outside the jurisdiction of the Autonomous Council.

'75/25' Initiative

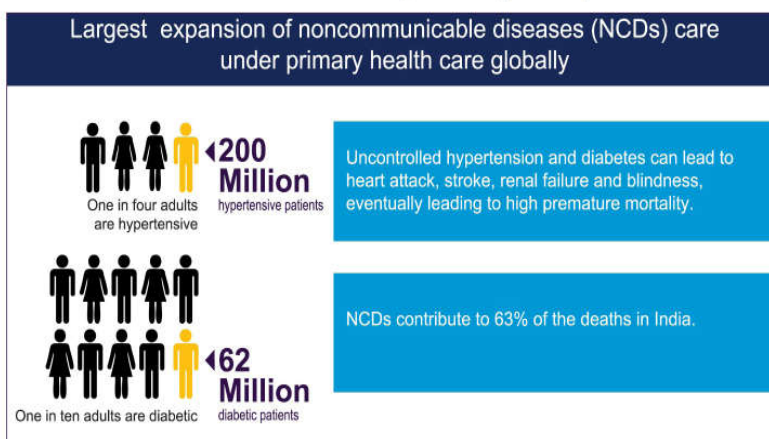
- The Union Health Ministry of India unveiled the ambitious "75/25" initiative.
- The program aims to ensure that 75 million individuals suffering from hypertension and

diabetes receive standardised care by 2025.

- Primarily it was provided through Primary Health Centers (PHCs).
- This is a significant move to combat the rising burden of non-communicable diseases (NCDs).



75 million people with hypertension and diabetes on treatment by 2025 (75*25)



Matrilineal Meghalaya

Context:

- Khasi Hills Autonomous District Council (KHADC) ordered not to issue an ST certificate to any Khasi person who adopts their father's surname as it is against the traditional custom of inheriting the mother's surname.

What is the matrilineal system among Khasis?

- It refers to a social and kinship system where descent and inheritance are traced through the female line.
- In this system, family lineage, property, and clan membership are passed down from mother to daughter.
- Among Khasis, the youngest daughter (khatduh) of the family is entrusted the full share of the ancestral-or-the clan's -property
- The three tribes of Meghalaya - Khasis, Jaintias, and Garos - practise a matrilineal system of inheritance.

About Khasis Tribe:

- The Khasis are an indigenous community in Meghalaya.
- While the majority of Khasis are Christians now, their traditional beliefs revolved around a Supreme Being called U Blei Nongthaw.
- The Khasi community celebrates festivals such as the Nongkrem Dance and Shad Suk Mynsiem.

About KHADC:

- KHADC is a body under the Sixth Schedule of the Constitution.
- The Sixth Schedule of the Constitution provides for the administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram to safeguard the rights of the tribal population in these states.
- It provides for autonomy in the administration of these areas through Autonomous District Councils (ADCs), which are empowered to make laws in respect of areas under their jurisdiction.

Jallikattu, Kambala can go on in Tamil Nadu and Karnataka: SC

Context:

- A five-judge Bench of the SC upheld the amendments made by TN, Maharashtra and Karnataka to The Prevention of Cruelty to Animals (PCA) Act 1960, allowing bull-taming sports like Jallikattu, Kambala, and bullock-cart races.

What is Jallikattu/eruthazhuvuthal?

- It is a bull-taming sport traditionally played in TN as part of the Pongal harvest festival and as a celebration of nature, of which cattle worship is a part.
- However, it has long been contested over cruelty to animals and the bloody and dangerous nature of the sport.

Background of the case:	
Welfare Board of India v. A. Nagaraja 2014	<ul style="list-style-type: none"> • A two-judge Bench of the SC banned such sports including Jallikattu. • The apex court held "bovine sports" contrary to the PCA Act – fixes duties of persons in charge of animals and defines animal cruelty. • The PCA Act overrides the so-called tradition and culture and the Parliament must elevate rights of animals to that of constitutional rights (under Articles 14, 21).
MoEFCC notification, 2016	<ul style="list-style-type: none"> • It prohibited the "exhibition or training of bulls as performing animals". • However, an exception specified that bulls might still be trained as performing animals at Jallikattu, according to the customs and culture of different communities.

<p>TN amended the PCA Act in 2017</p>	<ul style="list-style-type: none"> • This was done to allow Jallikattu in the state, to preserve the cultural heritage of TN, to ensure the survival and well-being of the native breeds of bulls, and to minimize cruelty to animals in the concerned sports • A batch of petitions were filed challenging the above exemption and the amendments, following which the SC referred the matter to the Constitution Bench, as the issue involved interpretation of the Constitution. • The Bench was tasked with deciding whether Jallikattu could be preserved as the cultural right of TN under Article 29(1) of the Constitution
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The recent verdict of the SC:

- It overruled its 2014 ruling in 'Welfare Board of India v. A. Nagaraja' and held that Jallikattu has a strong cultural component.
- The amendments (to the PCA) were "valid legislations", as these are not a piece of colourable legislation and that it relates to List III of the 7th Schedule to the Constitution [prevention of cruelty to animals].
- The court also said that the 2017 amendment does not violate
 - Articles 51-A (g) and 51-A (h), which impose duties on Indian citizens to protect the environment and develop a scientific temper, humanism, spirit of inquiry, and reform, respectively.
 - Articles 14 (Right to Equality) and 21 (Right to Life) of the Constitution.
- However, the Jallikattu issue is "debatable" and must ultimately be decided by the Parliament, as the issue requires social and cultural analysis in greater detail.

VII. WELFARE ORIENTED SCHEMES AND THEIR UTILITY, PROBLEM IN PUBLIC DELIVERY SYSTEM

1. CENTRAL GOVERNMENT

Smart Cities Mission

Context:

- The Union Housing and Urban Affairs Ministry (MoHUA) has extended the deadline for the Smart Cities Mission from June 2023 to June 2024.

What is the Smart Cities Mission?

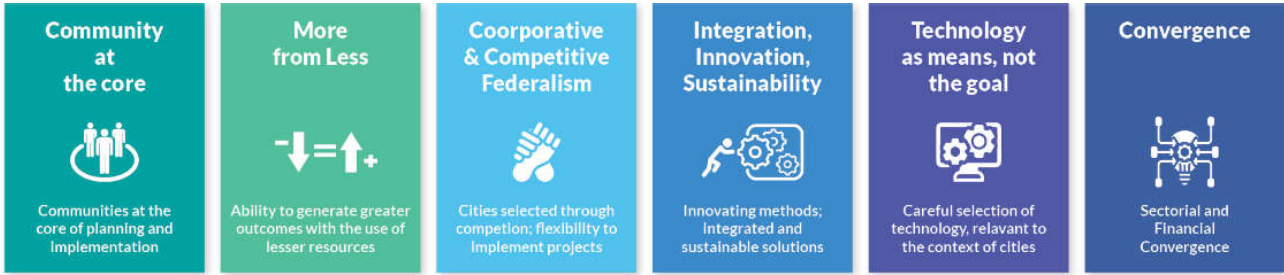
- It is an initiative of the MoHUA launched as a Centrally Sponsored Scheme on June 25, 2015.

- To promote cities that provide core infrastructure, and a clean and sustainable environment, 100 cities (to be developed as Smart Cities) have been selected through a two-stage competition (from January 2016 to June 2018).
- 66 of the cities are small (less than 1 million population) and are implementing two-thirds of the projects.

It aims to:

- Drive economic growth through comprehensive work on social, economic, physical and institutional pillars of the city and
- Improve the quality of life through smart solutions.
- Focus on sustainable and inclusive development by the creation of replicable models which act as lighthouses to other aspiring cities.

The six fundamental principles on which the concept of Smart Cities is based are:



What kinds of projects were proposed?

- The project includes making certain stretches of pedestrian-friendly roads into more capital-intensive ones like laying water pipelines and constructing STPs.
- In addition, some PPP infrastructure projects like multi-modal transport hubs, common mobility cards and public bike sharing are included.
- All 100 cities have also constructed Integrated Command and Control Centres to monitor all security, emergency and civic services.
 - During the peak of the Covid-19 pandemic, these were converted into emergency response units by many of the cities.

What is the status of the projects?

- The projects were supposed to be completed within five years, but in 2021 the Ministry changed the deadline for all cities to June 2023.
- As of March 2023, the 100 cities have issued work orders for 7,799 projects worth Rs 1.80 lakh crore.

- 50 out of the 100 cities have completed 75% of the projects and would be able to complete the remaining works by June.
- However, they would need more time to carry out the documentation, dissemination and institutionalisation of the best practices and innovations.

Significance of extending the deadline to June 2024:

- It will enable all 100 smart cities to not only complete their projects but also document and disseminate the learnings from the mission.

World 1st Nano DAP fertilizer

- The union home minister launched the "world's first liquid nano DAP (DiAmmonia Phosphate) fertiliser" in Delhi.
- Liquid DAP is manufactured by the Indian Farmers Fertiliser Cooperative Ltd (IFFCO).
- It is being touted as a revolutionary product as it will help farmers reduce production costs and help them wean off chemical fertilisers.
- One 500 ml bottle of liquid DAP

contains 8% of Nitrogen and 16% of Phosphorus.

- It can easily replace a 50 kg bag of traditional DAP.
- IFFCO owns a patent on its nano urea and nano DAP.
- This cooperative will get royalties for the product for the next 20 years.

All-in-one insurance policy plan

Context:

- The Insurance Regulatory and Development Authority (IRDA) in India is working on an all-in-one policy plan to address the low insurance penetration in India.

Aim:

- To offer an affordable bundled insurance product that covers health, life, property, and accident risks.
- To expedite claim settlements by linking death registries onto a common platform
- To create a "UPI-like moment" in insurance, similar to the Unified Payments Interface (UPI) in the banking sector

Plan by IRDA (Bima Trinity of the policy):

- **Bima Sugam:** The portal will integrate insurers and distributors, providing customers with a one-stop shop for purchasing insurance policies and managing service requests and claim settlements. It will also be integrated with digitized birth and death registries
- **Bima Vistar:** It will be bundled risk cover product, which offers defined benefits for each risk and aims to provide faster claim payouts without the need for surveyors.
- **Bima Vaahaks:** The third component of the plan involves deploying a women-centric workforce called Bima Vaahaks (carriers) in each Gram Sabha (village council) to promote the benefits of insurance products.

Other plans:

- State-level insurance committees: To achieve the goal of providing insurance coverage for all citizens by 2047, the IRDA plans to establish State-level insurance committees and involve State governments in formulating district-level insurance plans.

- Amendment to insurance laws (Insurance Act, 1938) to allow differentiated capital requirements for niche insurers, attract more investments, and enable the addition of value-added services to insurance policies.

Benefits:

- It will provide citizens with an affordable single policy that covers health, life, property and accident
- Settling claims within a short timeframe (potentially within six to eight hours or a maximum of one day)
- Will allow policyholders to easily access their policies and submit death certificates, enabling quick processing and transfer of funds.

Issues with the current Insurance law:

- The current insurance laws in India do not allow the inclusion of value-added services along with insurance policies.
- For instance, insurance companies are restricted from offering additional benefits like an annual yoga membership or nursing services for policyholders' parents who live far away.

- Also, In 2022, India's life insurance penetration stood at around three percent, while the non-life insurance penetration was much lower at one percent.

About IRDA

- The Insurance Regulatory and Development Authority of India (founded 1999; HQ: Hyderabad) is a statutory body (under the IRDA Act 1999) and is under the jurisdiction of Ministry of Finance and is tasked with regulating and licensing the insurance and re-insurance industries in India.

Programmes for Social Security Cover

Context:

- Pradhan Mantri Suraksha Bima Yojana (PMJJBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMSBY) and Atal Pension Yojana (APY) complete 8 years of providing social security cover
- The three schemes were launched in May 2015, to ensure affordable insurance and security for people from the unorganized sector of the country.

Comparison of the three schemes:

Scheme	Pradhan Mantri Suraksha Bima Yojana	Pradhan Mantri Jeevan Jyoti Bima Yojana	Atal Pension Yojana
Type of Scheme	Accidental insurance	Life insurance	Pension scheme. The minimum pension is guaranteed by the Government.

Objective	To provide insurance against accidental death and disability at affordable rates	To provide life insurance at affordable rates	To provide a pension to unorganized sector workers
Eligibility Criteria	Age between 18 to 70 years	Age between 18 to 50 years	Age between 18 to 40 years
Insurance Coverage	Rs. 2 lakh for accidental death and full disability, Rs. 1 lakh for partial disability	Rs. 2 lakh for natural or accidental death	Depends on the contribution made by the subscriber
Premium	Rs. 12 per annum	Rs. 330 per annum	Depends on the age and contribution of the subscriber
Tax Benefits	No tax benefits are available	Tax benefits available under Section 80C	Tax benefits available under Section 80CCD
Achievement	More than 34 crore enrolment	More than 16 crore enrolment	More than 5 crore enrolment

ODF Plus Status

Context:

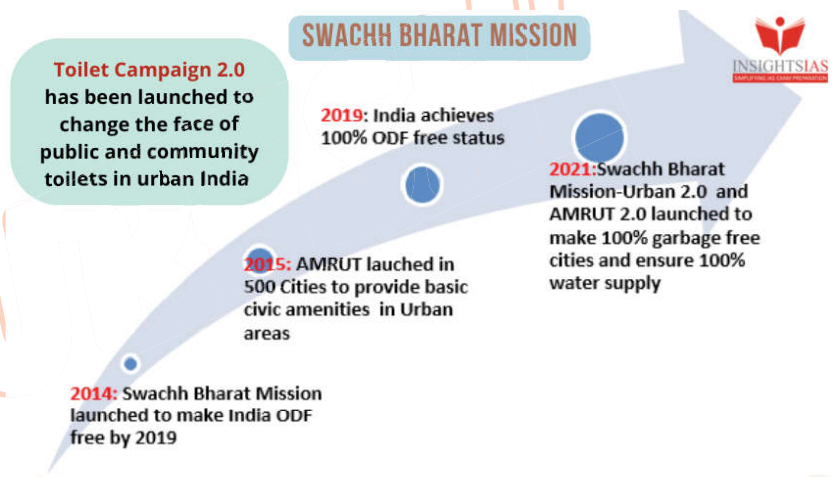
- India's Ministry of Jal Shakti has announced that over half of the nation's villages have achieved ODF Plus status under the Swachh Bharat Mission Gramin (SBM-G) Phase II.

Meaning of ODF+ status:

- It means that these villages not only maintain their Open Defecation Free (ODF) status but also implement solid or liquid waste management systems.

Leading states:

- Telangana, Karnataka, Tamil Nadu, and Uttar Pradesh are among the top-performing states, while Goa and Sikkim lead among smaller states. Over 1 lakh gram panchayats have also passed resolutions banning Single Use Plastic.



STATUS	MEANING
ODF	Not a single person found defecating in Open
ODF+	No one defecating in open and well maintained community and public toilets
ODF++	All conditions of ODF+ and toilets with sludge and septage management
Water+	All waste-water is being treated as per CPCB norms before release.

About SBM-Gramin:

- The Swachh Bharat Mission Gramin (SBM-G) Phase I was launched in 2014 to eliminate open defecation in rural areas by 2019.
- Phase II, implemented from

2020-21 to 2024-25, focuses on sustainability of ODF status. It also includes:

- Solid and Liquid Waste Management (SLWM)
- Plastic Waste Management (PWM)

- Faecal Sludge Management (FSM)
- GOBARdhan
- Information Education and Communication
- Behaviour Change Communication
- Capacity Building

2. State Government

Punjab: Right to Walk

- Punjab has become the first state in India to enforce the "right to walk" by making it mandatory for road-owning agencies, including the NHAI, to provide footpaths and cycle tracks in all future expansion of roads and construction of new ones.
- The state government has issued these directions and instructed all agencies to prepare an action plan to construct footpaths and cycle tracks with a time frame and budget provision.

Tamil as compulsory additional language

- The Tamil Nadu Director of Private Schools has announced that students in classes 9 and 10 in all private schools affiliated to various boards.
- This will be applicable to those, who have not opted for Tamil as one of the languages as a part of their respective board exam requirements.

- They will have to be mandatorily taught Tamil as an additional compulsory language in the 2024-25 academic year.
- This Government Order passed based on the Tamil Language Learning Act 2006.
- Syllabus and the exam pattern will be determined by the Director of Private Schools.

Total e-Governance Kerala's declaration

- The Chief Minister of Kerala has announced that the state has achieved full e-governance coverage.
- It has digitized a range of government services, ensuring prompt and transparent delivery to its citizens.
- Some of the initiatives of Kerala are Kerala Fibre Optic Network (KFON) project, which has made internet access a citizen's right.
- e-Sevanam, a single portal for 900 public services to taluk-level offices.

Telangana: State Robotics Framework

Context:

- Telangana has become the first state in the country to launch a state robotics framework with a vision to create a sustainable robotics ecosystem.

Aim:

- It intends to leverage robotics technology in key domains, including agriculture, healthcare, industrial automation, and consumer robotics.
- The ultimate goal of the framework is to become a leader in robotics and promote a sustainable robotics industry in Telangana

Implementation:

- Telangana Robotics Innovation Centre (TRIC) will be established as an independent entity to implement the framework
- Robo park and robotics accelerator for start-ups will also be established

25 years of Kudumbashree

About Kudumbashree:

	Description
Kudumbashree	Kudumbashree is a women's self-help group network and poverty eradication program in the state of Kerala
Inception	Launched in 1998, it aims to empower women from economically disadvantaged backgrounds by providing them with opportunities for entrepreneurship, skill development, and social support.
Working	Kudumbashree operates at the grassroots level, organizing women into neighbourhood groups (NHGs), which then form larger community-level and ward-level organizations.

Achievements of Kudumbashree

Economic Empowerment	Kudumbashree has helped marginalized women become successful entrepreneurs and income generators.
Food security	E.g., It has established "Janakeeya Hotels" across the state, offering affordable meals. Currently, it operates 125 restaurants providing meals for just Rs 20.
Disaster Relief and Rehabilitation	Donated Rs 7 crore to the Chief Minister's distress relief fund during the devastating floods in Kerala. Provided counselling to over 8,000 families affected by the floods.
COVID-19 Response	Manufactured and supplied masks and sanitisers during the pandemic.
Women's Empowerment	Mobilized women for community activities and grassroots planning. Enabled women's participation in local bodies after enforcing the 33% women's reservation policy
Consultancy Work and Poverty Reduction	Kudumbashree's success in poverty reduction was highlighted by studies and surveys, including the Multidimensional Poverty Index by NITI Aayog. The extended consultancy works on women's empowerment in 13 other states, sharing knowledge and expertise.
Challenges	Challenges include addressing gender-based atrocities and becoming a strong counter-culture force in Kerala.

Pahal initiative

- The online rural education initiative 'Pahal' was launched by the Uttar Pradesh Government.
- This program was developed through a partnership between the Department of Secondary Education and IIT Kanpur
- It aims to provide education to rural communities through online platforms.
- The rural online education program was started in 10 government schools in Uttar Pradesh.

i-Tamil Nadu Technology (iTNT) hub

- Tamil Nadu Chief Minister virtually inaugurated the i-Tamil Nadu Technology (iTNT) hub.
- The iTNT hub would coordinate efforts to use artificial intelligence, machine learning, and blockchain technologies, among others, to solve complex challenges in the State.
- The hub has been established on the Anna University campus in Chennai at a cost of ₹ 54.61 crore.
- The Union government has contributed 50% of the funds.
- The T.N. government has spent 37%, and industries have contributed 13%.

Model town panchayat for solid waste management

- The Karunguzhi Town Panchayat of Chengalpattu district has earned the recognition as a model town panchayat for solid waste management.
- The town panchayat has been chosen for the best practice in solid waste management leading to improvement of the lifestyle of citizens.
- The town panchayat has been able to generate 4,000 to 5,000 kg of manure every month from various organic waste.
- The recycled grey water would be used for avenue trees, Miyawaki forest and other plants maintained by the panchayat.

India's first-ever twin undersea tunnels

- Undersea twin tunnels in South Mumbai will open by November 2023.
- This will mark India's first undersea tunnel.
- The tunnels have a diameter of 12.19 meters and stretch 17-20 meters below sea level.
- It will feature six crosswalks, four for pedestrians and two for motorists.
- Each tunnel will have three 3.2-meter-wide channels.
- The tunnels reached their deepest point at 72 metres near Malabar Hill.

VIII. Geography – Geographical marks

People's Biodiversity Register

Context:

- The National Campaign for Updation and Verification of People's Biodiversity Register (PBR) was launched in Goa, by the Ministry of Environment, Forest and Climate Change.

Aim:

- It is aimed to document and preserve India's rich biological diversity.

About PBR:

- The People's Biodiversity Register serves as a comprehensive record of locally available Bio-resources including the landscape and demography of a particular area or village.
- It is prepared by Biodiversity Management Committees (under Biodiversity Act 2002) in consultation with local communities.

About Biodiversity Management Committees

- BMCs are local bodies created

under the Biological Diversity Act 2002, with the mandate to ensure the conservation, sustainable utilization and equitable sharing of benefits from biodiversity.

- The act has made it mandatory for every local self-governing institution in rural and urban areas to constitute Biodiversity Management Committees within their area of jurisdiction.
- BMC must prepare a PBR in consultation with local people.
- Kolkata was the first major metropolitan city in India to make

a detailed People's Biodiversity Register (PBR).

- Previously, the Forest Survey of India's report had flagged the West Bengal Capital for the least greenery among all metro cities.

Lithium Reserve in Rajasthan's Degana

- The Geological Survey of India has found India's second Lithium reserves in Rajasthan's Degana.
- Degana's Lithium reserves are higher than the ones recently found in Jammu and Kashmir.
- The first Lithium discovery was made in the Reasi district of Jammu and Kashmir.
- It is reported to have a stash of 5.9 million tonnes valued at \$410 billion.
- Lithium reserves are concentrated in the lithium triangle in South America – Argentina, Bolivia & Chile.
- China controls 75% of Lithium refining.

Intensive cyclones on Indian coast

- A study titled "Changing status of tropical cyclones over the north Indian Ocean" was conducted recently.
- This study revealed how climate change is making cyclones more intense on both sides of the Indian coast.

- The translation speed of cyclones (the speed at which cyclones move) has decreased in the Arabian Sea.
- During 1982–2019, a significant increasing trend in the intensity, frequency, and duration of cyclonic storms (CS) and very severe CS (VSCS) was observed over the Arabian Sea.
- There has been a 52% increase in the frequency of CS during the recent epoch (2001–2019) in the Arabian Sea.
- There is a decrease of 8 percent in the Bay of Bengal.
- Temperatures have been between 30-32 degrees Celsius in the Bay of Bengal.
- These high temperatures play a very important role in the intensification of cyclonic storms as they infuse more convection.

El Nino likely to bring extreme weather across the world

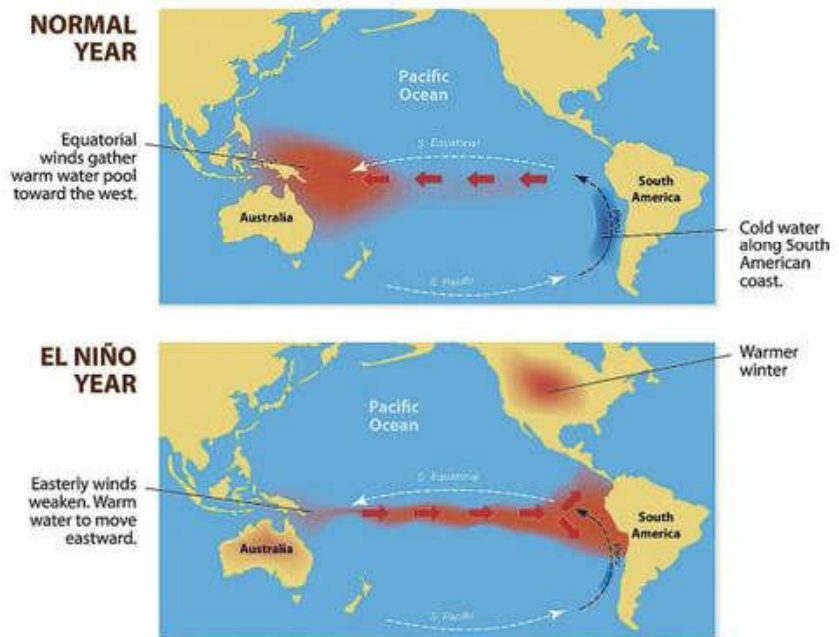
Context:

- According to the World Meteorological Organisation (WMO), the world should prepare for the development of El Nino, which is often associated with increased heat, drought or rainfall in different parts of the world.

Background:

- La Nina has now ended after persisting for three years and the tropical Pacific is currently in an ENSO-neutral state (neither El Niño nor La Nina).
- There is a 60% chance for a transition from ENSO-neutral to El Nino during May-July 2023.

THE EL NIÑO PHENOMENON



- 2016 was the warmest year on record because of the confluence of a very powerful El Niño event and global warming.

The typical impacts of El Niño include:

- Increased rainfall in parts of southern South America, the southern US, the Horn of Africa and central Asia.
- Severe droughts over Australia, Indonesia, and parts of southern Asia.
- Warm water during summer in the northern hemisphere can fuel hurricanes in the central/eastern Pacific Ocean and can hinder hurricane formation in the Atlantic Basin.

Potential threats due to an El Niño event:

- A new spike in global heating will increase the chance of breaking temperature records (in 2024).
- 50:50 chance of the global temperature temporarily reaching 1.5°C above the pre-industrial era.

Likely impact on India:

- Normally, El Niño is good for the northeast monsoon [Oct-Dec in the peninsular region] but bad for the southwest monsoon (dry periods during June-Sept).
- The monsoon season (~70% of

India’s annual rainfall) is crucial to India’s agriculture – a lifeline for about 60% of the country’s net cultivated area.

- Monsoon drives farm produce, rural spending, inflation, jobs, and industrial demand.
- Good farm output checks food inflation, raises rural incomes and helps inject demand into the economy.

Challenge ahead for India:

- IMD forecasted a “normal” monsoon at 96% (+/-5%) of the long-period average (LPA is 87 cm for the period of 1971 to 2020).
- An unusually cold start to summer could delay the start of the monsoon season.

Way ahead – EW4All:

- The Early Warnings For All Initiative (EW4All) was formally launched by the UN Secretary-General in November 2022 at

the COP27 meeting in Sharm El-Sheikh.

- The Initiative calls for the whole world to be covered by an early warning system by the end of 2027.

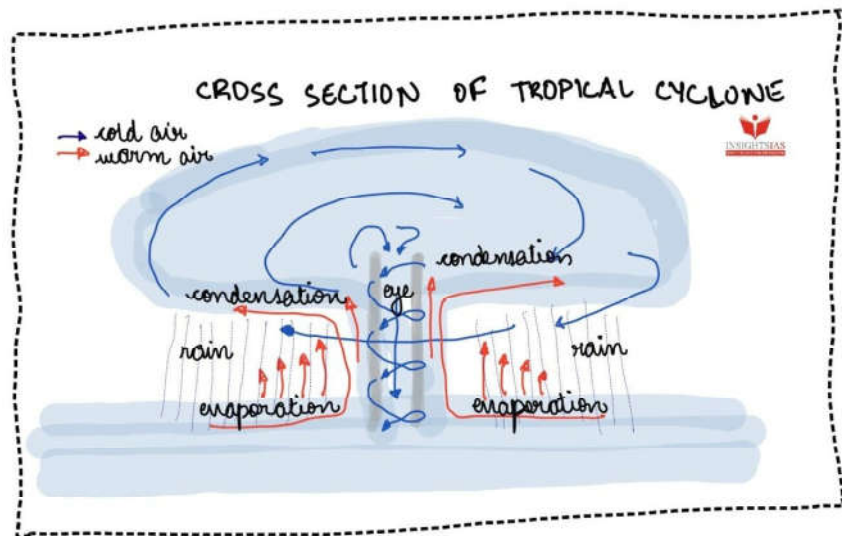
Cyclones: How are cyclones formed and named?

Context:

- According to the Indian Meteorological Department (IMD), a cyclonic/low-pressure area is developing in the Bay of Bengal and may intensify into a cyclonic storm.

What this weather system be called?

- Cyclone Mocha (pronounced ‘Mokha’) – a name suggested by Yemen after the Red Sea port city, which is known to have introduced coffee to the world over 500 years ago.



What is a cyclone and how are they formed?

Meaning	A cyclone is a low-pressure system that forms over warm waters.
Mechanism of formation	<ul style="list-style-type: none"> • A high temperature anywhere means the existence of low-pressure air, and a low temperature means high-pressure wind. • As air warms over hotter regions it ascends, leading to low pressure at the surface it is covering. • In a depression or low-pressure situation, the air is rising and blows in an anticlockwise direction (in the northern hemisphere) around the low. • This is because of the Coriolis effect, a result of the earth's rotation on its axis.
Favourable conditions	Warm seas present ripe conditions for the development and strengthening of cyclones and fuel these systems over the water.
Effects	As warm air rises and cools, water vapour condenses to form clouds and this can lead to rains.
Most vulnerable region	Weather systems formed over the Bay of Bengal in the peak of summer in May are among the strongest in the North Indian Ocean region.
Threats	Can lead to individual hazards such as storm surge, flooding, extreme winds, tornadoes and lightning - loss of life and material damage.

How are cyclones named?

- They are named by the regional specialised meteorological centres (RSMCs) and Tropical Cyclone Warning Centres (TCWCs).
- There are six RSMCs in the world and five
- As an RSMC, the IMD names the cyclones developing over the north Indian Ocean,

including the Bay of Bengal and the Arabian Sea.

- The IMD is also mandated to issue advisories to 12 other countries in the region on the development of cyclones and storms.

WMO/ESCAP (World Meteorological Organisation/United Nations Economic and Social Commission for Asia and the Pacific):

- In 2000, the group (comprising Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand), decided to start naming cyclones in the region.
- After each country sent in suggestions, the WMO/ESCAP Panel on Tropical Cyclones (PTC) finalised the list.

IX. Environment

Making Cities Climate-Ready

Context :

- A recent report by the World Bank titled "Thriving: Making Cities Green, Resilient, and Inclusive in a Changing Climate" provides guidance to local and national policymakers on how to create greener, more resilient, and inclusive cities.

Status of Cities in terms of their greenness, resilience, and inclusiveness (as per the report):

Aspect	Findings	Example
Greenness	Cities in high- and upper-middle-income countries contribute significantly to global greenhouse gas emissions.	Cities in North America are among the largest per capita emitters of greenhouse gases.
Resilience	Cities in low- and lower-middle-income countries face the highest exposure to climate change-related hazards.	Cities in Bangladesh and India are more vulnerable to floods, heat stress, and cyclones, resulting in severe economic consequences.
Inclusiveness	Lack of inclusiveness contributes to the vulnerability and lack of resilience in cities of low- and lower-middle-income countries.	Cities in low- and lower-middle-income countries often struggle with inadequate access to healthcare, education, and essential utilities such as water and electricity.
Air Pollution	Cities in low- and middle-income countries have higher levels of air pollution, particularly PM2.5, compared to cities in high-income countries.	Delhi, Kanpur, Patna etc. have experienced high levels of PM2.5, especially during the winter season
Vertical Development and Prosperity	Cities that develop vertically consume less land, accommodate more people, and show increased prosperity.	New York City, have higher population density and economic activity compared to cities with sprawled development.
Lack of Vegetation and Heat Impact	Cities with less vegetation, particularly in upper-middle-income countries, experience exacerbated impacts from extreme heat events and urban heat island effects.	Cities like Tokyo, with limited green spaces, face higher temperatures during heat waves due to the lack of vegetation and increased heat retention.

Five sets of instruments to improve the greenness, resilience, and inclusiveness of cities (as recommended by the report):

5 I's	Description	Example
Information	Policies and measures to provide credible and timely information to individuals, businesses, and local governments about climate change risks, mitigation and adaptation measures	Establishing a climate change information centre to provide climate risks data specific to their city.
Incentives	It includes removing subsidies that encourage activities with negative environmental externalities, Implementing tax incentives or rebates for installing energy-efficient technologies	FAME I and II scheme, EU's Carbon Border Adjustment Mechanism (CBAM)
Insurance	Developing climate risk insurance schemes that provide coverage for businesses and households against losses from extreme weather events, encouraging investment in climate-resilient infrastructure and enabling quick recovery.	

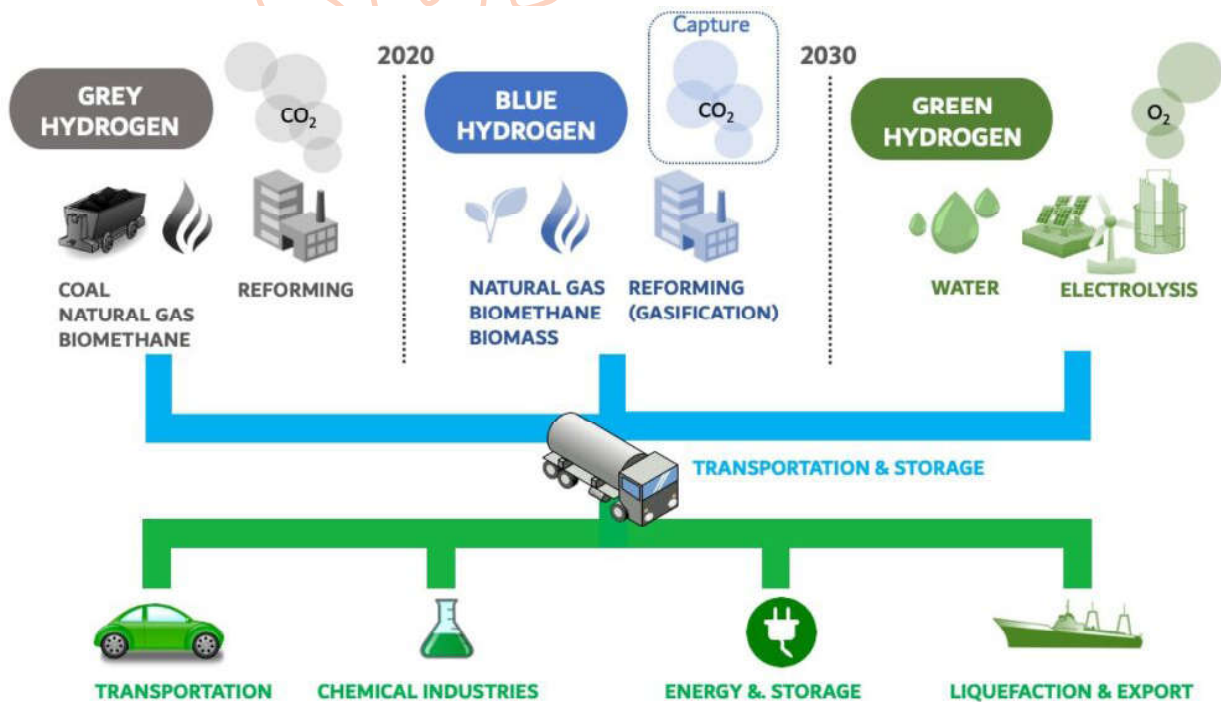
Integration	Policy interventions promoting compact cities and better integration between urban and rural areas; Developing efficient public transportation networks that connect urban and rural areas	E.g., Smart City mission, PURA Scheme (provide urban amenities and livelihood opportunities in rural areas)
Investments	Investments by national and local governments in green, resilient, and inclusive urban infrastructure. This includes nature-based solutions and measures to attract private-sector finance for sustainable development.	Allocating funds for the construction of green buildings, renewable energy projects, and urban parks.

Conclusion:

- Addressing the challenges of climate change and creating sustainable cities requires a multi-faceted approach. It involves prioritizing green practices, building resilience to climate impacts, and promoting inclusiveness in urban development. Taking action at the city level is crucial in mitigating climate change and ensuring a sustainable future for generations to come.

Green hydrogen bunkers by 2035

- India has set a deadline of 2035 to establish green hydrogen bunkering and refuelling facilities at major ports.
- One of the world’s biggest emitters of greenhouse gases, India aims to cut emissions to net zero by 2070.
- Share of renewable energy at Ports should exceed 60% by the Year 2030 and 90% by year 2047.
- As a part of its commitment in COP 26 towards Climate Action, India has pledged to reduce the emission intensity per unit GDP by 45% by the year 2030 from the 2005 level.
- The country’s maritime sector plays a crucial role in overall trade and growth with a 95% share in trade volume and a 65% share in trade value.



Cheetah Project Steering Committee

Context:

- National Tiger Conservation Authority (NTCA) formed a Cheetah Project Steering Committee.

About NTCA:

- It is a statutory body established in 2005 under the MoEF&CC under the enabling provisions of the Wildlife (Protection) Act, 1972.
- It was constituted following a recommendation of the Tiger Task Force, constituted by the PM of India for reorganised management of Project Tiger and the Tiger Reserves in India, enabling tiger conservation.
- The authority consists of the Minister in charge of the MoEF&CC (as Chairperson), the Minister of State in the MoEF&CC (as Vice-Chairperson) and other members.

About the Cheetah Project Steering Committee:

- It will be chaired by Dr Rajesh Gopal, Secretary General of Global Tiger Forum.
- The terms of reference of the Steering Committee include –
 - Reviewing progress, monitoring and advice on the Cheetah introduction to the MP Forest Department and NTCA.
 - Opening the Cheetah habitat for eco-tourism and suggesting regulations in this regard.

- Suggestions on community interface and for their involvement in the project activities.



Cheetah is Back

- The fastest land animal in the world, Cheetah, declared extinct in India in 1952, will find a new home in the Kuno-Palpur National Park (KNP). African cheetahs are being brought under an intercontinental translocation project between India and Africa (mainly from South Africa and Namibia). It comes under the 'Action Plan for Introduction of Cheetah in India' under which 50 of these big cats will be introduced in the next five years.

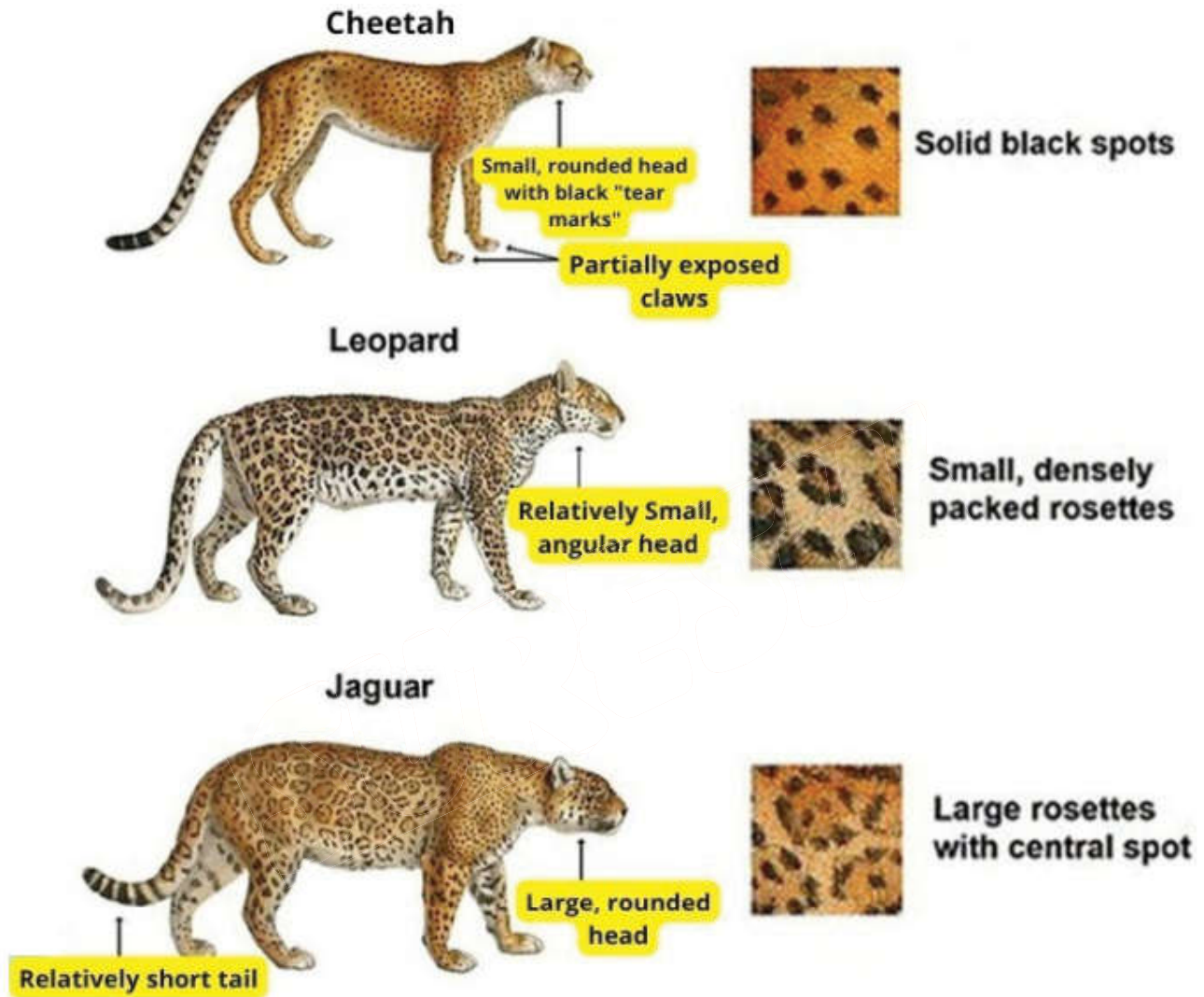


Asiatic Cheetah with 'red eyes'

Cheetah Tear Marks Act Like Sunglasses:

- Cheetah primarily hunt during the day, unlike other big cats, the tear marks help to reflect away the sun's glare, making it easier for them to focus on hunting their prey.
- Cheetah: IUCN (Asiatic-Critically Endangered; African-Vulnerable)
 - African Cheetah are Bigger in size as compared to Asiatic Cheetah, have darker color. Asiatic Cheetah (only 40-50 survive in Iran) usually have 'Red Eyes'.
- Leopard: IUCN: Vulnerable
 - India has about 12000 leopard (largest number in MP) and there has been "60% increase in the population count of leopards in India from 2014 estimates"
- Jaguar: IUCN: Near Threatened

- The largest cat in the Americas, the Jaguar has the strongest bite force of all wild cats, enabling it to bite directly through the skull of its prey. Melanistic (black) Jaguars are common and are often called black panthers.
- A black panther is the melanistic colour variant of the leopard (*Panthera pardus*) and the jaguar (*Panthera onca*).



Pobitora Wildlife Sanctuary

Context:

- The Supreme Court has issued notices to the Ministry of Environment and Forests and the Assam government in response to a plea seeking the declaration of the area around Pobitora

Wildlife Sanctuary in Assam as an eco-sensitive zone.

What is an eco-sensitive zone?

- Eco-Sensitive Zones (ESZs) are designated areas surrounding national parks and wildlife sanctuaries that are deemed ecologically fragile and important for the conservation of wildlife and their habitats.

Areas mandated under ESZ:

- MoEFCC has mandated the declaration of land within 10 km of the park or sanctuary boundaries as ESZs under the Environmental (Protection) Act, 1986. However, the application of the 10-km rule can vary, and areas beyond 10 km can also be

notified as ESZs if they contain significant ecological corridors.

Categorization of Activities:

- Prohibited : Commercial mining, sawmills, polluting industries, major hydroelectric projects, and commercial use of wood
- Regulated activities include tree felling, the establishment of hotels and resorts, commercial use of natural water, the erection of electrical cables, and drastic changes in agricultural practices.
- Permitted activities in ESZs include ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, the use of renewable energy sources, and the adoption of green technology for all activities.

About Pobitora Wildlife Sanctuary:

- It is located in the flood plains of the Brahmaputra River in Assam, and is known for having the highest density of one-horned rhinos (EN) in the world. It is often referred to as 'Mini Kaziranga' due to its similar landscape and vegetation. Approximately 72% of the sanctuary is covered by wet savannah dominated by *Arundo donax* and *Saccharum*, while the rest consists of water bodies.

Roadmap to energy justice

Context:

- India's energy strategy is presently recognised as being pragmatic and balanced since it is motivated by assuring energy access, availability, and affordability for its vast population.

What is energy justice?

- Energy justice envisions elements of a global energy system that fairly distributes both energy services' benefits and burdens and can be used as a framework to identify energy injustices.

Short-term actions towards ensuring energy justice in India:

- Massive cuts in excise duty and VAT rates of petrol and diesel.
- An export cess on petrol, diesel and ATF.
- Windfall tax on domestically produced petroleum products to prevent refiners and producers from profiteering at the cost of domestic consumers.
- Subsidised administered pricing mechanism (APM) gas for the city gas distribution sector was drastically increased.
- Revising the New Domestic Gas Pricing Guidelines 2014 to rationalise and reform APM gas pricing.

Outcome:

- Prices of diesel in India have gone down in the last year: This

is when petrol and diesel prices went up by 35-40% in global markets, India imports over 85% of its crude oil requirements and 55% of its natural gas requirements.

- No shortage of fuel anywhere in India: This is when several neighbourhood countries have had dry outs and power cuts to manage demand.

Long-term actions towards ensuring energy justice:

1. Expanding the network of crude oil suppliers: This strategic decision not only ensured affordable energy for Indian consumers but also had a calming effect on global petroleum markets.
2. Strengthening ties: With countries like the US (energy trade has gone up 13 times in the last four years) and Russia to ensure a reliable supply of crude oil.

Expanding petrochemical production:

- India is a global exporter of petroleum products and its refining capacity is the fourth largest in the world after the US, China, and Russia.
- Efforts are underway to further enhance this capacity to 450 MMT by 2040.
- 3. Innovation and investments in exploration and production (E&P): India wants to boost its net geographic area under exploration from

8% to 15% (0.5 million sq km) by 2025 and has reduced the prohibited/no-go areas in EEZ by 99%.

4. Energy transition: However, as demonstrated at Glasgow, India is committed to becoming net-zero in emissions by 2070.
5. Moving towards a gas-based economy:
 - By increasing the share of gas from the current 3 to 15% by 2030.
 - India has connected more than 9.5 crore families with clean cooking fuel in the past nine years.
 - PNG connections have increased from 28 lakh in 2014 to over 1 crore in 2023.
 - The number of CNG stations in India has gone up from 938 in 2014 to 4,900 in 2023.
 - Since 2014, India has increased the length of its gas pipeline network from 14,700 km to 22,000 km in 2023.
6. Biofuel revolution:
 - At the recent India Energy Week 2023, India launched E20 – 20% ethanol blended gasoline – which will be expanded across the country in the next two years.
 - India's ethanol-blending gasoline has grown from just 53% in 2013-14 to 10.17% in 2023.
 - India is also setting up five 2nd generation ethanol plants, which can convert agricultural waste into biofuel - reducing pollution due to stubble

burning - generating income for farmers.

7. Developing the entire green hydrogen ecosystem:
 - The National Green Hydrogen Mission has been launched with an outlay of Rs 19,744 crore to accelerate India's efforts towards –
 - 4 MT of annual green hydrogen production and
 - Rs 1 lakh crore of fossil fuel import savings by 2030.
8. An integrated path for transitioning India's future mobility pathways:
 - Along with green hydrogen and biofuels, India is also supporting electric vehicles through a production-linked incentive scheme.
 - India is targeting the installation of alternative fuel stations (EV charging/CNG/ LPG/LNG/ CBG etc.) at 22,000 retail outlets by May 2024.

Conclusion:

- According to IEA estimates, India will account for ~25% of global energy demand growth between 2020-2040.
- As India aspires to become a \$26 trillion economy by 2047, implementing a unique strategy for ensuring energy security and achieving energy independence is the need of the hour.

New wildlife conservation reserves in Rajasthan

- Rajasthan's Forest Department

announced three new conservation reserves that will protect the rare and endangered wildlife of Rajasthan.

- These three new wildlife conservation reserves are Sorsan in Baran, Khichan in Jodhpur, and Hamirgarh in Bhilwara.
- The grasslands of Sorsan in Baran will be a safe home for the Great Indian Bustard.
- Khichan in Jodhpur, hosts thousands of migratory Demoiselle cranes.

Judgement on eco-sensitive zones

- The Supreme Court modified its judgment regarding 1-km buffer zone for the protected areas.
- On June 3, 2022, the apex court ordered that, having mandatory eco-sensitive zones (ESZ) of a minimum one kilometre around protected forests, national parks and wildlife sanctuaries across the country.
- A Bench led by Justice B.R. Gavai reasoned that ESZ cannot be uniform across the country and has to be "protected area-specific".
- Also, it prevented the government from building roads and other important infrastructure in those areas which fall within 1 km of ESZ.
- The apex court has restricted mining in any case within these areas.

'Harit Sagar' Green Port Guidelines

Context:

- The Ministry of Ports, Shipping & Waterways has launched the 'Harit Sagar' Green Port Guidelines to achieve the larger vision of achieving the Zero Carbon Emission Goal.

Key points of the 'Harit Sagar Guidelines 2023':

	Description
Objective	To achieve Zero Carbon Emission Goal and promote environmental-friendly practices across all ports
Envisages	Ecosystem dynamics in port development, operation, and maintenance
Emphasizes	Use of Clean/Green energy in port operation, development of port capabilities for storage, handling and bunkering of greener fuels
Provides a framework for	Major ports to draw a comprehensive action plan for achieving a quantified reduction in carbon emission over defined timelines
Aims to achieve	Sustainable Developmental Goals (SDG) and minimising waste through reducing, reusing, repurposing, and Recycling to attain zero waste discharge from port operations
Promotes	Monitoring based on Environmental Performance Indicators
Covers aspects of	National Green Hydrogen Mission pertaining to ports, development of green hydrogen facility, LNG bunkering, Offshore Wind Energy
Provides provision for	Adopting the global Green Reporting Initiative (GRI) standard

- The 'Sagar Shreshtha Samman' awards were also conferred to major ports for their exceptional achievements in various operational parameters during the event.

Awards conferred to major ports during FY-2022-23:

Award Category	Port	Achievement
Best Absolute Performance	Deendayal Port, Kandla	Handling the highest cargo of 137 MMT
Overall Annual Performance	Paradip Port	Based on cargo handling, average turnaround time, ship birthday output, idle time at berth, operating ratio
A major milestone in Turn Around Time	Jawaharlal Nehru Port Trust (JNPT)	Achieving a major milestone in Turn Around Time

Groundwater exploitation and sinking land

Context:

- In the plains of northwest India (Punjab, Haryana, Delhi, Faridabad), which are heavily dependent on groundwater withdrawal for agricultural practices, land sinking/subsidence has been a problem for years.

Groundwater situation in India:

- It is India's most used water resource, accounting for a quarter of total global groundwater extraction.
- According to the 2021 CAG report, groundwater extraction in India (annual use – ~433 billion cubic metres) has exceeded the recharge rate, threatening 80% of potable water over the next two decades.

What is land subsidence?

- Land subsidence is defined as the progressive or abrupt sinking of the earth's surface caused by the elimination or dislocation of subsurface earth components (like aquifers) triggered by natural/human activity.

How groundwater extraction is linked to sinking land?

- When the underlying aquifers

– deep water channels that are stores of percolated water, aren't recharged, they run dry. Hence, the layers of soil and rock above them start to sink and the issue is not specific to north India alone.

How severe is the problem in India?

- Data from the Sentinel-1 satellite shows that the NCR region sank 15 mm per year (on average) between 2011-2017.
- Urbanisation and unplanned growth were major factors - exacerbated groundwater withdrawal - land sinking.

Impact:

- If land sinking is expanded out over a large area, this could imply that the region will become flood-prone.
- However, if the pace of sinking varies, it could have an effect on civil facilities such as roads, buildings, and residences.
- It may cause fundamentals to deteriorate or cracks to form in buildings.

Detecting the link between groundwater and land subsidence:

- The Central Ground Water Board (CGWB) – a subsidiary

body of the Jal Shakti Ministry, does not analyse the consequences of 'over-exploitation'

- This link only started to become clear from the data of the GRACE (Gravity Recovery and Climate Experiment) satellites that could measure minute changes in gravity on different parts of the Earth's surface.

Why is it difficult to detect the link?

- Unlike land movement from landslides or earthquakes, it is gradual and barely visible annually.
- So, it is harder to correlate with structural damage.

What needs to be done?

- There needs to be greater recognition that groundwater exploitation has consequences other than water scarcity.
- The government and policy-makers should have a detailed understanding of the geophysical properties of the areas undergoing subsidence.
- Incentivising rainwater harvesting, ensuring strict implementation of laws against illegal mining of groundwater, evaluating building conditions in hazard zones and provisioning of such subsidence in building designs.

Some initiatives	
International	National
The United Nations-Water Summit on Groundwater 2022: Organised to raise awareness on groundwater conservation "Groundwater: Making the invisible visible" campaign run by UN-Water throughout 2022.	Atal Bhujal Yojana is a groundwater management scheme launched in 2019. Jal Shakti Abhiyan (2019): Launched in 256 water-stressed districts to improve groundwater conditions in these areas. Aquifer Mapping and Management Programme

X. Economy – Economy, Socio-Economic issue

1. Economy

SAI20: Blueprint for a blue economy

Context:

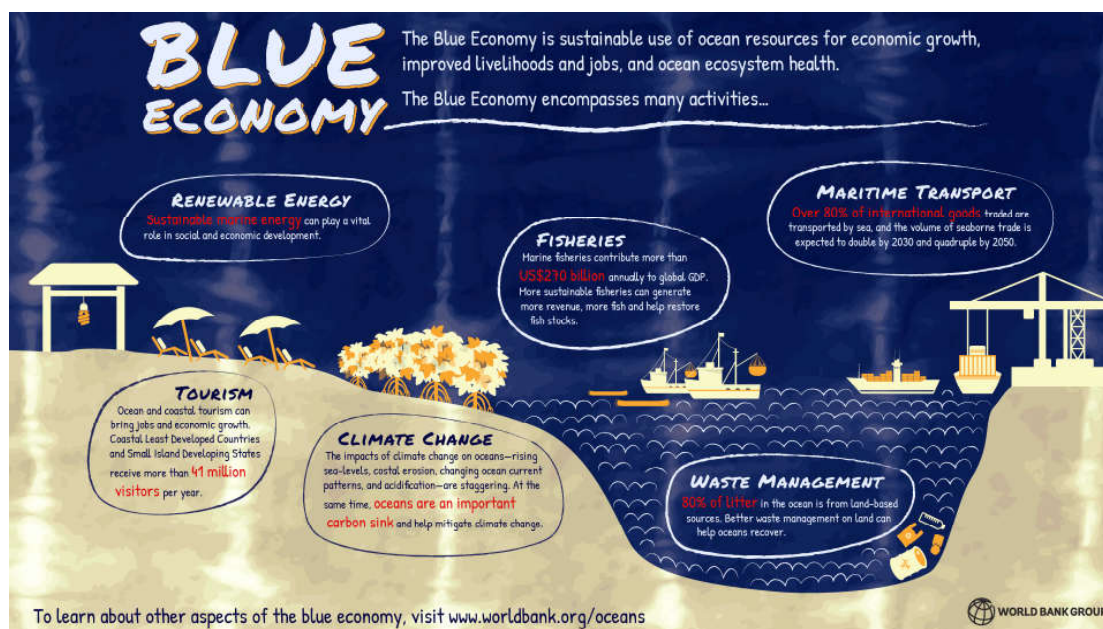
- The Comptroller & Auditor General of India (CAG) will chair SAI20 – the Engagement Group for Supreme Audit Institutions (SAIs) of G20 countries in Goa.

What is SAI20?

- The SAI20 Engagement Group of G20 was established in 2022 during Indonesia's Presidency of the G20.
- The constitution of SAI20 stems from a recognition of the role of SAIs in –

- Promoting the efficiency, accountability, and transparency of public administration, and supporting SDG implementation.
- Promoting intergenerational equity and addressing climate change concerns.

Meaning of blue economy and its significance:



- The global annual value of the blue/ocean economy is ~\$2.5 trillion.
- About 90% of global trade by volume [75% by value] is carried out through sea routes.

Efforts to promote blue economy:

Global	India
Sustainable Blue Economy Finance Principles (2018): Laid out by the UNEP, the framework can be used by Investors to fund ocean-based industries and Financiers to see how marine investment can impact livelihood and poverty eradication.	The blue economy is one of the 10 core sectors for national growth in India.

COP15 (CBD): It laid out the global biodiversity framework to conserve and sustainably use the planet's biodiversity.	A National Blue Economy Policy that aims to harness maritime resources while preserving the country's rich marine biodiversity has been prepared by the Ministry of Earth Sciences.
	Compendium of Asset Accounts of Natural Resources: This first-ever country-wide handbook (by CAG) sets a national accounting framework for the blue economy.
	Conservation of Coastal Ecosystem report by CAG: The audit resulted in focused recommendations to help improve the Coastal Regulation Zone (CRZ) ecosystem.

Challenges:

- The measurement of the blue economy is challenging due to conflicting definitions and issues while classifying different sectors and sub-sectors.
- Climate change: Sea-level rise, water temperature, storm surges, cyclones and wave conditions are some of the signs.
- Land use changes, sand mining and deforestation impinge on the coastal ecosystem.

In the context of India,

- ~15% of India's coastal areas have witnessed changes between 1992 and 2018 due to agriculture, depleting forest cover and urbanisation.
- The population living in the country's coastal areas is expected to rise from 64 million in 2000 to 216 million by 2060.

Two priorities for SAI20 deliberations:

- Blue economy and responsible Artificial Intelligence (AI).

What is expected in the blue economy deliberations?

- Preparation of technology-

driven tools to assess authorised development in coastal stretches and track marine water quality.

- Evolution of globally relevant audit toolkits for coastal spaces, which include –
 - Legal and institutional frameworks,
 - Compliance with coastal regulations,
 - Biodiversity conservation,
 - Capacity building and compliance to SDGs.

Way ahead:

- Disaster-resilient infrastructure along coasts
- ICT hubs for early warning systems
- The SAI20 audit toolkits being prepared under the leadership of the CAG of India will provide a unique opportunity for constructive dialogue to improve the auditing of ocean-based activities.

Conclusion:

- The audit toolkits will help in the assessment of policy goals, and resource efficiency while leveraging economic

opportunities towards a truly sustainable blue economy-based global development model.

Greenwashing TechSprint

- The RBI invited interested Indian companies to participate in Greenwashing TechSprint.
- The RBI is among 13 international regulators taking part in first ever Greenwashing TechSprint.
- It is organised by Global Financial Innovation Network (GFIN).
- The GFIN is a group of over 80 international organisations committed to supporting financial innovation.

Nav Ratna status for Rail Vikas Nigam Limited

- Rail Vikas Nigam Ltd (RVNL) has been upgraded to Navratna Central Public Sector Enterprise (CPSE).
- RVNL will now be the 13th Navratna amongst the CPSEs
- The Navratna status was first granted to nine public sector enterprises in 1997 by the Indian government.

RBI Report on Currency and Finance

- The theme of the report is 'Towards a Greener Cleaner India'.
- The report covers four major dimensions of climate change to assess future challenges to sustainable high growth in India.
- The unprecedented scale and pace of climate change;
- Its macroeconomic effects;
- Implications for financial stability
- Policy options to mitigate climate risks.
- India's green financing requirement is estimated to be at least 2.5 percent of gross domestic product (GDP) annually till 2030.

Surplus Transfer to Government

- RBI board approved surplus transfer of Rs 87,416 crore rupees to the central government for the fiscal year ended 31 March 2023.
- It is nearly triple of what it paid in the previous year.
- The dividend pay-out was Rs 30,307 crore for accounting year 2021-22.
- RBI deciding to keep the Contingency Risk Buffer at 6 per cent.
- RBI board also raised Contingency Risk Buffer to 6 per cent from 5.50 per cent.



C-KYC Database

- The Reserve Bank of India (RBI) has recently classified the Centralised Know Your Customer (c-KYC) database as high risk, posing challenges for financial institutions.
- This move has prompted banks to explore alternative methods for customer authentication such as video KYC or physical KYC.
- It is a centralized repository that stores or saves all the personal details of the customer.
- This helps to bring all the KYC processes on a single platform.
- The Central Registry of Securitization and Asset Reconstruction and Securities Interest of India (CERSAI) manages C-KYC Registry.
- The Union Budget of 2012-13 announced the C-KYC and commenced in July 2016.
- Tamil Nadu was the top borrowing State in terms of gross borrowings in 2022-23.
- It was followed by Maharashtra, West Bengal, Andhra Pradesh, and Uttar Pradesh.
- The State's tax revenue increased nearly 18 per cent to ₹1,88,953.57 crore in 2022-23 from ₹1,60,324.66 crore in 2021-22.
- The State's total revenue receipts was ₹2,42,013.85 crore for 2022-23.
- Its total receipts stood at ₹2,43,133.76 crore in 2022-23.
- The total expenditure was ₹3,15,552.75 crore for 2022-23.
- The revenue expenditure has come in at ₹2,69,562.94 crore for 2022-23.
- The quality of deficit (ratio of revenue deficit and fiscal deficit) has seen a significant improvement.
- The ratio was 38.02% in 2022-23 and it was a six-year high when compared to 22.52% in fiscal 2017.

Tamil Nadu top borrower in Fiscal 2023

- As per the data from Reserve Bank of India (RBI), Tamil Nadu's gross market borrowings were at the same level as 2021-22.

RBI payout to Government

Context:

- The Reserve Bank of India (RBI) has tripled its payout to the Indian government, deciding to transfer ₹87,416 crores as surplus for the accounting year 2022-23 (nearly three times the ₹30,307 crores transferred in the previous fiscal year)
 - Also, RBI has increased the Contingency Risk Buffer to 6%, up from 5% in the previous year.

About RBI's surplus transfer to the government:

Aspect	Details
Definition	RBI's surplus transfer to the government refers to the transfer of excess income over expenditure by the Reserve Bank of India (RBI). This transfer is mandated by the Reserve Bank of India Act of 1934 and is done annually.
RBI's Earning	Returns earned on foreign currency assets (such as bonds, treasury bills) and deposits with other central banks; Interest on holdings of local rupee-denominated government bonds; Management commission on handling the borrowings of state governments and the central government.
RBI's Expenditure	Printing of currency notes, Commission was given to banks and primary dealers for underwriting borrowings, contingency funds and staff expenses.
Surplus Transfer Policy	Finalized based on the recommendations of the Bimal Jalan committee.
Reasons for the transfer	Perception of RBI being overcapitalized compared to other central banks; The excess capital could be put to productive use by the government; Higher dividends of RBI from public sector banks and oil marketing companies; Increased earnings on investments, valuation changes on dollar holdings, revaluation of forex assets
Implications	Helps government in bank recapitalization during economic slowdown; Enables government to stimulate the economy; Helps meet the fiscal deficit target
About Contingency Risk Buffer	It refers to a reserve maintained by the RBI to protect the economy against potential financial stability crises or unforeseen risks. It serves as a cushion to absorb any adverse shocks. In view of the RBI's function as a lender of last resort, it needs to maintain some Contingent Risk Buffer (CRB) to insure the economy against any tail risk of financial stability crisis. The Bimal Jalan Committee recommended that the CRB needs to be maintained at a range of 5.5% to 6.5% of the RBI's balance sheet.

Why has the RBI withdrawn Rs 2,000 notes?

Context:

- The RBI has decided to withdraw the Rs 2000 denomination banknotes from circulation.

When were the Rs 2000 banknotes introduced?

- On November 8 2016, the PM of India announced demonetisation, withdrawing two banknotes (Rs 500 and Rs 1000) from circulation with immediate effect.
- The Rs 2000 and the new Rs 500 note were introduced under (Section 26) of the RBI Act 1934, primarily with the objective of meeting the currency requirement of the economy expeditiously.

Demonetisation																																																																																			
Meaning	It is the process of eliminating the lawful acceptance status of a monetary unit - The existing types of currency are withdrawn through circulation and supplanted with new currency.																																																																																		
Need	While demonetization is exceptional, governments around the globe have used it to check – hyperinflation situations, counterfeit currency, terror and tax fraud, and to introduce a new monetary system in some circumstances.																																																																																		
Advantages	Control criminal activities forbid tax avoidance and other financial crimes, contribute to a paperless financial system																																																																																		
Disadvantages	Expenses issuing new currency and coinage minting can be high, illegal activity will not be stopped entirely and may create chaos among individuals																																																																																		
Primary reasons for demonetisation in India in 2016	To check fake currency notes and to break the grip of corruption and black money.																																																																																		
Effect on India	<div data-bbox="523 1115 1114 1966"> <h3>Impact on economy</h3> <p>While digital payments have shown a strong growth after demonetisation, the same can't be said about tax collections and economic growth</p> <div data-bbox="550 1227 813 1541"> <p>CHART 1 Cash-GDP ratio was back to normal even before the pandemic gave it an artificial boost</p> <p>Currency in circulation as share of nominal GDP (in %)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Cash-GDP ratio (%)</th> </tr> </thead> <tbody> <tr> <td>1961-62</td> <td>12.1</td> </tr> <tr> <td>2016-17</td> <td>8.7</td> </tr> <tr> <td>2020-21</td> <td>14.5</td> </tr> </tbody> </table> </div> <div data-bbox="829 1227 1093 1541"> <p>CHART 2 Tax performance post-demonetisation has been underwhelming even by government's own standards</p> <p>Chart shows Centre's gross tax revenue as % share of Budget Estimates</p> <table border="1"> <thead> <tr> <th>Year</th> <th>% share of Budget Estimates</th> </tr> </thead> <tbody> <tr> <td>2009-10</td> <td>97.4</td> </tr> <tr> <td>2010-11</td> <td>97.4</td> </tr> <tr> <td>2011-12</td> <td>97.4</td> </tr> <tr> <td>2012-13</td> <td>97.4</td> </tr> <tr> <td>2013-14</td> <td>97.4</td> </tr> <tr> <td>2014-15</td> <td>97.4</td> </tr> <tr> <td>2015-16</td> <td>97.4</td> </tr> <tr> <td>2016-17</td> <td>105.21</td> </tr> <tr> <td>2017-18</td> <td>97.4</td> </tr> <tr> <td>2018-19</td> <td>97.4</td> </tr> <tr> <td>2019-20</td> <td>97.4</td> </tr> <tr> <td>2020-21</td> <td>78.4</td> </tr> </tbody> </table> </div> <div data-bbox="550 1556 813 1870"> <p>CHART 3 GDP growth has fallen sharply since 2016</p> <p>GDP growth (in %)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>GDP growth (%)</th> </tr> </thead> <tbody> <tr> <td>2000-01</td> <td>3.8</td> </tr> <tr> <td>2016-17</td> <td>8.3</td> </tr> <tr> <td>2020-21</td> <td>-7.3</td> </tr> </tbody> </table> </div> <div data-bbox="829 1556 1093 1870"> <p>CHART 4 UPI transactions have seen the fastest growth in the post-demonetisation phase</p> <p>Value of transactions in ₹ crore</p> <table border="1"> <thead> <tr> <th>Year</th> <th>UPI (₹ cr)</th> <th>Cards (₹ cr)</th> <th>Prepaid payment instruments (₹ cr)</th> </tr> </thead> <tbody> <tr> <td>Nov 2013</td> <td>~10</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Nov 2014</td> <td>~15</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Nov 2015</td> <td>~20</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Nov 2016</td> <td>~25</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Nov 2017</td> <td>~30</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Nov 2018</td> <td>~35</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Nov 2019</td> <td>~40</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Nov 2020</td> <td>~45</td> <td>~5</td> <td>~5</td> </tr> <tr> <td>Aug 21</td> <td>~50</td> <td>~5</td> <td>~5</td> </tr> </tbody> </table> </div> </div>	Year	Cash-GDP ratio (%)	1961-62	12.1	2016-17	8.7	2020-21	14.5	Year	% share of Budget Estimates	2009-10	97.4	2010-11	97.4	2011-12	97.4	2012-13	97.4	2013-14	97.4	2014-15	97.4	2015-16	97.4	2016-17	105.21	2017-18	97.4	2018-19	97.4	2019-20	97.4	2020-21	78.4	Year	GDP growth (%)	2000-01	3.8	2016-17	8.3	2020-21	-7.3	Year	UPI (₹ cr)	Cards (₹ cr)	Prepaid payment instruments (₹ cr)	Nov 2013	~10	~5	~5	Nov 2014	~15	~5	~5	Nov 2015	~20	~5	~5	Nov 2016	~25	~5	~5	Nov 2017	~30	~5	~5	Nov 2018	~35	~5	~5	Nov 2019	~40	~5	~5	Nov 2020	~45	~5	~5	Aug 21	~50	~5	~5
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Nov 2020	~45	~5	~5																																																																																
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The SC's (4:1) verdict on demonetisation

Judgment notes

In a 4:1 verdict, the Supreme Court upheld the demonetisation process. A snapshot of the majority and dissenting observations



Justice B.R. Gavai (for the majority): Demonetisation notification does not suffer from any flaw in the decision-making process; satisfies the test of proportionality

■ The contention that the notification is liable to be set aside on the ground that it caused hardship to individual citizens will hold no water. Individual interests must yield to the larger public interest sought to be achieved



Justice B.V. Nagarathna (dissenting): The RBI Act does not envisage initiation of demonetisation of bank notes by the Centre. Sub-section (2) of Section 26 of the Act, contemplates demonetisation of bank notes at the instance of the Central Board of the Reserve Bank of India

Why has the RBI withdrawn Rs 2000 notes?

- With the fulfilment of the objective, the printing of Rs 2000 notes was stopped in 2018-19.
- The RBI issued the majority of the Rs 2000 denomination notes prior to March 2017 – now at the end of their estimated lifespan of 4-5 years.
- Therefore, in pursuance of the Clean Note Policy of the RBI, it has been decided to withdraw the Rs 2000 denomination banknotes from circulation.

What is the Clean Note Policy?

- The policy was introduced in 1999 by the then RBI Governor: Bimal Jalan.
- It seeks to give the public good-quality currency notes and coins with better security features, while soiled notes are withdrawn out of circulation.
- Under the policy, the RBI had earlier decided to withdraw from circulation all banknotes issued prior to 2005 as they have fewer security features.

Will the Rs 2000 banknotes continue to be legal tender?

- The public can continue to use

Rs 2000 banknotes for their transactions and also receive them in payment.

- However, they are encouraged to deposit/exchange these banknotes on or before September 30, 2023. The RBI has not clarified the status of these notes after September 30.

Could there be a repeat of the demonetisation chaos of 2016?

- It is unlikely, as the printing of Rs 2000 notes was stopped in 2018-19, and they are no longer commonly seen with the public (constitute only 10.8% of notes in circulation).
- Also, the decision to withdraw Rs 500 and Rs 1000 notes was announced suddenly, taking the public by surprise.

Minimum Import Price for Apples

Context:

- The Central Government of India has introduced the Minimum Import Price (MIP) for apples in Jammu and Kashmir (J&K) to protect the domestic industry from unfair competition and predatory pricing.

What is MIP?

- MIP is a temporary measure implemented by a government to protect domestic industries from unfair competition and predatory pricing of imported goods. The MIP sets a minimum price below which the import of a particular commodity is not allowed.

Who frames the rules:

- The Directorate General of Foreign Trade (DGFT) is the arm of the commerce ministry responsible for framing rules related to exports and imports, including the implementation of MIPs.

Significance:

- By setting a minimum import price, the government aims to prevent apple imports from flooding the market at excessively low prices, and provide a level playing field to farmers in J&K.

About Apple cultivation:

- Apple cultivation in India primarily takes place in regions such as Jammu & Kashmir, Himachal Pradesh, the hills of Uttar Pradesh and Uttaranchal.

- It is also grown to a lesser extent in Arunachal Pradesh, Nagaland, Punjab, and Sikkim. China produces the world's largest number of apples. India is ranked 5th.

Climatic condition for Apples:

- The ideal climatic conditions for apple cultivation include an average summer temperature of 21-24 degrees Celsius during

the active growth period.

- Apple trees can be grown at altitudes ranging from 1500 to 2700 meters above sea level. Well-distributed rainfall of 1000-1250 mm throughout the growing season is most favourable for the optimal growth and fruitfulness of apple trees.
- Additionally, apples thrive best in well-drained, loamy soils.

LIBOR

Context:

- The Reserve Bank of India (RBI) has issued an advisory to banks and other RBI-regulated entities asking them to take steps to ensure a complete transition away from the London Interbank Offered Rate (LIBOR) from July 1.

	Explanation
What is LIBOR?	<ul style="list-style-type: none"> • It is a benchmark interest rate at which major global banks lend to one another in the international interbank market for short-term loans. • It serves short-term loans with maturities from Overnight to 1 year. • It also acts as a basis for Corporate and Government Bonds, mortgages, student loans, credit cards, derivatives, and other Financial Products.
How does LIBOR work?	<ul style="list-style-type: none"> • Administered by ICE Benchmark Administration (IBA), regulated by the UK's Financial Conduct Authority (FCA). • It is based on five currencies, including the U.S. dollar, the euro, the British pound, the Japanese yen, and the Swiss franc, and serves 7 different maturity periods.
Why is LIBOR being brought to an end?	<ul style="list-style-type: none"> • LIBOR's credibility was damaged by rate-fixing scandals in 2012. • The panel banks' submissions were alleged to be inaccurate or manipulated to project market strength. • After the 2012 Wheatley Review, a number of reforms were introduced to reduce subjective input and make LIBOR a transaction-based benchmark. • However, despite the reforms introduced, the number of transactions in the short-term wholesale Funding Market reduced over time. Thus, LIBOR became more vulnerable to short-term market illiquidity and amplification of price moves that could cause systemic risks.
What are the alternative reference rates?	<ul style="list-style-type: none"> • Secured overnight financing rate (SOFR) is being widely used as a substitute for LIBOR across the world. • Other Benchmarks rates – (1) CHF – SARON; (2) EUR – ESTER; (3) GBP – SONIA (Already in use since March 31, 2021); (4) JPY – TONA.
What are the limitations of SOFR?	Based upon the repurchase (repo) markets, it is at the repo markets' mercy.
What are the other challenges of shifting from LIBOR?	There could be a lot of volatility in the financial markets as the deadline arrives. The RBI has issued two circulars giving the roadmap to the transition and arrangements to be made for the same.

Top borrowing states

- According to the Reserve Bank of India, Tamil Nadu has been the top borrowing state for the third consecutive year.
- In the last financial year 2022-23, Tamil Nadu has borrowed Rs. 68 thousand crores in the first 11 months.
- Next to Tamil Nadu, Andhra Pradesh has borrowed Rs.51,860 crore and Maharashtra has borrowed Rs.50 thousand crore.
- Tamil Nadu was the highest borrowing state in the previous 2 financial years.
- Compared to these two financial years, the borrowing of Tamil Nadu in the financial year 2022-23 has decreased slightly.
- At the same time, Tamil Nadu has borrowed less than the loan amount recommended by the Finance Commission.

Green Energy Open Access Rules, 2022

Context:

- Union Power & NRE Ministry, urged industry leaders to set green targets and report violations of Green Energy Open Access Rules.

What is Open Access?

- Open Access (OA) means non-discriminatory access to electricity transmission and distribution system

What are Green Open Access Rules?

- It refers to regulations and guidelines implemented by the Government of India to promote the generation, purchase, and consumption of green energy.
- The Ministry of Power notified the Electricity (Promoting Renewable Energy through Green Energy Open Access) Rules, 2022 in June 2022.

About the Rules:

	Description
Aim	To ensure affordable, reliable, sustainable, and green energy for all and promote clean and green energy in India
Features	<ul style="list-style-type: none"> • Any consumer with a connected load of 100 kW or above can get Renewable Energy through open access from any Renewable Energy generating plant • Open access to stakeholders—traders, Power Exchanges, National / Regional / State Load Despatch Centres, and Central/State transmission utilities. • Timeline: The open access has to be granted within 15 days or else it will be deemed to have been granted. • Consumers may demand a supply of Green Power from DISCOMs. • Commercial and Industrial consumers are allowed to purchase green power on a voluntary basis. • There shall be a uniform Renewable Purchase Obligation (RPO). Also, Green Hydrogen/ Green Ammonia is included for the fulfilment of its RPO. • Promoting generation, purchase and consumption of green energy including from Waste-to-Energy plants

Significance	It provides a transparent, simplified, uniform and streamlined procedure for granting open access to green energy. Also, it facilitates the deepening of electricity markets and enables the integration of Renewable Energy (RE) resources into the grid.
India's Status	India is contributing only 3.5 per cent to the global emission despite having about 17 per cent of the world's population. India is leading the clean energy transition globally and has the fastest growth of RE capacity addition.

Centre for Processing Accelerated Corporate Exit (C-PACE)

Context:

- The Ministry of Corporate Affairs (MCA) has established the Centre for Processing Accelerated Corporate Exit (C-PACE) to centralize the process of striking off companies from the MCA Register.

What is striking off?

- Striking off companies from the Ministry of Corporate Affairs (MCA) Register means removing defunct, non-operational, or dissolved companies from the official database.

About C-PACE

- C-PACE (founded: March 2023; HQ: at the office of Indian Institute of Corporate Affairs (IICA) in Gurgaon) aims to ensure a clean registry, provides hassle-free filing and timely, process-bound striking off of company names from the Register.
- C-PACE operates through the Registrar of Companies (RoC) and is part of MCA's efforts to improve the Ease of Doing Business and facilitate company exits

Surety bonds

Context:

- The Insurance Regulatory and Development Authority of India (Irdai) has relaxed norms for 'surety bonds'.

The changes introduced:

- The solvency requirement for surety bonds has been reduced to 1.5 times from the previous 1.875 times, and the exposure limit of 30% applicable to each contract underwritten by an insurer has been removed.

Aim of the changes:

- The changes are aimed at ex-

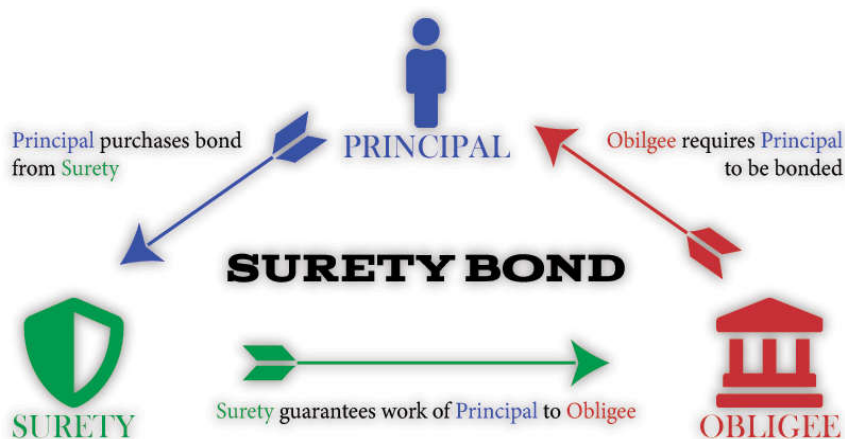
panding the surety insurance market and increasing the availability of such products.

What is Surety Bond?

- A surety bond is a type of insurance policy that ensures parties involved in a contract are protected from financial losses if one party fails to fulfil its obligations.

Example:

- If a construction company fails to complete a project as agreed, the surety bond compensates the client for the losses. It ensures financial protection and guarantees that the contract will be fulfilled.



About IRDAI:

- The Insurance Regulatory and Development Authority of India (est. 1999; HQ: Hyderabad) is a statutory body under the jurisdiction of the Ministry of Finance. It is tasked with regulating and licensing the insurance and re-insurance industries in India.

2. Socio Economic Issue

Rajasthan Platform-based Gig Workers Bill

- The Rajasthan government's proposed Rajasthan Platform-based Gig Workers (Registration and Welfare) Bill, 2023, which will introduce a welfare board, is a step towards ensuring the welfare of gig workers.
- For Gig Workers, working conditions have become increasingly harsh, with gig workers not recognized as "workers" and lacking any social security or related benefits.

Survey on Social and Educational Conditions of BC

- The Odisha government began the survey of people from the OBCs belonging to 210 castes in the State to determine their social and educational status.
- Odisha is the second State to conduct the survey after Bihar.
- The Odisha government does not have reservation for the OBC communities in education sector.
- Around 54% of the OBCs total population has 11% reservation in jobs.

No TDS on Interest from Mahila Samman Savings Certificate

- The recent Central Board for

- Direct Tax (CBDT) notification provides clarity on the taxation of interest earned from Mahila Samman Savings Certificate.
- As per the notification, if the interest earned does not exceed Rs. 40,000 in a financial year, no TDS will be applicable.
- It is aimed to encouraging more women towards investing.
- It has received a tax deducted at source exemption on interest earnings.

- The Mahila Samman Savings Certificate scheme was introduced during FY23 as a savings option exclusively for girls and women.
- It offers an attractive annual interest rate of 7.5%.
- It allows individuals to open an account in their name.
- The maximum deposit limit for the scheme is set at Rs. 2 lakh.

Mahila Samman Savings Certificate 2023	
Eligible Period	1st April 2023 to 31st March 2025
Who can invest?	Women or girls
Minimum Investment	Rs.1,000
Maximum Investment	Rs.2,00,000
Interest Rate	7.50%
Compounding Frequency	Quarterly
Effective Rate	7.71%
Tenure of the investment	2 Yrs
How many times you can invest	As many times as you wish subject to the maximum limit of Rs.2 lakh.
Premature withdrawal	40% after a year
Premature closure	Eligible with certain restrictions
Tax Benefits	There is no such tax benefits while investing and at maturity.
Where to open?	At Post Office or at authorized Banks

COVID-19 is no more a public health emergency of international concern

Context:

- The World Health Organization (WHO) declared that COVID-19 was no longer a public health emergency of international concern (PHEIC).

When was it declared PHEIC?

- COVID-19 was announced as a 'PHEIC' by the WHO on January 30, 2020.

What is the current status of COVID-19?

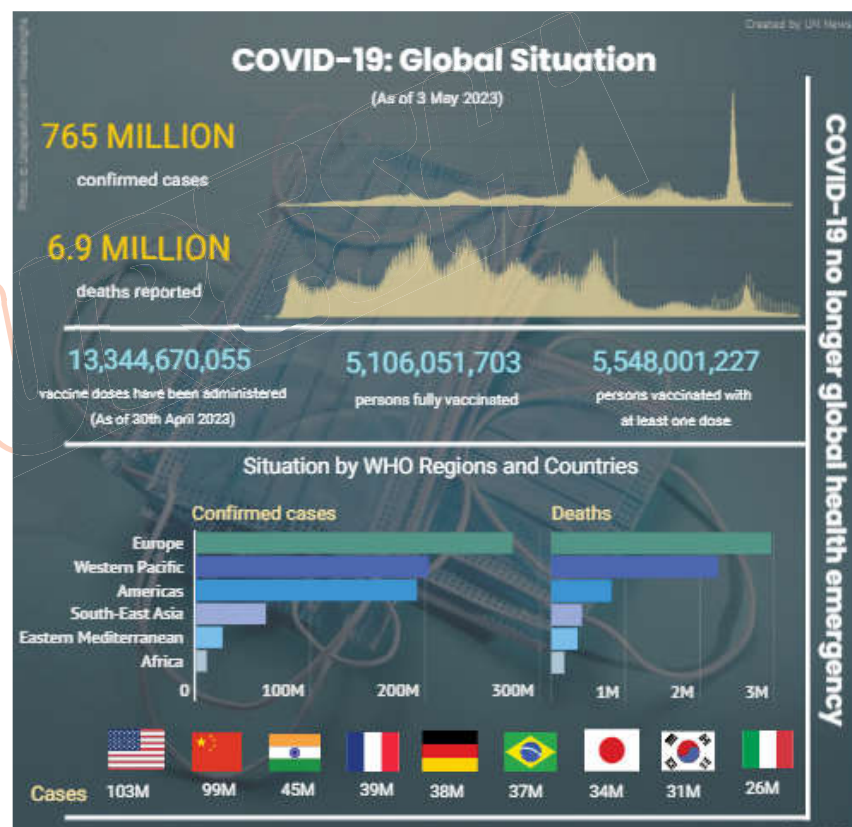
- It has acquired the status of other endemic diseases (from the pandemic). India reached the COVID-19 endemic stage a year ago.

Trends during COVID-19 spread in India:

- 'COVID deniers' at the beginning of the pandemic: Resulted in the spiking of the COVID-19 cases in India.
- Misinformation during the 2nd wave: A third wave in India would affect children resulting in the deprivation of schooling and learning of children.
- Policy interventions missed factoring in the local context: Local context determines the epidemiological pattern, spread of disease and proposed interventions.

Lessons from COVID Pandemic that India must embrace and implement:

- Invest in healthcare (HC) infrastructure.
- India needs National HC Services Regulatory Authority: To check rampant black marketing of critical drugs, artificial shortage and discrepancies in the cost of the same.
- India needs more doctors, paramedics and hospitals.
- Revamp Primary health centres with the PPP model.
- Bring the Department of Biotechnology (DBT) under PMO to enhance proficiency in predicting future pandemics.
- Better pay and training of ASHA workers: They played a critical role in creating awareness in rural India – allaying fake apprehensions regarding vaccines.
- Fight disinformation in mission mode.
- A strategic reserve of critical medicines.



Steps taken by India towards Covid-19 prevention:

- Indian SARS-CoV-2 Genomic Surveillance Consortium (INSACOG) for genomic sequencing and tracking the evolution of variant strains of SARS-CoV-2.
- The National Biopharma Mission (NBM) and the Ind-CEPI Mission have enabled the strengthening of the national vaccine development ecosystem.

- Mission COVID Suraksha was launched as part of the Aatmanirbhar Bharat 3.0 for promoting the R&D of Indian COVID-19 vaccines.

Some best practices in India:

- "Har Ghar Dastak" campaign: Aims at awareness, mobilisation and vaccination of all eligible beneficiaries.
- Training of healthcare professionals: The Government of India has utilised the iGOT (Integrated Government Online Training) platform to train various personnel.

Way ahead:

- COVID-19 has 'officially' transitioned from a population-level challenge to more of an individual health concern.
- The government should offer formal training courses in epidemiology to prepare India for future outbreaks and epidemics and to curb misinformation.
- Integrate the COVID-19 response to general health services. There is no role for universal measures against COVID-19 to be enforced.
- It is time to drop the COVID-19 fixation and move on to tackle other more pressing health challenges in the country.

Welfare fund for MGN-REGS workers

- Kerala is set to become the first State to have a welfare fund for Mahatma Gandhi Rural

Employment Guarantee Scheme (MGNREGS) workers.

- The Ayyankali Urban Employment Guarantee Scheme workers will also be part of the welfare fund.
- The Welfare fund will provide the workers with pension, medical assistance, educational assistance for their children and other benefits.
- It has been formed as per the Kerala Employment Guarantee Workers' Welfare Fund Act, 2021.
- The benefits will be for workers who completed the age of 60 and paid contributions continuously

Implementation of RPwD Act 2016

- The Union Health Ministry has

notified the standards of public and private healthcare institutions.

- It aims to ensure accessibility of healthcare facilities and services to the persons with disabilities (PwDs).
- The RPwD Act, 2016 mandates the Central government to formulate rules laying down standards of accessibility inter alia for facilities and services provided to the public in urban and rural areas.
- The guidelines themed 'Accessibility Standards for Health Care' which aims at removing barriers including physical and architectural barriers, communication barriers, attitudinal barriers and social and economic barriers for people with disabilities.

MOVING TOWARDS INCLUSIVITY

<p>Under the Goa Rights of Persons With Disabilities Act, 2016</p> <ul style="list-style-type: none"> ➤ All existing public buildings are expected to be made accessible within five years from date of notification of rules ➤ Special courts in both districts will provide respite to persons with disability ➤ Since the act speaks of 'non-discrimination' and 'full and effective participation and 	<p>inclusion in society', as well as 'equality of opportunity', no new establishments will be issued a certificate of completion or permitted an occupation of a building unless it has adhered to the rules of accessibility</p> <p>➤ Contravention of provisions of the act or regulations is punishable with fine of up to ₹10,000 for the first offence and between ₹50,000 and ₹5 lakh for any subsequent contravention</p>
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The battle to end child marriage

Context:

- According to UNICEF, multiple crises are threatening to reverse hard-earned gains in the decline in child marriage.

Child marriage:

- It refers to any formal marriage or informal union between a child under the age of (18 for females and 21 for males in India) and an adult or another child.
- Most child marriages involve girls, many of whom are in poor socio-economic conditions.

Data on child marriage:

- Worldwide, an estimated 640 million girls and women alive today were married in childhood, or 12 million girls per year.
- Child marriages have declined from 21 to 19% (globally) since the last estimates were released five years ago.
- However, global reductions would have to be 20 times faster to meet SDG (5.3) of ending child marriage by 2030.

Status in India:

- While India has recorded significant progress in recent decades, it still accounts for one-third of the global total (India's child marriage rate is 21% as per NHFS-5).
- Eight States have a higher

prevalence of child marriage than the national average – West Bengal, Bihar and Tripura top the list with more than 40% of women aged 20-24 years married below 18.

Most affected regions:

- South Asia continues to remain home to nearly half (45%) of the world's child brides.
- Sub-Saharan Africa is home to the second-largest global share of child brides (20%).

Highlights of the UNICEF's findings:

- The world is engulfed by a 'Polycrisis' – a cluster of related global risks with compounding effects, such that the overall impact exceeds the sum of each part.
- Health and economic crises (rising poverty, income shocks), escalating armed conflicts, climate change shocks and the ongoing impacts of COVID-19 are forcing families into child marriage.
- Girls living in fragile settings are twice as likely to become child brides as the average girl globally.

Immediate and lifelong consequences on girls:

- Less likely to remain in school.
- Difficult for girls to access health care, social services and community support that protect them from child marriage.

- Increased risk of early pregnancy - increasing the risk of child and maternal health complications and mortality.
- Can also isolate girls from family and friends, taking a heavy toll on their mental health and well-being.

Laws and policy interventions in India:

- The Prohibition of Child Marriage Act 2006 and the Protection of Children from Sexual Offences Act 2012 aim at protecting children from violation of human and other rights.
- A parliamentary standing committee is weighing the pros and cons of raising the age of marriage for women to 21, which has been cleared by the Union Cabinet.
- Sukanya Samridhi Yojana: The government launched this scheme in 2015 to encourage parents to save money for the future of their girl child
- Kanyashree Prakalpa Scheme: The West Bengal government launched this scheme in 2013 to promote the education and welfare of girls and prevent child marriage in the state.
- National Plan of Action for Children: The plan includes strategies to prevent child marriage and promote education and healthcare for children
- Beti Bachao, Beti Padhao (BBBP) Scheme

Way ahead for India:

- The solution lies in empowering girls, creating proper public infrastructure and addressing societal norms.
- At the gram panchayat level, ensuring that Child Protection Committees and Child Marriage

Prohibition officers are doing the job and activating community support groups.

- Best practice: Odisha now has over 12,000 Child Marriage Free Villages.

Conclusion:

- It is possible to end child mar-

riage, which requires unwavering support for vulnerable girls and families.

- The focus should be on keeping girls in school and making sure they have economic opportunities.

Government Implements RPwD Act 2016

Context:

- The Government of India has implemented the Rights of Persons with Disabilities (RPwD) Act 2016 to establish accessibility standards for persons with disabilities.

What are accessibility standards for persons with disabilities?

- Accessibility standards for persons with disabilities refer to guidelines and regulations that aim to ensure equal access and participation for individuals with disabilities in various environments and services. These standards cover different aspects of accessibility - Physical environment, transportation, information and communication, technology, and public facilities.

Status of Persons with Disabilities in India:

- There are about 2.68 crore (2.21% of the population) people with disabilities in India according to the 2011 census of India.

About the Accessibility standards for persons with disabilities:

Aspect	Accessibility Standards
Aim	Provide access to medical services for persons with disabilities—Preventive, curative and rehabilitative.
Barriers	Limited access to quality education, low employment rates, and inadequate healthcare services.

Key Aspects of accessibility standards

Physical Environment	E.g., Ramps and accessible entrances; Barrier-free pathways and accessible parking spaces; Elevators and lifts for vertical accessibility
Transportation	Accessible buses, trains, and stations; Wheelchair ramps and lifts; Audible and visual announcements
Information and Communication	Accessible formats for printed materials; Captioning and audio descriptions for audio-visual content; Accessible websites and digital platforms
Technology	Screen reader compatibility; Keyboard accessibility; Alternative text for images

The initiative taken by India	
Conventions	<ul style="list-style-type: none"> India has ratified the UN Convention on the Rights of Persons with Disabilities. India is a signatory to the Biwako Millennium Framework and the Declaration on Full Participation and Equality of People with Disabilities in the Asia Pacific Region. Incheon Strategy to "Make the Right Real" for Persons with Disabilities in Asia and the Pacific.
Constitutional	<ul style="list-style-type: none"> Article 41 of DPSP: State shall make effective provisions in cases of disablement. 7th schedule: The subject of 'relief of the disabled and unemployable' is specified in the state list of the Seventh Schedule of the Constitution.
Legislation	Rights of Persons with Disabilities Act 2016 increased the number of disabilities from 7 conditions to 21; Accessible India Campaign;
Shift in Attitude	Focus on disabilities has been shifted from the individual to society, i.e., from a medical model of disability to a social or human rights model of disability.
Institute	Indian Sign Language Research and Training Centre and the National Institute of Mental Health Rehabilitation, have been established
Technology	Unique Disability Identification Portal; BIS standard IS 17802, focuses on accessibility requirements for ICT products and services

Measures needed:

- Strengthen preventive health programs, including early screening for all children, as demonstrated by Kerala's successful Comprehensive Newborn Screening (CNS) programme
- Embrace a Community-Based Rehabilitation (CBR) approach to maximize the abilities of individuals with disabilities
- Increase public awareness and understanding of disability through social campaigns that challenge stigmas and stereotypes.
- Encourage inclusiveness by transitioning individuals from special schools to mainstream environments, promoting a diverse range of influences and interactions.

XI. Science and Technology

"Risk-based" regulation for artificial intelligence (AI)

Context:

- The Group of Seven (G7) has proposed a "risk-based" regulation for artificial intelligence (AI) tools, which could be a first step towards creating a template to regulate AI such as OpenAI's ChatGPT and Google's Bard.

What is AI?

- AI stands for artificial intelligence, which is the ability of machines to learn and perform tasks that normally require human intelligence, such as problem-solving, decision-making, and language understanding.

What is GPT?

- Recently, OpenAI has announced GPT-4, a new large multimodal model that accepts images as input and is better than ChatGPT

What is ChatGPT?

- ChatGPT (Generative Pre-Trained Transformer) is an artificial intelligence (AI)-powered chatbot which can comprehend and generate natural language or human text

How does it work?

- GPT relies on deep learning techniques (a form of machine learning utilizing neural network) to produce human-like text based on inputs.
- Neural networks attempt to simulate behavior of human brain allowing it to learn from large amounts of data.
- GPT uses an algorithm known as Transformer to learn how to generate text that is similar to human conversation.

Features	GPT-4	ChatGPT
Multimodality	Yes (accepts images, but output is text only)	No (doesn't accept image and output is text only)
Information-Processing	64,000 words	8,000 words
Accuracy	Higher	Lower
Language	Better at understanding languages that are not English	Less capable in understanding other languages
Robustness	Harder to trick	Easier to trick

Concerns related to rising AI software and chatbots :

Concerns	Explanation
Privacy	There is a risk that personal and sensitive information data could be used for unethical purposes, such as for targeted advertising or for political manipulation.
Responsibility	Since AI models can generate new content, such as images, audio, or text it may be used to generate fake news or other malicious content, without knowing who is responsible for the output. This could lead to ethical dilemmas over responsibility.
Automation and Lowering of Job	AI has the potential to automate many processes, which could lead to job displacement for people who are skilled in those areas.
Bias and Discrimination	AI can be trained on biased data, which can result in the algorithm making decisions that unfairly disadvantage certain groups. This can perpetuate societal inequalities and lead to discrimination.
Lack of Transparency and Accountability	There are concerns about who should be held responsible for the actions of AI systems – creators of the AI systems, the companies that deploy them, or the governments that regulate them.

Various steps taken by countries to regulate AI are:

Country	Initiative
G7	The EU's "risk-based" regulation of AI refers to the proposed AI Act that seeks to regulate artificial intelligence tools based on their level of risk. The act categorizes AI systems into four categories: <ul style="list-style-type: none"> • Unacceptable risk (e.g., in case of critical infrastructure) • high risk • limited risk • minimal risk (e.g., spam filters, word processing) The level of risk determines the degree of regulatory scrutiny and compliance requirements that the AI system would be subject to.
EU	The proposed AI Act segregates artificial intelligence by use-case scenarios based broadly on the degree of invasiveness and risk. The AI Act is due next year.
Italy	Became the first major Western country to ban Open AI's ChatGPT out of concerns over privacy.
UK	Adopts a 'light-touch' approach that aims to foster innovation in the AI industry.
Japan	Takes an accommodative approach to AI developers.
China	Drafted a 20-point draft to regulate generative AI services that are likely to be enforced later this year.
India	ICMR releases guidelines for artificial intelligence use in the health sector; Niti Aayog's National Strategy for Artificial Intelligence and the Responsible AI for All report. India is not considering any law to regulate AI currently. India's AI penetration factor at 3.09, the highest among all G20, OECD countries
US	Blueprint for an AI Bill of Rights that proposed a nonbinding roadmap for the responsible use of AI. The Blueprint spelt out five core principles to govern the effective development of AI systems.

Conclusion:

- Although the risks of AI are widely known, it remains unclear how the proposed AI Bill of Rights would address these risks and how grievances would be remedied. Elon Musk, Steve Wozniak, and over 15,000 others have called for a six-month pause in AI development, and for shared safety protocols to be implemented by labs and independent experts.

Stable Auroral Red Arc

- Aurora borealis or Northern lights, which are usually seen in Polar regions, were captured in Ladakh, India.
- After analysing the aurora, it appears to be a "stable auroral red (SAR) arc".
- SAR is a very rare event in Ladakh - and not a conventional aurora.
- An SAR arc is a band of reddish light seen in the sky.
- Unlike auroras where various colours appear in moving patterns, SAR displays are static and monochromatic.
- Both appear during periods of geomagnetic activity triggered by a wave of charged matter blasted out of the Sun.
- But their mechanism of formation is slightly different.

- These waves were witnessed from Europe, China and Ladakh in India.
- Such a happening was last witnessed in 2015

India's First Pod Taxi

- India is set to get its first pod taxi between Noida International Airport in Jewar and the Film City in the Uttar Pradesh.
- Environment-friendly and fast, pod taxis are considered one of the most advanced modes of transport.
- They are automated cars and are designed in a way that they can carry only a fixed number of travellers from one place to another.
- They need a track to travel and are powered by electricity.
- Tracks for pod taxis are usually made separately on the roads in a bid to avoid the road traffic.

New flow battery technology

- Indian Institute of Technology of Madras have developed a 'non-aqueous allorganic redox flow battery' (NORFB).
- They have developed a new type of electrolyte using 'pyrylium salts', which are a class of organic chemicals.
- With suitable structural modifications these chemicals allow high-voltage operation, namely they can store more energy.
- The electrolyte is designed to carry more current density as well as voltage.
- Conventional flow batteries

feature aqueous (water-based) electrolytes like hydrochloric acid, sulphuric acid, and alkali metal hydroxides.

- Water in the electrolyte undergoes electrolysis, reducing the operating voltage limit and energy density.
- The presence of water leads to corrosion of battery components, diminishing their lifespan and performance.

Artificial Leaf



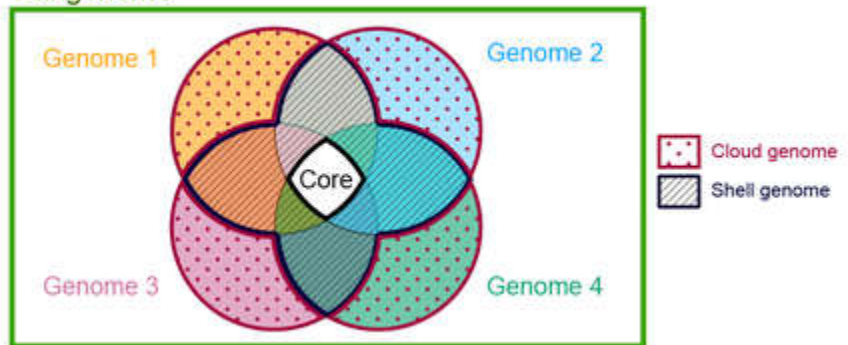
- Researchers from the University of Cambridge have developed an "artificial leaf".
- It can convert carbon dioxide into liquid fuels by harnessing the power of sunlight.
- Importantly, these can directly be used by internal combustion vehicles as drop-in fuels.
- They replicated the process of photosynthesis by converting carbon dioxide, water and

sunlight into two multi carbon fuels-ethanol and propanol.

Pan Genome Map

- A recent study published in the Nature journal presents a pangenome reference map.
- It is built by using genomes from 47 anonymous individuals (19 men and 28 women).
- They are mainly from Africa but also from the Caribbean, Americas, East Asia, and Europe.
- Our genome consists of 23 different strings, each composed of millions of individual building blocks called nucleotides or bases.
- The four types of building blocks (A, T, G and C) are arranged and repeated millions of times in different combinations to make all of our 23 chromosomes.
- Genome sequencing is the method used to determine the precise order of the four letters and how they are arranged in chromosomes.
- Sequencing individual genomes helps us understand human diversity at the genetic level and how prone we are to certain diseases.

Pangenome



NavIC satellite: Why a regional navigation system matters to India

Context:

- ISRO will launch a new NavIC satellite (NVS-01), belonging to the second generation of the Indian Regional Navigation Satellite System (IRNSS), known as NavIC, to overcome some of the previous issues faced by NavIC.

Issues faced by NavIC (Indian Regional Navigation Satellite System):

- Atomic clock failure:** Several of the existing satellites stopped providing location data after their onboard atomic clocks failed
- Satellite Replacement:** Some of the satellites in the NAVIC constellation have reached the end of their mission life or become partially defunct.
- Limited Coverage:** While NAVIC

provides coverage over the Indian landmass and a radius of 1,500 km around it, there is a need for further expansion and ground stations outside India to improve coverage and accuracy in hard-to-reach areas.

- User Segment Development:** There has been a delay in the development of user receivers for the NAVIC system, resulting in limited utilization of the navigation services.
- Mobile Compatibility:** Mobile phones in India currently lack compatibility to process NAVIC signals, limiting the widespread use of the system.
- Security and Encryption:** Ensuring the security of NAVIC signals and preventing breaches or spoofing is a significant challenge.

New features of the Satellite are (to overcome some of the issues):

- L1 Frequency:** The inclusion

of the L1 frequency (besides L5 and S frequency) enhances compatibility with wearable devices and personal trackers. The inclusion of L1 frequency also increases interoperability with other satellite-based navigation systems.

- Longer mission life:** The second-generation satellites will also have a longer mission life of more than 12 years. The existing satellites have a mission life of 10 years.
- Rubidium atomic clock:** The atomic clock ensures accurate positioning, addressing a previous issue faced by satellites in the constellation
- The heaviest in the constellation of NAVIC satellites (will be launched by a Geosynchronous Satellite Launch Vehicle (GSLV) rocket):** Previous satellites were much lighter and launched on PSLV. The higher weight allowance allows for more instruments and fuel to be loaded.

NavIC's advantages over other systems:

Advantages	Explanation
Regional Coverage	India is the only country that has a regional satellite-based navigation system (there are four global satellite-based navigation systems — the American GPS, the Russian GLONASS, the European Galileo, and the Chinese Beidou)
Higher Accuracy	Once fully operational, NavIC open signals are expected to provide accuracy up to 5 meters, surpassing GPS accuracy (20 meters).
Geo-stationary Satellites	Unlike GPS, NavIC uses satellites in high geo-stationary orbit, ensuring constant coverage over the designated region.
Improved Signal Reception	NavIC signals arrive in India at a 90-degree angle, making them easier to receive even in congested or obstructed areas (unlike GPS).
Indigenous Development	NavIC is developed by ISRO, showcasing India's technological capabilities and reducing dependence on foreign systems.

Why a regional navigation system matters to India:

	Examples
Strategic Independence	India's NavIC system operates independently without relying on GPS or other global systems.
National Security	NavIC enables precise tracking and navigation for defence operations and military applications.
Disaster Management	NavIC helps in tracking and responding to natural disasters, such as cyclones and floods.
Transportation and Navigation	NavIC enables precise tracking of commercial vehicles, enhancing road safety and efficiency.
Precision Agriculture and Farming	NavIC aids farmers in optimizing crop management, irrigation, and soil nutrient application.
Personal and Public Safety	NavIC enables real-time tracking of fishermen and sends alerts in case of potential dangers at sea.
Scientific and Technological Advancements	NavIC aids in scientific experiments, geological surveys, and geodetic network development.

Conclusion:

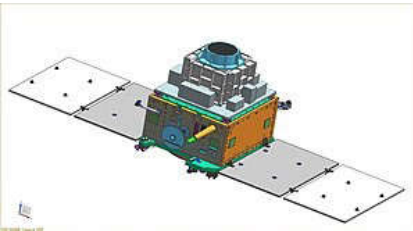
- Currently, NavIC's reach extends only 1,500 km beyond Indian territory. However, for applications involving ships and aeroplanes travelling beyond this range, satellites in Medium Earth Orbit (MEO) would be required. By adding MEO satellites in the future, NavIC can extend its global reach and aim to provide navigation services on a global scale, similar to the capabilities of the GPS system.

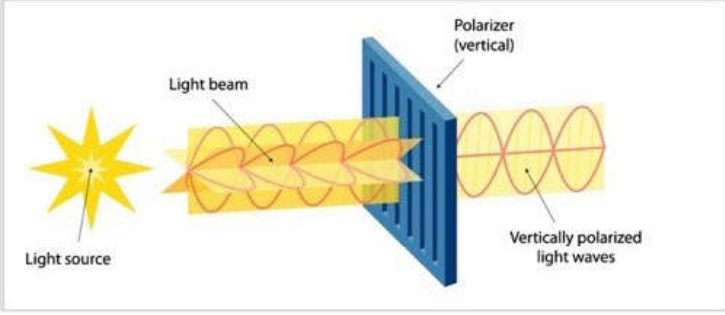
XPoSat

Context:

- XPoSat is India's first polarimetry mission, developed in collaboration between the Indian Space Research Organisation (ISRO) and the Raman Research Institute (RRI) (an autonomous research institute), to be launched later this year.

About XPoSat mission:

	Description
About	The X-ray Polarimeter Satellite (XPoSat) is an ISRO-planned space observatory to study the polarisation of cosmic X-rays
What is Polarisation?	<p>Polarization refers to the direction in which waves vibrate, particularly in the context of light.</p> 

Explanation using an example	<p>Imagine a rope being shaken up and down to create waves. If you hold the rope straight and shake it side to side, the waves will also move in that direction. This is similar to linear polarization.</p> 
Significance of the Study	<p>Studying how radiation is polarised gives away the nature of its source, including the strength and distribution of its magnetic fields, understanding the geometry and inner workings of the light source and the nature of other radiation around it. XPoSat will study the 50 brightest known sources in the universe, including pulsars, black hole X-ray binaries, active galactic nuclei, and non-thermal supernova remnants</p>
What are X-Rays?	<p>X-rays are a type of electromagnetic radiation that has higher energy and shorter wavelengths than visible light. X-rays come from objects that are millions of degrees Celsius - such as pulsars, galactic supernova remnants, and black holes.</p>
Payload	<p>POLIX (Polarimeter Instrument in X-rays): It will study 40 bright astronomical sources of different categories XSPECT (X-ray Spectroscopy and Timing): It will study X-ray pulsars, black hole binaries, low-magnetic field neutron stars, active galactic nuclei (AGNs), magnetars</p>
Orbit	<p>The observatory will be placed in a circular low Earth orbit of 500–700 km</p>
Duration	<p>A planned lifetime of about 5 years</p>
Goals	<p>Understand emission mechanisms from complex physical processes; Provide valuable insights into the emission processes of X-ray sources</p>
Other such missions	<p>XPoSat is India's first, and only the world's second polarimetry mission that is meant to study various dynamics of bright astronomical X-ray sources in extreme conditions. The other such major mission is NASA's Imaging X-ray Polarimetry Explorer (IXPE) which was launched in 2021.</p>

Cosmic Dust Particles

Context:

- Indian scientists (from the Indian Institute of Astrophysics) have created a computer model of cosmic dust particles that can imitate the unique way interstellar comet 2I/Borisov scatters light.

Use:

- By studying the way light scatters off these cosmic particles, they can better understand how comets behave. The model accurately reproduced the scattering of light seen in experiments and observations. It revealed the presence of a large number of porous cosmic dust particles.

Cosmic dust particles:

	Description
About	Cosmic dust particles are tiny solid particles that exist in outer space. They are composed of various materials, including minerals, metals, ice, and organic compounds.
Shape	From spherical to irregular or fractal-like structures.
Size	Ranging from nanometers to micrometres
Composition	Amorphous silicate (Forsterite) and amorphous carbon
Found in	Cosmic dust particles can be found in different environments, such as interstellar space, planetary systems, and the atmospheres of planets and moons.
Role played	They contribute to the formation of stars and planetary systems by providing material for accretion. They also scatter and absorb light, affecting the radiation properties of celestial objects. Additionally, these particles serve as building blocks for the formation of larger objects, such as asteroids, comets, and planets.

AI Supercomputer 'AIRAWAT'

Context:

- The AI supercomputer 'AIRAWAT,' located at C-DAC in Pune, India, has achieved a ranking of 75th in the world on the Top 500 Global Supercomputing List.

Significance:

- This recognition places India among the top AI supercomputing nations globally.

About AIRAWAT:

- It is part of the National Program on AI initiated by the Government of India, aligning with Prime Minister Narendra Modi's vision of "AI for All."
- Ministry of Electronics & Information Technology envisions scaling AIRAWAT to a computing capacity of 1,000 AI Petaflops to meet the current AI computational requirements.

Benefits:

- The deployment of AIRAWAT will empower academia, research labs, the scientific community, industry, and startups to develop indigenous AI-enabled products and solutions, particularly for addressing India-specific challenges.

Topic	Information
About Supercomputer	A supercomputer is an extremely powerful and high-performance computer capable of performing complex calculations and processing large amounts of data at incredibly fast speeds. It is used for tasks that require immense computational power.
Measurement	The processing speed of a supercomputer is measured in PETAFLOPS (ten to the power 15 floating point operations per second). FLOPS (floating point operations per second) are typically used to measure the performance of a computer's processor.

Maximum	China has the maximum number of supercomputers globally, followed by the United States, Japan, France, Germany, Netherlands, Ireland, and the United Kingdom.
Supercomputers in India	India's first supercomputer was PARAM 8000. It was followed by PARAM Shivay, PARAM Shakti, PARAM Brahma, PARAM Yukti, and PARAM Sanganak, installed at various institutions in India.
Previous AI super-computer ranking	In 2020, PARAM Siddhi, the High-Performance Computing-Artificial Intelligence (HPC-AI) supercomputer, achieved a global ranking of 62nd among the Top 500 most powerful supercomputer systems in the world.
National Supercomputing Mission	The National Supercomputing Mission (launched in 2015) with the goal of enhancing research capacities and capabilities in India. It aims to connect various research institutions to form a Supercomputing grid using the National Knowledge Network (NKN).
Nodal Ministry	The National Supercomputing Mission is jointly steered by the Department of Science and Technology (DST) and the Ministry of Electronics and Information Technology (MeitY).
Implementation	The Centre for Development of Advanced Computing (C-DAC), Pune, and the Indian Institute of Science (IISc), Bengaluru, are responsible for implementing the National Supercomputing Mission.
Phases of the Mission	The mission is planned in three phases: Phase I focuses on assembling supercomputers, Phase II aims to manufacture certain components within the country, and Phase III involves designing a supercomputer in India.

INDUS-X under the iCET

Context:

- India and the U.S. are exploring the possibility of co-producing jet engines, long-range artillery, and infantry vehicles with the upcoming launch of INDUS-X.

What is INDUS-X?

- It is a major upcoming initiative under the Initiative on Critical and Emerging Technologies (iCET), with the aim to promote partnerships and collaboration between the defence innovation ecosystems of both countries.
- INDUS-X is focused on advancing high-tech cooperation and exploring opportunities for joint research, development, and production in the defence sector.

About iCET dialogue:

Aspect	Description
	iCET was announced in 2021 and is spearheaded by the National Security Councils of both countries, to expand the India-US partnership for critical and emerging technologies
Areas of Cooperation	R&D, Quantum computing, Defence innovations, Space, 6G, Semiconductors, etc.

Significance of iCET	Accelerates America's technology partnership and strategic convergence with India; Important for India's role as a trusted supply chain partner; Allows gradual lifting of the US's export control restrictions on India
Other India-US Technology Partnerships	NISAR (NASA-ISRO), Joint Indo-US Quantum Coordination Mechanism, Innovation Bridge; Lockheed Martin-Tata partnership for plane production; India-USA strategic clean energy partnership; Launch of "Innovative Bridge" connecting defence start-ups between India and the USA; Readiness Assessment Development for building resilient semiconductor supply chains; ISRO-NASA partnership on human space flight; CLPS Project Partnership in 5G/6G; Open RAN using trusted sources, etc.

Calcium-41

Context:

- A recent study has proposed using calcium-41 as a new method for radiometric dating, similar to carbon-14 dating but with several advantages.

What is radiocarbon dating?

- Radiocarbon dating, also known as carbon-14 dating, is a method used to determine the age of organic materials that originated from living organisms.
- It relies on the radioactive isotope carbon-14, which is a variant of the element carbon.
- Carbon-14 is unstable and undergoes radioactive decay over time.

Limitations of Carbon-14 dating:

- **Limited Time Range:** Carbon-14 dating is effective for objects up to approximately 50,000 years old due to the

short half-life of carbon-14 (5,700 years).

- **Contamination Issues:** Contamination from modern carbon sources can affect the accuracy of carbon-14 dating, leading to inaccurate age estimates.
- **Incomplete Preservation:** Organic materials must be well-preserved to contain sufficient carbon-14 for dating. Poor preservation or exposure to environmental factors can compromise the reliability of carbon-14 dating.

Advantages of Calcium-41:

- **Longer Half-Life:** Calcium-41 has a much longer half-life of 99,400 years, allowing for the dating of much older materials compared to carbon-14.
- **Abundance in Earth's Crust:** Calcium-41 is found in the Earth's crust, making it available for dating various geological materials, including fossilized bones and rocks.
- **Atom Trap Trace Analysis**

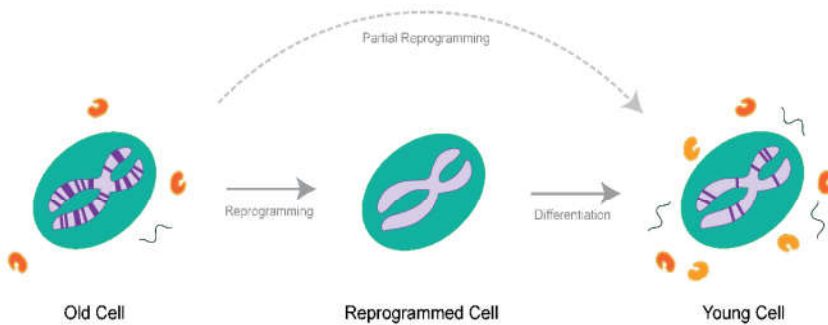
(**ATTA**): The technique of ATTA enables the detection of calcium-41 atoms with high sensitivity and selectivity, improving the accuracy of dating methods.

- **Potential for Extension:** The successful application of ATTA to calcium-41 opens the possibility of using similar techniques for other metal isotopes, expanding the range of dating methods available.
- **Earth-Science Applications:** Calcium-41 and ATTA can be used to study geological processes, such as determining how long rocks have been covered by ice, providing valuable insights into Earth's history and climate changes.

Biosynthetic clock

Context:

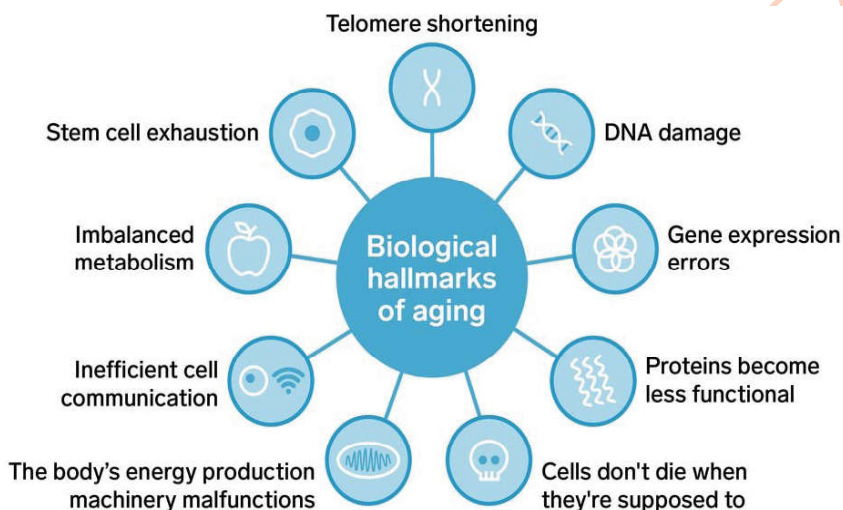
- Scientists have discovered that the ageing process of cells is controlled by a genetic regulatory circuit that can be manipulated to extend their lifespan.



- This circuit functions like a clock, guiding the cell through two distinct pathways of ageing. By manipulating this circuit, scientists have been able to generate a negative feedback loop that slows down the cell's degeneration, leading to a significant extension of cellular lifespan.

Significance:

- This research may have important implications for improving human health and treating age-related diseases in the future.



Oxygen from lunar soil simulant

- Scientists at NASA have successfully extracted oxygen from simulated lunar soil.
- Lunar soil refers to the fine-grained material covering the Moon's surface.
- This was the first time that this extraction has been done in a vacuum environment.
- It was paving the way for astronauts to one day extract and use resources in a lunar environment.
- It is called in-situ resource utilisation.

Shingrix Vaccine

- GlaxoSmithKline Pharmaceuticals Ltd. (GSK) announced the launch of its shingles vaccine in India.
- The vaccine, named Shingrix, is one of the best-selling products of the company.
- Shingles is a viral infection that causes a painful rash and it can occur anywhere in the body.
- This is caused by the varicella-zoster virus.
- Shingrix is the world's first non-live, recombinant subunit vaccine that is given intramuscularly in two doses.

Project-SMART

Context:

- The Ministry of Housing & Urban Affairs (MoHUA) and the Ministry of Railways in India have signed a Memorandum of Understanding (MoU) with the Japan International Cooperation Agency (JICA) for 'Station Area Development along Mumbai-Ahmedabad High-Speed Rail' (Project-SMART)

Aim:

- To develop the areas surrounding the Mumbai-Ahmedabad High-Speed Railway (MAHSR) stations to improve the accessibility and convenience of commuters and promote economic activities in the vicinity of station areas.

Aspect	Description	
Inauguration	The project was inaugurated in 2017	
Location	From Sabarmati (Gujarat) to Bandra (Mumbai). It will pass through three districts in Maharashtra, eight in Gujarat and will cut through Dadra and Nagar Haveli.	
Implementing agency	National High-Speed Rail Corporation (NHSRCL)	
Distance	508 KM	
Significance	It is the first and only approved bullet train in India. HSR has an economic multiplier effect and is expected to further catalyze India's economic growth and act as a stimulus for the development of satellite towns.	
Technology	Automatic train control, Undersea tunnel technology, E5 Series Shinkansen Technology, Light detection and ranging (LiDAR) technology	
Challenges faced by the MAHSR	Challenges in land acquisition, significant engineering challenges, and daily passenger requirements for the project to make investments even	

About NHSRCL:

- NHSRCL (National High-Speed Rail Corporation Limited) is a Special Purpose Vehicle (SPV) created in 2016 with the objective of financing, constructing, maintaining and managing the High-Speed Rail Corridor in India. The SPV has equity participation from the Central Government through the Ministry of Railways, as well as the governments of Gujarat and Maharashtra.

CEIR system

Context:

- The Indian government has launched the Central Equipment Identity Register (CEIR) tracking system to combat mobile phone theft.

About the CEIR system:

Central Equipment Identity Register is a tracking system to combat mobile phone theft and facilitate the blocking and tracking of lost or stolen mobile phones across the country. CEIR serves as a central depository or database of International Mobile Equipment Identity (IMEI) numbers, models, versions, and other details of mobile devices.	
Implementing Body	Centre for Department of Telematics (CDoT)
Pan-India Deployment	Ready for pan-India launch on May 17, 2023
Key Features	In-built mechanism to detect cloned mobile phones; Access to International Mobile Equipment Identity (IMEI) number and associated mobile number; Prevent revenue loss to the government; Mandate disclosure of IMEI number prior to mobile device sale; Block unauthorized mobile phones on telecom networks

Success Story	Karnataka Police used the CEIR system to recover and return over 2,500 lost mobile phones
Existing Systems	Apple has a tracking system through Apple ID for its devices, but Android phones face challenges in this regard
Impact	Use of stolen mobile phones will become futile
Challenges	Database maintenance authority; Cloning or reprogramming of stolen mobile phones; Potential blocking of authentic IMEI numbers when blocking cloned ones

About IMEI numbers:

- International Mobile Equipment Identity is a unique 15-digit code that precisely identifies the device. Mobile phone manufacturers assign IMEI numbers to each device based on ranges allotted to them by the Global System for Mobile Communications Association. Dual SIM phones will have two IMEI numbers.

Erosion of the traditional Indian family

Context:

- The article highlights the increasing cases of violence within families, suicides among young individuals, and the rising number of children involved in criminal activities as symptoms of societal ill-health and disruptions in the traditional family system.

What is a family?

- A family is a social unit consisting of individuals who are related by blood, marriage, or adoption. It is a fundamental institution in society where members provide support, love, and care for one another, and share common experiences, values, and responsibilities.

What is the meaning of a traditional Indian family?

- The traditional Indian family refers to the prevailing family structure and dynamics that have been historically and culturally prevalent in Indian society. It typically follows a patriarchal system where the father or eldest male member holds authority and decision-making power within the family.

Importance of family:

	Example
Emotional Support	During challenging times, such as the loss of a loved one or personal struggles
Socialization	Family plays a vital role in socializing children, teaching them societal norms, values, and behaviours
Identity Formation	Family provides a sense of belonging and helps individuals develop their identity by instilling cultural, religious, and familial values.
Intergenerational Bonding	The presence of multiple generations in a family fosters intergenerational relationships, creating opportunities for shared wisdom, experiences, and mutual learning.

Moral and Ethical Development	Families teach principles of honesty, integrity, compassion, and responsibility. India swear by Vasudhaiva Kutumbakam. Kutumb or family has traditionally acquired primacy in human interpersonal-social relationship dynamics.
Education Guidance and Financial Support	

Challenges faced by the traditional family system:

	Example
Changing Gender Roles	For instance, if a woman desires a career outside the home but is expected to prioritize domestic responsibilities, conflicts may arise.
Generational Gap	When younger members adopt different values, lifestyles, and beliefs than their older relatives.
Urbanization and Mobility	As individuals seek better opportunities or education, they may move away from their extended families, leading to a decrease in close-knit family support networks.
Influence of Technology	Technology can impact traditional family dynamics, with increased screen time and virtual interactions potentially diminishing the sense of togetherness within the family.
Excessive emphasis on Individualism	For example, candid and heart-to-heart dialogues between husband-wife and parent-children are becoming rare. They have become too formal and superficial. This challenges the collectivist nature of traditional family systems.
Excessive Formalisation	From birthdays to weddings and house-warmings to condolence meetings, everything is being made into a formal event. This creates the "crisis of authenticity" of our interpersonal feelings.
Cultural and Social Changes	Cultural and social changes, such as globalization and exposure to diverse perspectives, can challenge traditional family norms and values.
Balancing Work and Family	The traditional family system may face difficulties in accommodating individual aspirations while maintaining traditional family roles and responsibilities.

Ways of Reviving India's Traditional Family System:

	Example
Promote Inter-generational Bonding	Using storytelling, family meals, and cultural celebrations.
Strengthen Communication and Dialogue	Promote dialogue that goes beyond formalities and embraces deeper emotional connections.
Value Traditional Values and Customs	Encourage the preservation of traditional values, customs, and cultural practices within the family, ensuring that they are passed down to younger generations.
Foster Mutual Support and Care	E.g., provide emotional support during challenging times and engage in acts of kindness and assistance.

Balance Individualism and Collectivism	E.g., Encourage family members to pursue personal goals while maintaining a sense of togetherness, shared decision-making, and a commitment to the welfare of the family unit.
Embrace Modern Technology Responsibly	E.g., Encouraging the use of technology for virtual family gatherings, sharing updates, and staying connected across distances.
Promote Gender Equality and Empowerment	Advocate for gender equality within the family, promoting shared responsibilities, equal opportunities, and empowering women to pursue their aspirations. Woman-led, child-focused and elderly-sensitive families are the need of the hour

Conclusion:

- The traditional Indian family system holds immense value and significance in providing emotional support, socialization, identity formation, and a sense of belonging. Reviving and nurturing the traditional family system can contribute to the well-being of individuals, the cohesion of society, and the preservation of cultural heritage.

Making agri-commodity value chains sustainable

Context:

- The article highlights the challenges associated with making agricultural commodity value chains sustainable. It identifies four dimensions that make mitigating environmental impacts a difficult task

Meaning of agri-commodity value chains:

- Agri-commodity value chains refer to the entire process of production, processing, distribution, and consumption of agricultural commodities, from farm to fork.
- "Making Agri-commodity value chains sustainable" means the practice of ensuring that the agricultural value chain minimizes negative environmental and social impacts while promoting long-term economic viability.

Need of making agri-commodity value chains sustainable:

- Making agri-commodity value chains sustainable is essential to protect the environment, ensure long-term agricultural productivity, meet consumer demands, address global sustainability challenges, promote stakeholder accountability, and adapt to the impacts of climate change.

The challenges of ensuring sustainability in agricultural commodity value chains:

Challenges	Examples
Market and producer Related	E.g., uncertain Export policies; adverse WTO norms influencing Indian farmers; uncertain MSP by the government
Production related	The production process, including land-use strategies, seed quality, and input usage, varies across different commodities. Lack of specific intervention by farmers suited to the specific production systems, such as intensive or extensive agriculture or agroforestry, leads to low yield.

Weak policies	Weak governance mechanisms, subsidies, market access, and infrastructural support for Indian agriculture
Marginalized farmers	Poor Working conditions for marginalized tenants, almost no labour rights, and inequity for Indian farmers

Few Government Initiatives for sustainable agriculture:

Scheme	Objective
Paramparagat Krishi Vikas Yojana	Promote organic farming
National Mission on Sustainable Agriculture (NMSA)	Promote climate-resilient and sustainable agricultural practices such as conservation agriculture, agroforestry, integrated farming systems, etc.
Pradhan Mantri Krishi Sinchayee Yojana	Pradhan Mantri Krishi Sinchayee Yojana
Soil Health Card Scheme	Encourage balanced and judicious use of fertilizers
National Mission on Oilseeds and Oil Palm (NMOOP)	Promote sustainable production of oilseeds and oil palm
National Agricultural Market (e-NAM)	Create a unified national market for agricultural commodities
Pradhan Mantri Kisan Sampada Yojana (PMKSY)	Develop agri-processing clusters and infrastructure to increase value addition and reduce post-harvest losses

What should be done:

- The production process, including land-use strategies and inputs, varies across commodities, requiring tailored interventions.
- Strong governance mechanisms and policies, including subsidies and regulations, can support sustainable value chains.
- Additionally, an inclusive approach is necessary, considering working conditions, labour rights, equity, and the effects of the climate crisis on production.

Conclusion:

- There is a need to address the environmental, social, and

economic dimensions of sustainability in the context of agricultural production, processing, and distribution.

WHO : Incentivising the development of new antibacterial treatments 2023

Context:

- The new WHO report (Incentivising the Development of new antibacterial treatments 2023) highlights progress in addressing antimicrobial resistance (AMR) but also identifies gaps in ensuring a robust pipeline of antibiotic treatments.

What is AMR?

- It refers to the ability of micro-organisms, such as bacteria, viruses, fungi, and parasites, to resist the effects of antimicrobial drugs, such as antibiotics, antivirals, antifungals, and antiparasitic drugs. E.g., New Delhi metallo-β-lactamase (NDM-1) superbug

Status of AMR:

- It was responsible for nearly 5 million global deaths in 2019 and is projected to cause over 2mn death by 2050 in India alone. Yet the development of new antibiotics is limited, and access to existing treatments remains a challenge.

What does the Report say:

- AMR remains one of the top 10 global public health threats facing humanity
- 1 in 5 deaths caused by AMR occurred in children under the age of 5.
- If no action is taken, AMR could cost the world's economy USD 100 trillion by 2050.
- Recommendations by the report: increased investments in research and development, alignment of financing mechanisms, and global efforts to ensure equitable access to antibiotics.

What are the problems with AMR in India?

- AMR is a particular challenge in India due to the high burden of communicable diseases, an overburdened public health system, limited laboratory capacity, inexpensive and widely available antibiotics without prescriptions, Excessive use of antibiotics in livestock and poultry farming etc

Causes Of Antibiotic Resistance

- Over-prescribing of antibiotics
- Patients not taking antibiotics as prescribed
- Unnecessary antibiotics used in agriculture
- Poor infection control in hospitals and clinics
- Poor hygiene and sanitation practices
- Lack of rapid laboratory tests

Consequences of AMR

- Greater number of AMR deaths (currently 5mn per year)
- Routine treatment becomes riskier to perform
- Economic loss

Steps taken

- India
 - Chennai declaration (2012): It promotes antibiotic stewardship
 - Red-line campaign
 - National action plan on AMR (2017-21)

- Global
 - EU: ban on preventive mass medication in animals using antibiotics or other drugs.
 - UN: One Health Approach
 - WHO: AWARE Classification of antibiotics

Other initiatives:

- **India:** National Action Plan on AMR (NAP-AMR) for 2017-2021 (updating it for 2022-2026)
- **Global:** One Health Quadripartite: In 2021, the FAO, UNEP, WHO and World Organisation for Animal Health joined to combat AMR.

Conclusion:

- There is a need for priority actions to accelerate progress, including commitments at the high-level meeting on AMR at the United Nations General Assembly in 2024 and targeted financing mechanisms to address the crisis and ensure equitable access to antibiotics.

XII. INTERNATIONAL RELATIONS

G7 : De-risking and Effective Climate Action

Context:

- The 49th annual summit (Hiroshima, Japan) of the G7 leaders concluded recently.

Group of Seven (G7):

- G7 is an informal forum

- Formed in 1975
- With 7 countries - Italy, Japan, France, US, UK, Canada, Germany
- To discuss and solve various
 - Economic
 - Financial
 - Climatic Issues

Highlights of the summit:

- G7 countries said that they

- would build economic resilience for themselves, based on a strategy of diversifying and deepening partnerships and de-risking, not decoupling.
- G7 acknowledged the urgency for effective climate action but offered little in terms of scaled-up action.

What does de-risking and decoupling mean?

De-risking	Decoupling
To move business away from areas that are considered risky in terms of the returns they could generate.	It is used as an alternative to an economic boycott to reduce correlation between markets.
To have resilient, effective supply chains to prevent coercion of any other country.	

- Why was 'de-risking' used by G7 countries? To describe their stance towards China on economic matters.

De-risking in the context of China:

- It can be interpreted as a reduction of the reliance on China in the economic sphere – for the supply of materials or as a market for finished goods, so that potential risks to trade and disruption of supply chains are reduced.

G7 on effective climate action	
Need	<ul style="list-style-type: none"> • The window of opportunity for effective action was narrowing faster than ever before. • The 1.5 degree Celsius threshold was likely to be temporarily breached over the next five years (WMO). • Surpassing 2016, 2023 is on track to become the warmest ever. • The probability of occurrence of heat waves in India and neighbouring countries has increased by 30 times due to global warming.
Milestones listed for effective climate action	<ul style="list-style-type: none"> • A global peak by 2025: The G7 claimed that their GHG emissions had already peaked, and asked all major economies (India, China, Brazil, South Africa, and Russia) to ensure that their individual emissions peak by 2025. • Net-zero by 2050: It is essential in order to meet the 1.5 degree Celsius target. The G7 asked all major economies to come up with detailed road maps to reach the target. • Eliminating "inefficient fossil fuel subsidies" by 2025.
Challenges in meeting the milestones	<ul style="list-style-type: none"> • The 2025 peak year is not mandated under the Paris Agreement. India has indicated that its emissions will grow in the next decade as well. China, the world's largest emitter, would peak only towards the end of this decade. • Only Germany (among the major emitters like the US, EU) has said it would attain net-zero status by 2045. • China would turn net-zero in 2060, while India has set 2070 as the target. Some other countries. • The G7 countries put no deadline to ending the use of fossil fuels.

France's Bastille Day celebrations

Context:

- PM Modi thanked the French President for the invitation as Guest of Honour at France's Bastille Day celebrations

About Bastille Day:

- The National Day of France, also known as Bastille Day, is celebrated on July 14 every year.

About Bastille Day:

The National Day of France, also known as Bastille Day, is celebrated on July 14 every year.	
What was Bastille?	The Bastille was a fortress prison located in the heart of Paris, which had become a symbol of royal tyranny and oppression.
History	The fall of the Bastille is widely considered the beginning of the French Revolution. The event also marked the beginning of a period of intense violence and social upheaval in France.
French Revolution (1789 – 1799)	A significant period of social and political upheaval in France was characterized by the overthrow of the French monarchy, the establishment of a republic, and the execution of thousands of people, including King Louis XVI and Queen Marie Antoinette.
Significance	The fall of the Bastille symbolized the people's victory over the monarchy and the end of the old regime. The event led to the abolition of feudalism, the Declaration of the Rights of Man and Citizen, and the establishment of the First French Republic.
Global Importance	The principles of liberty, equality, and fraternity espoused during the French Revolution have had a profound impact on the world's political and social landscape. These values have influenced many other revolutionary movements throughout history.



EU's carbon border tax

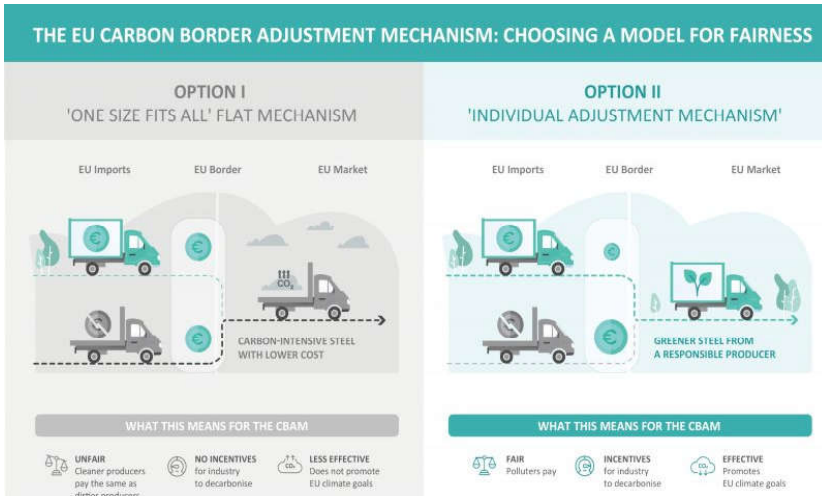
Context :

- The European Parliament – the legislative body of the 27-member EU, reached a political deal on the carbon border tax – Carbon Border Adjustment Mechanism (CBAM).

Background:

- CBAM was first introduced as a part of the European Green Deal, which serves as a guide for both tax and non-tax policy initiatives in the EU to achieve its ambitious target of becoming climate neutral by 2050.
- This was followed by a proposal for a regulation on CBAM in 2021 as part of the "Fit for 55" policy package, aiming to reduce GHG by at least 55% by 2030, from the levels of 1990.

What is the CBAM?



- It plans to impose a tariff/import duty on a set of carbon-intensive imports, which will have to be paid by EU importers and companies who export such goods to EU countries.

Need for CBAM:

- To prevent "carbon leakage":
 - Carbon leakage is when companies relocate the production or manufacturing of carbon-intensive materials to countries with less stringent climate rules.
 - This is to avoid restrictions on carbon emissions in their home country.
- To nudge behavioural change:
 - According to WB, less than 4% of global emissions are currently under carbon pricing regimes as envisioned by the Paris Agreement.
 - Most levies aren't high enough to effect an actual change in polluter behaviour.

Old vs proposed regime in the EU	
Emissions Trading System	CBAM
Industries have to buy carbon certificates if the number of emissions crosses the cap.	Will Phase out free carbon allowances to domestic business, so that it doesn't get in a tangle with the WTO's rules.

Significance:

- By setting the price for the carbon content of goods regardless of where they are produced, it will create a level field for businesses inside the bloc and those outside.

Why are developing countries/India opposing CBAM?

- BRICS have opposed the measure, describing it as a unilateral, protectionist trade weapon that could lead to market distortion.

- For example, India has contended that the CBAM will translate into a 20-35% tariff on India's exports, which now attract an MFN duty of less than 3%.
- Economic shock for countries reliant on one/more of the targeted industries.
- For example, Mozambique's GDP would drop by about 1.5% due to the tariffs on aluminium exports alone.
- 27% of India's exports (\$8.2 billion) of steel, iron and aluminium products head to the EU.

Way ahead:

- Funds from the sale of the CBAM levy can be diverted to support climate action efforts in less developed countries. This will guarantee both climate justice and the achievement of carbon emission targets.

Strategic convergence between the US, UAE, Saudi Arabia

Context:

- The meeting in Riyadh between Saudi Arabia and the US, UAE, and India underlines the growing strategic convergence between Delhi and Washington in the Gulf.

What is unique about this meeting?

- A major departure from the traditional approaches to the Middle East in both India and the US.
- In India, the Nehruvian foreign policy either opposed Washington or kept its distance from the US in the Middle East.

Recent changes in India's foreign policy	Impact
Shedding its "anti-Western" lens in the Middle East. Joining hands with the US (in the Middle East), openly showcased its friendly relations to Israel.	Transformed India's relations with the two Arabian kingdoms – Saudi Arabia and the UAE, into solid strategic partnerships.
France has emerged as an important partner in the Gulf and the Western Indian Ocean. India now has a trilateral dialogue with Abu Dhabi and Paris.	The formation of a four-nation grouping (in October 2021) called I2U2 brought the US, India, Israel, and the UAE together.
Delhi and London are expected to work together in the Gulf soon. Britain enjoys much residual influence in the Gulf.	A new quadrilateral with the US, UAE, and Saudi Arabia.

Recent changes in USA's foreign policy (recalibrating its regional strategy):

- Pakistan was a key part of the Baghdad Pact (1955), Central Treaty Organisation (CENTO) and the Regional Cooperation for Development (1964) to counter the Communist threat to the region.
- However, it does not figure in the current strategy to connect the Gulf with the Subcontinent.
- This means the US is discarding its pro-Pakistan bias in thinking about the relationship between the Subcontinent and the Gulf and building new partnerships, including with Delhi.

What led to the changes in the foreign policies of India and the US?

- The decline in the Role of Pakistan in the Middle East:
 - Pakistan's continuing strategic decline, and socio-economic-political challenges.
 - Pakistan has drifted too close to China (all-weather partnership), tempted to align with China and Russia in the region.

- The rising power of the Arabian Peninsula:

- The Gulf kingdoms (especially Saudi Arabia and the UAE) have accumulated massive financial capital and economic transformation will reduce their dependence on oil.
- They have also begun to diversify their strategic partnerships, develop nationalism, promote religious tolerance and initiate social reform.

India's new possibilities in the Arabian Peninsula:

- Regional partnership with the US is seen in terms of geopolitical competition with China, elevating its own standing in the region.
- Economic growth and productive involvement in promoting connectivity and security.
- Overcoming violent religious extremism within the Subcontinent.

Challenges:

- Beijing is now the second most important power in the world, and its diplomatic and political influence in the Gulf region will continue to rise.

Conclusion:

- Seizing the new strategic opportunities in the Gulf would involve the long overdue modernisation of Delhi's strategic discourse on the Gulf.

Quad Cooperation in Biotechnology

Context:

- In order to give the necessary fillip to enhance Quad cooperation in biotechnology, India should be an ideal choice for the establishment of a Quad-led biomanufacturing hub.

Background:

- In 2021, the Quad set up a Critical and Emerging Technology Working Group to facilitate cooperation related to developments in critical and emerging technologies, including biotechnology.
- However, the Quad countries do not collaborate enough in biotechnology yet.

Biomanufacturing:

- Meaning: It uses living systems, particularly microorganisms and

cell cultures, to produce molecules and materials on a commercial scale.

- Potential:
 - It can transform the global industrial system, with up to 60% of physical inputs to the global economy.
 - Countries like the US and China have designed specific policies to shape their bio-economies.



Case of India:

- The National Biotechnology Development Strategy envisions the country as a "Global Biomanufacturing Hub" by 2025.
- While the strategy sets a target of \$100 billion for the hub, it is important to recognize that India's ambitions require external support.

India's strengths:

- Existing infrastructure, pharmaceutical manufacturing expertise, and skilled manpower.
- India is among the top performers in the field of biomanufacturing in both the quality of research and research publications.
- India also has significant potential in low-cost biomanufacturing (33% lower than the U.S.), particularly in the production of enzymes, reagents, research materials, and equipment.

Challenges:

- India still requires significant capability and capacity uplifts to become a world leader.
- China has expressed its intention to capture this market, similar to how it dominated small-molecule active pharmaceutical ingredients (APIs).
- Such dependence on the biomanufacturing sector will be detrimental to both India and the Quad.

How does Quad complement these strengths?

- The U.S. has significant funding capability.
- Japan, Australia and the U.S. possess advanced biotechnology innovation ecosystems and intellectual property.

Advantages of the proposed hub for India and Quad:

- Can help facilitate technology transfer,
- Connect investors,
- Establish a biomanufacturing fund that is administered through the Quad,
- Support efforts to reduce dependency on China.

Way ahead for India:

- Strengthening physical infrastructure.
- A scheme on the line the PLI scheme allocated \$2 billion to the pharmaceutical sector to make biopharmaceuticals, APIs, etc.
- Boosting the workforce by enabling access to cutting-edge technology and training, with a focus on commercialising R&D.

Conclusion:

- The proposed hub in India can capitalise on the economic potential of the biomanufacturing industry and address existing and potential vulnerabilities in the global system.
- Through cross-Quad collaboration, India may emerge as a major force in the field of biomanufacturing and assist the Quad in competing in this key area

XII. Miscellaneous

1. Index

World Press Freedom Index 2023

Context:

- India has slipped in the World Press Freedom Index 2023 rankings, coming in at 161 out of 180 countries, indicating a decline in press freedom.

About the Press Freedom Index

	Description
World Press Freedom Day	Celebrated every year on May 3rd, to raise awareness about the state of press freedom globally
Origin	It was proclaimed by the UN General Assembly in 1993. 2023 marks the 30th anniversary of World Press Freedom Day (and the 1991 Windhoek Declaration adopted by UNESCO)
Windhoek Declaration	It is a statement of principles related to independent, pluralistic, and free press. It was adopted on May 3, 1991, in Windhoek, Namibia.
The theme for this year	"Shaping a Future of Rights: freedom of expression as a driver for all other human rights"
World Press Freedom Index	It is published every year since 2002 by Reporters Without Borders (an independent NGO based in Paris).
Scoring Criteria	Each country or territory's score is evaluated using five contextual indicators: <ul style="list-style-type: none"> Political context Legal framework Economic context Sociocultural context Safety 100 is the highest possible level of press freedom, and 0 is the worst
Freedom of Press in India	Freedom of the press is not expressly protected by the Indian legal system but is impliedly protected under Article 19(1)(a) of the Constitution. However, restrictions apply under Article 19(2) related to the interests of sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.
Observations of the report this year	India's press freedom has gone from "problematic" to "very bad," with the country slipping 11 ranks to 161 out of 180 countries.

Reasons cited for the decline	Media takeovers by “oligarchs” close to Prime Minister Narendra Modi that have jeopardized pluralism
Indian Govt. reaction	The Indian government does not agree with the country rankings of the World Press Freedom Index due to its low sample size, little or no weightage to fundamentals of democracy, and a questionable methodology
Topper	Norway ranks first on the Index for the seventh year in a row, with Ireland ranking second, and Denmark third.

State Health Index

- It is NITI Aayog’s annual ‘State Health Index’ (5th edition) for the Covid year of 2020-21.
- It was launched by the NITI Aayog in 2017
- The Aayog brings out the index (annually) in collaboration with the Union Health Ministry and World Bank.
- The Top performers are Kerala, Tamil Nadu, and Telangana have secured the top three positions in larger states.
- The Worst performers are Bihar, UP and MP occupy the bottom three positions in larger states.
- Top three Incremental performance from 2019-20 to 2020-21: Rajasthan, Uttarakhand, and Odisha.
- The Top performers are Tripura, Sikkim and Goa The have secured the top three positions in smaller states.
- The Worst performers are Arunachal Pradesh, Nagaland and Manipur occupy the bottom three positions in smaller states.
- Among the UTs, Lakshadweep has secured the top position in terms of overall performance, while Delhi has been placed at the bottom

Heat Index

Context:

- The India Meteorological Department (IMD) has announced plans to launch a composite index next year to measure the impact of heat on India’s population.

About Heat Index:

Topic	Information
What is the heat index?	The heat index is the combination of air temperature and relative humidity, it is the measure of how hot it really feels when relative humidity is factored in with the actual air temperature.
Aim of the new index	To quantify the impact of heat on its population and generate impact-based heatwave alerts for specific locations.
Parameters to be used	Temperature, humidity, wind, and duration of exposure
Significance	The analysis will help generate heat hazard scores, which will be used as thresholds to issue impact-based heatwave alerts for specific locations.
Heat Waves in India	According to IMD data, there was a 24% increase in the number of heat waves during 2010-2019 compared to 2000-2009. Between 2000 and 2019, the mortality rate for tropical cyclones decreased by 94% whereas it increased by 62% for heat waves. Heat waves is not notified as a natural disaster at the national level in the country.
Impact of heat waves	Heat waves cause cramps, exhaustion, stress, heat stroke and very severe heat waves even lead to death. The elderly, children, and people with heart and respiratory problems, kidney diseases and psychiatric disorders are particularly affected. Extreme periods of high temperatures can lead to a significant reduction in crop yields and cause reproductive failure in many crops.

Index of Economic Freedom

- The index is published by The Heritage Foundation, a think tank based in Washington D.C.
- The rule of law, government size, regulatory efficiency, and open markets are the four main pillars of index.
- Singapore topped in the list and followed by New Zealand, Australia, Switzerland and Ireland.
- India and Bangladesh shared a rank 121 and Bhutan performed well and got 109th rank.
- Other neighbour countries ranked below India is Sri Lanka (131), Afghanistan (146), Pakistan (152), China (154), Nepal (157).

Global Slavery Index 2023

Context:

- According to the Walk Free Foundation's Global Slavery Index 2023, 50 million people are living in conditions of modern slavery a 25% rise over the last five years.

Modern slavery:

- It refers to situations of exploitation in that a person cannot refuse or leave because of threats, violence, coercion, or deception.
- It manifests as forced labour, child labour, forced marriage, debt bondage, commercial sexual exploitation, human trafficking, etc.

The Global Slavery Index:

- It is an assessment of modern slavery conditions in 160 countries.
- It uses data released by the International Labour Organisation (ILO), the International Organisation for Migration (IOM), etc.
- The Index provides rankings across 3 dimensions: Size of the problem (prevalence), Government response and Vulnerability (political instability, inequality).

- The 2023 index is significant as India holds the G20 presidency this year, with a focus on sustainable development and climate change mitigation.

Highlights of the Global Slavery Index 2023:

Most prevalent

The countries estimated to have the highest prevalence of modern slavery tend to be conflict-affected, have state-imposed forced labour, and have weak governance.

	Rank	Prevalence Rate*	# of People
North Korea	1	104.6	2,696,000
Eritrea	2	90.3	320,000
Mauritania	3	32.0	149,000
Saudi Arabia	4	21.3	740,000

Least prevalent

The countries with the lowest prevalence of modern slavery are those with strong governance and strong government responses to modern slavery.

	Rank	Prevalence Rate*	# of People
Switzerland	160	0.5	4,000
Norway	159	0.5	3,000
Germany	158	0.6	47,000
Netherlands	157	0.6	10,000

- 50 million people were living in conditions of modern slavery on any given day in 2021.
- The practice has become more prevalent over the last five years (a

25%/10 million rise), due to climate change, armed conflict, weak governance and COVID-19.

- G20 nations account for more than half of all people living in modern slavery because their trade operations and global supply chains allow for human rights abuses.
- The situation within G20 nations: India tops the list with 11 million people working as forced labourers, followed by China, Russia, Indonesia, Turkey and the U.S.

Challenges:

- SDG 8.7 [ending forced labour and modern slavery]: High prevalence of modern slavery and stagnating government action highlight the difficulty in achieving this goal by 2030.
- Sectors of the economy promote modern slavery: Like the textile industry promotes conditions of forced and unpaid work, lack of benefits (maternity leave), etc.
- Poor govt policies: For example, the "Sumangali" scheme in Tamil Nadu traps women and girls from marginalised locations to work in exploitative conditions in spinning mills.

Way ahead:

- South-south cooperation to bring more transparency in value chains, social security

for workers at all stages, and holding corporations accountable in multilateral and bilateral free trade agreements.

- Implementing stronger measures and legislations that prevent governments and businesses from sourcing goods and services linked to modern slavery.
- Embedding anti-slavery measures in climate change sustainability plans.
- Providing primary and secondary education to children and tightening regulations around forced and child marriage.

Case of India	
Vulnerable population	Indigenous communities and those engaged in fishing and agriculture in States like Odisha and West Bengal have become victims of debt bondage, human trafficking and mass displacement.
India's Stance on modern slavery	The Bonded Labour Abolition Act 1976. A Central Scheme for Rehabilitation of Bonded Labour. According to the SC, non-payment of minimum wages amounts to "forced labour" under Article 23 of the Constitution.
Challenges	Poor implementation of laws due to corruption, apathy, legal loopholes and lack of political will. India's new Labour Codes (which are yet to be implemented) may give "legal sanction" to forced labour by extending work hours and diluting the social security of people working in the organised and unorganised sectors. No data on people stuck in modern slavery: India's last national survey of bonded labour was done in the mid-90s.
Best practice	States like Tamil Nadu have initiated plans to conduct a survey;

Conclusion:

- Strong legislation and accountability of G20 nations must be ensured to empower vulnerable communities.
- The road to preventing forced labour goes through the right of access to public goods, global commons and decent work.

2. Report

Global Report on Food Crises 2023

Context:

- The Global Report on Food Crises (GRFC) for 2023 reveals that the number of people suffering from acute food insecurity has increased, with over 258 million people across 58 countries and territories facing acute hunger.

About the Report:

Global Report on Food Crisis is an annual report to achieve a consensus-based assessment of acute food insecurity in the world	
Released by	Food Security Information Network (FSIN) and Global Network against Food Crises (GNAFC)
Key Highlights	The number of people experiencing acute food insecurity increased for the fourth consecutive year in 2022
	Key drivers: Economic shocks (including due to COVID-19 and Ukraine War), Conflict/insecurity, Weather/Climate extremes, etc.
What is Acute Food Insecurity?	It refers to a situation where a person's or household's access to adequate food and nutrition is severely limited, resulting in a high risk of starvation or death.
What is FSIN?	A global initiative co-sponsored by Food and Agriculture Organization (FAO), World Food Programme (WFP), and International Food Policy Research Institute (IFPRI) to strengthen food and nutrition security information systems for producing reliable and accurate data to guide analysis and decision-making.
What is GNAFC?	An alliance of humanitarian and development actors founded by the European Union, FAO, and WFP in 2016 to prevent, prepare for and respond to food crises and support the Sustainable Development Goal to End Hunger (SDG 2)

3. Minutes (News in Short)

Leatherback Turtles

Context:

- The government has granted approvals for an international container port on the Great Nicobar Island, which poses a threat to the survival of leatherback turtles, the largest turtles on Earth.
- Threats faced by turtles: Turtles

- face threats such as loss of nesting sites, fishing activities, boat collisions, egg collection, plastic waste ingestion, and habitat destruction.
- The approvals granted for the project have been criticized for their violation of internationally accepted principles of biodiversity offsetting. There is no provision to compensate for the damage to turtle nesting.

About the turtle

- The Giant Leatherback turtle (IUCN: Vulnerable) is the largest of the seven sea turtle species.
- It has a leather-like shell and is found in all oceans except the Arctic and the Antarctic.
- In the Indian Ocean, it nests only in Indonesia, Sri Lanka, and the Andaman and Nicobar Islands.

- It is the only living species in its genus and family.
- The Leatherback is unique among reptiles as it can generate heat to maintain high body temperatures.
- It is protected under India's Wildlife Protection Act.
- Female Leatherbacks nest in significant numbers in the Andaman and Nicobar Islands and then swim towards Australia's western coast and the eastern coast of Africa.

"Operation Golden Orb"

- King Charles III was crowned as the fortieth Sovereign on May 6, alongside Queen Consort Camilla, at Westminster Abbey in London, England.
- It is also known as "Operation Golden Orb".
- The coronation is the first since 1953 and the first of a king since 1937.
- In 1953, before 70 years, her mother Elizabeth II's coronation was done.
- In 1937, King George VI's coronation was done.
- For the first time, the Prime Minister of the U.K. is a south Asian man, Rishi Sunak, who is a Hindu, read a verse from the Bible.
- The Scottish First Minister Humza Yousaf, a south Asian and Muslim Briton, wore a kilt to event.
- There was a Black gospel choir and female bishops, and a Welsh song opened the ceremonies

Telangana State Secretariat

- Officially named Dr BR Ambedkar Telangana State Secretariat complex was inaugurated recently.
 - The building has unique architecture that appears to be in the Indo-Saracenic style, blending Indo-Islamic architectural features generally with domes.

Multi-Modal Logistic Park

- India's first international Multi-Modal Logistic Park is to be developed under the Bharatmala Project at Jogighopa in Assam.

Dawki Land Port

- The Union Minister of State for Home Affairs inaugurated the Dawki Land Port in Meghalaya's West Jaintia Hills district.
- It aims to promote trade and commerce between India and Bangladesh.
- The corresponding Land Port in Bangladesh is Tamabil, located in the Sylhet district.
- They will serve as a vital trade and transportation hub between India and Bangladesh and will facilitate the movement of goods, people, and vehicles across the border.

Project Sanjay

- A new Battlefield Surveillance System (BSS) under Project Sanjay is in the process of being deployed.
- It will integrate thousands of sensors which will enable

provision of an integrated surveillance picture to commanders and staff at all levels.

- The system also integrates data on the movements of India's adversaries received from various sources across borders, including sensors, satellites, UAVs or unmanned aerial vehicles, and patrols.

Gatka martial art in National Games

- The traditional martial art of Punjab, Gatka has officially included this sport in the 37th National Games 2023.
- Gatka, as a modern sporting discipline, is a standardised style of stick fighting between two or more opponents.
- The Indian Olympic Association (IOA) will be organizing competitions for a total of 43 disciplines during this national event in Goa.

Pasang Dawa Sherpa

- Nepali sherpa, Pasang Dawa Sherpa, just created a record for climbing Mount Everest for the 26th time, and has become the world's second person to achieve the feat.

Asia's first subsea research lab

- MIT-World Peace University (WPU) of Pune has built the first-ever subsea research lab in Asia.
- It aims to foster multi-disciplinary talent for the global oil and gas industry.
- This lab showcases a working

prototype of deep-water offshore petroleum operations, revolutionising the way in which future workforce can be trained for the energy sector.

Kapileshwar Temple under ASI

- The Kapileshwar temple in Odisha's Bhubaneswar is to be added to the protected monuments list of the Archaeological Survey of India (ASI).
- The decision was taken for the better upkeep and preservation of the structure.
- The 5th-century-old Kapileshwar temple was renovated by Gajapati Kapilendra Dev in the 14th Century.
- The Kapileshwar Temple is a fine example of the Kalinga style of architecture.

'Operation Karuna'

- India launched 'Operation Karuna' to assist Myanmar which has been devastated by Cyclone Mocha.

Value of defence production

- India's value of defence production in the country crossed ₹1 lakh crore (1,06,800 crore) for the first time.

Excavation at Porpanai Kottai

- The State Archaeology Department began excavation at Porpanaikottai.
- It is seeking to unearth an ancient fort in the village.

- This site is situated about 6.5 km to the east of Pudukkottai town.
- This is one of the new sites where the department has launched excavations this year.
- The earliest lithic evidence in the form of a memorial stone datable to 3rd - 4th century CE, on the palaeographical ground, found at this site.
- It looks contemporary to the Pulankurchi inscription.
- The memorial stone was raised for a hero Kanankumaran.
- He was a soldier of the close circuit, who died in a cattle raid carried on this village by Ponkongar Vinnakon.
- The ruined fort was probably built in the 13-14th century CE.

Himachal Pradesh's Kangra tea

- Himachal Pradesh's Kangra tea, has been registered with the European Union (EU) as a protected Geographical Indication.

Meri LiFE

- The central government launched "Meri LiFE" (My Life) mobile application to empower young people and encourage their participation in tackling climate change.

National Academy of Coastal Policing (NACP)

- Union Home Minister laid the foundation stone for the permanent campus of the National Academy of Coastal Policing (NACP) at Okha in Gujarat.

Sapre Committee Report

- It was constituted by Supreme court on 2nd March 2023.
- It aims to investigate any violations of securities law by the Adani Group in the wake of the Hindenburg report.
- The Chairman of committee is the former Supreme Court judge Justice Abhay Manohar Sapre (Retd).
- The report states that the Adani group has disclosed all beneficial owners.
- There is no allegation that SEBI is rejecting the declaration of beneficial owners of Adani.
- Adani's retail stake has increased after the Hindenburg report.
- The report clearly states that prima facie no violation of existing rules or laws has been found.

Jugalbandi Chat bot

- Microsoft launched Jugalbandi, a multilingual AI-chat bot for rural India.
- The chatbot has been developed by AI4Bharat in collaboration with IIT Madras.
- It is aimed at providing personalised assistance by understanding user queries in multiple languages, whether spoken or typed.
- The chatbot was launched in April.
- It has been tested in Biwan, a village near India's capital city of New Delhi.

Night landing of Mig 29

- For the first time, the MiG-29K fighter aircraft undertook night landing on indigenously-built aircraft carrier INS Vikrant.
- INS Vikrant has a sophisticated air defence network and anti-ship missile systems.
- It has the capacity to hold 30 fighter jets and helicopters.
- MiG-29K is a Russian all-weather carrier-based multirole fighter aircraft.

Justice Sanjay Vijaykumar Gangapurwala

- Justice Sanjay Vijaykumar Gangapurwala was sworn-in as the Chief Justice of the Madras High Court by the Governor of Tamilnadu.

Sustainable Aviation Fuel (SAF) blend

Context:

- India successfully flew its first commercial passenger flight using an indigenously produced Sustainable Aviation Fuel (SAF) blend.

What is Sustainable Aviation Fuel?

- Sustainable Aviation Fuel (SAF) is a type of aviation fuel that is produced from renewable sources, unlike traditional fossil-based jet fuels. It is considered sustainable because it has a significantly lower carbon footprint and reduces greenhouse gas emissions compared to conventional jet fuel.

Source of SAF:

- It can be derived from various feedstocks, such as plant oils, agricultural waste, forestry residues, and municipal solid waste.

Advantages:

- SAF can reduce greenhouse gas emissions by up to 80% compared to conventional jet fuel.
- Also, it is designed to be a drop-in replacement for conventional jet fuel, meaning it can be used in existing aircraft engines without requiring modifications.

Significance for India:

- It is a significant milestone in India's efforts towards achieving net-zero emissions by 2070. India has set a target of becoming energy self-reliant by 2047.

World Biodiversity Day 2023

Context:

- International Day for Biological Diversity, celebrated on May 22 each year, is a reminder of the promise made during Kunming Montreal Global Biodiversity Framework (GBF) (December 2022)

About the News:

- **About International Day for Biological Diversity** : The United Nations General Assembly (UNGA) in 1993 proclaimed 22nd May as IDB to increase understanding and awareness of biodiversity issues.
- **2011-2020**: United Nations (UN) Decade on Biodiversity

- **2021-2030**: UN Decade of Ocean Science for Sustainable Development and the UN Decade on Ecosystem Restoration

Theme for 2023:

- "From Agreement to Action: Build Back Biodiversity"

About Kunming-Montreal Global Biodiversity Framework (GBF):

- It is a non-binding international agreement that calls for urgent and integrated action to address biodiversity considerations in all sectors of the global economy.

Main Targets:

- The framework consists of four goals and 23 targets for 2030. The four goals are: 1. Conserve and restore biodiversity. 2. Ensure sustainable use of biodiversity. 3. Share benefits fairly and equitably. 4. Enable transformative change.

30 by 30 Target:

- One of the important targets is to make 30% of the Earth's land and oceans protected status by 2030.

Issues in meeting the targets:

- Lack of Political will (similar targets set under the previous Aichi Biodiversity Targets in 2011 were not met by 2020);
- Funding Gap (Developed countries were supposed to provide \$20 billion in international finance to developing nations by 2025 and \$30 billion by 2030)- not yet functional
- Non-alignment of National

Biodiversity Strategy and Action Plans (NBSAPs) with the GBF (only Spain has submitted the realigned NBSAP; even India has not done so)


- Experts argue that the 'targets of protection of 30% of land and water', may infringe upon the rights of indigenous peoples.

Muziris

Context:

- The archaeological site of Pattanam, on the southwestern coast in Kerala's Ernakulam district, is believed to be part of the ancient port city of the Muziris.

Muchiri/Muziris

About	Ancient harbour and an urban centre
Location	Malabar Coast. The exact location of Muziris is disputed. Excavations suggest somewhere near Pattanam, Kerala. 
Evidence	Periplus of the Erythraean Sea, Sangam literature, Pliny the Elder [in his Natural History, hailed Muziris as "the first emporium of India"]
Importance	Key to the interactions (trade and commerce) between South India and Persia, the Middle East, North Africa, and the (Greek and Roman) Mediterranean region
Commodities exported	Spices, semi-precious stones, pearls, diamonds, sapphires, ivory, Chinese silk, etc
Commodities imported	Gold coins, multicoloured textiles, sulphide of antimony, copper, tin, lead, coral, raw glass, wine, etc.
Decline	Roman trade declined from the 5th century AD, the port attracted the Persian, Chinese and Arab traders until the devastating floods of Periyar in 1341.
Recent findings	DNA analysis suggests that the site was first occupied by the indigenous and 'Megalithic' (Iron Age) people. A continuous inflow of traders exemplified multicultural mixing in ancient South India.

- Ancient Muziris played a key role in trade and cultural exchanges between India and the Middle East, North Africa and the Mediterranean regions

- They are followed by the Roman contact in the early historic period.
- It appears that the site was continuously occupied at least from the 2nd century BC to the 10th century AD.
- The mitochondrial DNA of 12 ancient skeletal samples shows the presence of both South Asian and West Eurasian-specific lineages.
- The Pattanam excavations have unearthed over 45 lakh sherds (ceramic fragments).
- This includes approximately 1.4 lakh belonging to the littoral regions of the Mediterranean, the River Nile, the Red Sea, the western and eastern Indian Oceans, and the South China Sea.
- Recent findings include the seal of a sphinx, native to the ancient Greek city of Thebes.
- There is no evidence that institutionalised religion existed in ancient Pattanam

NIA's Operation Dhvast

Context:

- NIA's Operation Dhvast was a nationwide operation targeting terrorists, gangsters, and drug smugglers. It involved raids at 129 locations across multiple states, resulting in three arrests.

Aim:

- The operation aimed to dismantle the terror nexus involved in targeted killings, terror funding, extortion, and smuggling of drugs and weapons.

About NIA:

- The National Investigation Agency (founded 31st Dec 2008; HQ: New Delhi; Under Home Ministry) is the primary anti-terror investigation task force of India.
- The agency is empowered to deal with the investigation of terror-related crimes across states without special permission from the states under a written proclamation from the Ministry of Home Affairs.
- It has the authority to take over cases from state police forces and other agencies.
- It seeks the sanction of the Central government for prosecuting accused individuals under the Unlawful Activities (Prevention) Act (UAPA) and other scheduled offences.

People's Biodiversity Register

Context:

- The National Campaign for Updation and Verification of People's Biodiversity Register (PBR) was launched in Goa, by the Ministry of Environment, Forest and Climate Change.

Aim:

- It is aimed to document and preserve India's rich biological diversity.

About PBR:

- The People's Biodiversity Register serves as a comprehensive record of locally available Bio-resources including the

landscape and demography of a particular area or village.

- It is prepared by Biodiversity Management Committees (under Biodiversity Act 2002) in consultation with local communities.

About Biodiversity Management Committees

- BMCs are local bodies created under the Biological Diversity Act 2002, with the mandate to ensure the conservation, sustainable utilization and equitable sharing of benefits from biodiversity.
- The act has made it mandatory for every local self-governing institution in rural and urban areas to constitute Biodiversity Management Committees within their area of jurisdiction. BMC must prepare a PBR in consultation with local people.
- Kolkata was the first major metropolitan city in India to make a detailed People's Biodiversity Register (PBR). Previously, the Forest Survey of India's report had flagged the West Bengal Capital for the least greenery among all metro cities.

Northern Lights In India

Context:

- The Indian Institute of Astrophysics in Bengaluru recently captured a rare occurrence of aurora in Ladakh, India, on camera. This is the first time that such an occurrence has been witnessed in Ladakh

About Aurora:

Feature	Description
	Auroras, also known as polar lights, are a natural phenomenon that occurs in the high-latitude regions of the Earth's atmosphere, particularly in the Arctic and Antarctic regions.
Cause	Auroras occur when charged particles from the Sun collide with gases in the Earth's atmosphere, producing a display of light in various colours, shapes, and patterns in the high-latitude regions of the Earth.
Location	High-latitude regions (Arctic and Antarctic)
Colour	Milky greenish (can also show red, blue, violet, pink, and white)
North Pole	Aurora Borealis/Northern Lights are visible from the US (Alaska), Canada, Iceland, Greenland, Norway, Sweden & Finland.
South Pole	Aurora Australis/Southern Lights visible from Antarctica, Chile, Argentina, New Zealand & Australia.
Other planets	Auroras can occur on other planets if they have an atmosphere and magnetic field. Recently, discrete auroras were observed on Mars by the HOPE spacecraft.

ASEAN-India Maritime Exercise (AIME) 2023

Context:

- India is set to participate in the inaugural ASEAN-India Maritime Exercise (AIME), which will take place in the South China Sea from May 2-8.

Aim:

- The exercise aims to strengthen India's military cooperation with the Association of South-east Asian Nations (ASEAN).

Location:

- Singapore and the South China Sea

Vessel:

- INS Delhi, India's first indigenously-built guided missile destroyer and INS Satpura, an indigenously-built guided missile stealth frigate will take part in the exercise.

e-sevanam

- Kerala has become India's first fully e-governed state with over 900 services available via a single window system, e-sevanam portal.

Krishi Mapper

Context:

- At the National Conference on Agriculture for Kharif Campaign 2023-24, the Union Agriculture Minister of India launched Krishi Mapper.

What is Krishi Mapper?

- It is an integrated mobile application developed by the Indian government for the agriculture sector. It provides geospatial data and other relevant information to farmers, policymakers, researchers, and other stakeholders in the agriculture sector.

Features:

- The app allows users to access information on soil health, weather, crop health, crop suitability, land use, and other relevant data for informed decision-making.

Aim:

- It is aimed at enhancing the productivity and profitability of Indian agriculture, promoting sustainable agricultural practices, and ensuring food security for the nation.

Mridangam

Context:

- Karaikudi R Rani, also known as Karaikudi Mani, a legendary mridangam vidwan, who dominated the Carnatic music scene for half a century passed away recently.

About the Mridangam:

Aspect	Information
Origin	It originated 2,000 years ago in various parts of South India
Usage	It is a popular bifacial drum used as an accompaniment in South Indian Classical music, particularly Carnatic music
Playing Method	It is held across the lap and played on both ends with the hands and fingers
Similar Instrument	Mrdanga, Pakhawaj, and Tannumai. The Pakhawaj is a similar instrument played in the Hindustani tradition of northern India, Pakistan, and Bangladesh
Making Process	The body is scooped out of a single block of wood, preferably Jack Wood or Redwood. It is shaped like a barrel with the right head slightly smaller than the left.



Comparison of Carnatic music and Hindustani music on the basis of instruments used:

Aspect	Carnatic Music	Hindustani Music
Melodic Instruments	Veena, Violin, Flute, Nadaswaram, Gottuvadyam, Mandolin, etc.	Sitar, Sarod, Santoor, Bansuri, Shehnai, Harmonium, etc.
Percussion	Mridangam, Ghatam, Kanjira, Thavil, Morsing, etc.	Tabla, Pakhawaj, Dholak, Khol, Naal, etc.
Drone Instrument	Tambura	Tanpura, Swarmandal
Vocalization Style	Syllabic, has a fixed tonic and scale, complex rhythmic structures	Free-flowing, improvisational, and emphasis on ragas
Music Structure	Kriti is the basic structure of Carnatic music	Raga is the basic structure of Hindustani music

Sachin Tendulkar Stand

- In honour of Sachin Tendulkar's 50th birthday, the West Stand at the Sharjah cricket stadium, UAE has been named as the 'Sachin Tendulkar Stand.'

First Neo Metro

- The country's first Neo Metro will start on two corridors in Dehradun.
- Also, Haridwar will see the country's first Pod taxi.
- Neo Metro is the rubber tyre-based mass transit system that draws power from an overhead electric conductor.
- It runs on a dedicated elevated track.

- Provide on Demand (Pod) taxis are driverless electric vehicles that move on a specially designed track.

PROJECT DETAILS

Project	Commencing year	Fare per person (in Rs)	Estimated (in Rs crore)
Dehradun Neo Metro	2026-27	Yet to be decided	1,663
Pod Taxi Haridwar	2026-27	20 to 90	1,330
Chandi Devi ropeway	2025	155 (for one side)	161
Neelkanth	2027	330 (for one side)	466

Arjun Vajpai

- Indian professional mountaineer Arjun Vajpai, has become the first Indian man to summit Mt. Annapurna 1.
 - It is the 10th highest mountain in the world at 8,091 metres (26,545 ft) above sea level in Nepal.

Kaladan Multimodal Transit Transport Project (KMTTP)

Context:

- India has officially begun the operation of the Sittwe Port in Myanmar by flagging off a vessel containing 1,000 metric tonnes of cement from the Syama Prasad Mookerjee Port in Kolkata

About Kaladan Multimodal Transit Transport Project (KMTTP):

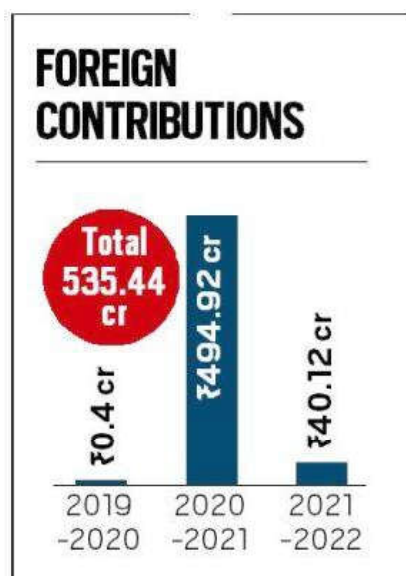
Kaladan Multimodal Transit Transport Project (KMTTP) connects the eastern Indian seaport of Kolkata with the Sittwe seaport in Rakhine State, Myanmar by sea. In Myanmar, it will then link the Sittwe seaport to Paletwa in Chin State via the Kaladan river boat route, and then from Paletwa by road to Mizoram state in Northeast India.

Route	Kolkata (India) – Sittwe (Myanmar) – Paletwa (Myanmar) – India-Myanmar border
Significance	Reduce distance from Kolkata to Sittwe by approximately 1328 km; reduce the need to transport goods through the narrow Siliguri corridor; create an alternative route to connect northeast and mainland India
Status	Under construction; Sittwe port expected to be operational by early next year

PM CARES Fund

Context:

- The PM's Citizen Assistance and Relief in Emergency Situations Fund (PM CARES Fund) received Rs 535.44 crore as foreign donations during the last three years.



About PM CARES Fund:


Launched	It was created on 27 March 2020, following the COVID-19 pandemic, for the purpose of redressing the pandemic in India.
Nature	It is a private fund used at the discretion of the PM and the Fund's trustees, and does not form a part of the Government of India's accounts.
Chairman	The PM of India is the ex-officio chairman of the fund
Trustees	Ex-officio trustees include the Minister of Defence; the Minister of Home Affairs and the Minister of Finance. The PM has nominated three trustees – Justice K T Thomas (retd), Kariya Munda and Ratan N Tata – to the Board.
Benefits	Donations to PM CARES Fund would qualify - For 100% exemption under the Income Tax Act, 1961. To be counted as Corporate Social Responsibility (CSR) expenditure under the Companies Act, 2013. It has also got exemption under the FCRA and a separate account for receiving foreign donations has been opened.

Tungnath temple

Context:

- As per the Archaeological Department of Uttarakhand, Kedar Tungnath Temple will be declared a national monument

About the Temple

Aspect	Details	
Location	Rudraprayag district of Uttarakhand	
Significance	It is the third of the five Panchkedars of Uttarakhand and a significant pilgrimage site for Hindus	
Special Feature	It is the only ancient 'Shivalaya' of its kind located at the highest point above sea level in Asia	
About Panchkedars	Panchkedars ("five+ Kedar (Shiva)") are a group of five sacred Hindu temples dedicated to Lord Shiva, located in the Indian state of Uttarakhand. Kedarnath, Tungnath, Rudranath, Madhyamaheshwar, and Kalpeshwar. It is believed that the Panchkedars were built by the Pandavas during the Mahabharata era.	

Ranthambore Tiger Reserve (RTR)


Context:

- The National Tiger Conservation Authority (NTCA) has approved the relocation of three tigresses from Ranthambore Tiger Reserve (RTR) to Mukundra Hills Tiger Reserve (MHTR) in Kota and Ramgarh Vishdhari Tiger Reserve in Bundi.

Reason for relocation:

- To maintain the one plus two (one male, two female) rule and to address the increasing population of big cats at RTR. The death of five tigers, including three cubs, and the mysterious disappearance of one male tiger led the state to seek permission from NTCA to relocate the tigresses.

About the two reserves:

Feature	Ranthambore Tiger Reserve	Mukundra Tiger Reserve
Location	Eastern part of Rajasthan state (Sawai Madhopur districts) at the junction of the Aravali and Vindhya hill ranges 	Near Kota, Rajasthan. The reserve was the royal hunting ground of the Maharaja of Kota
Parks and Sanctuaries Included	Ranthambore National Park as well as Sawai Man-singh and Keladevi Sanctuaries	Darrah, Jawahar Sagar, and Chambhal Wildlife Sanctuaries

Vegetation	Tropical dry deciduous with 'dhak' (Butea mon-soperma) being the commonest	Very thick and dense forest. Cham-bal river forms the boundary of the Mukundra TR valley
Wildlife	Tigers, leopards, striped hyenas, common or hanu-man langurs, rhesus macaques, jackals, jungle cats, caracals, blackbuck, etc.	Similar

About NTCA:

- National Tiger Conservation Authority (NTCA) (formed 2005, following the recommendations of the Tiger Task Force) is a statutory body under the Ministry of Environment, Forests and Climate Change.
- It was constituted under Wildlife (Protection) Act, 1972, for strengthening tiger conservation.
- It is responsible for management of Project Tiger and India's many Tiger Reserves in India.

Bhopal and local SDGs

- Bhopal has become the first city in India to adopt the localisation of the United Nations-mandated sustainable development goals (SDG).
- The city will now have voluntary local reviews (VLR) to demonstrate the local

government's capacity and commitment towards achieving the 2030 Agenda for Sustainable Development.

Agra Smart City

- The Agra Smart City had adopted an AI-enabled system capable of detecting various issues such as stray cattle, clogged manholes, traffic rule violations, and even instances of sexual harassment.
- The Integrated Command and Control Centre (ICCC) monitors the city 24×7 and provides live updates on various aspects, including waste collection, parking violations, adaptive street lighting, environment pollution and overflowing manholes.
- Agra is one of the 22 cities that have successfully completed all projects under the Smart City Mission.

Heli-tourism

- Kerala Tourism is planning to introduce heli-tourism to attract premium tourists.
- They have drafted guidelines for heli-taxi services connecting Kochi with popular tourist destinations like Thekkady, Munnar, and Kumarakom.
- The department aims to set up the necessary infrastructure through public-private partnership (PPP) to facilitate this initiative.

Bura Chapori Wildlife Sanctuary

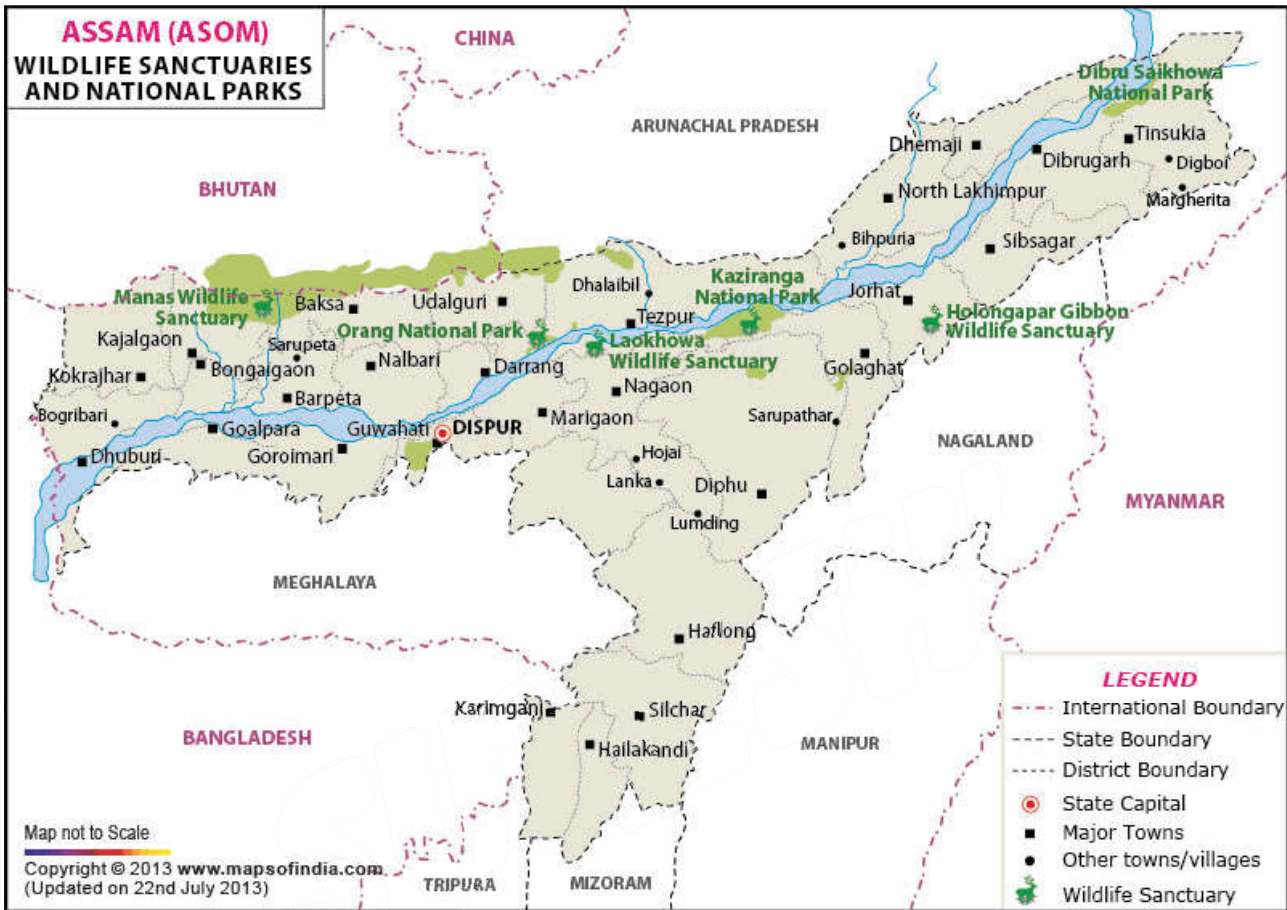
Context:

- Assam government is currently taking measures to open the traditional path for wild animals from Kaziranga to Orang National Park via the Bura Chapori Wildlife Sanctuary.

About the Bura Chapori Wildlife Sanctuary:

Dimension	Details
	Bura Chapori Wildlife Sanctuary is a protected area in Assam, on the south bank of the Brahmaputra River in Sonitpur district.
Ecological Significance	It forms an integral part of the Laokhowa-Burachapori ecosystem and is a notified buffer of the Kaziranga Tiger Reserve.
Wildlife	Considered an ideal habitat for the Bengal Florican

Official Recognition	Declared a wildlife sanctuary in 1995
Threats	The sanctuary is facing illegal land encroachment. Approximately 16,000 bighas of land recovered from illegal encroachers



Maria Mies

- Maria Mies, a Marxist Feminist scholar, recently passed away. She was known for her extensive work on how patriarchy, capitalism, and colonialism exploit women and nature.

Her works:

- Ecofeminism: She co-wrote the book "Ecofeminism" with Vandana Shiva, a scientist and activist. Ecofeminism recognizes the interconnectedness of humans with nature and women.
- Mies's work emphasized women's contributions to the economy.
- "Indian Women and Patriarchy": In this book, she highlighted how capitalism and Patriarchy undermine women's control over various sectors such as farming.
- Impact of climate change on women: Climate change disproportionately impacts women, denying their knowledge and vulnerability to climate disasters.

Community-based initiative for Hornbills

- A community-based conservation initiative, involving the Kadar tribal community, has restored the dwindling hornbill population.
- The Hornbill nest tree monitoring programme was started in 2005.
- It has objected to address the declining hornbill population and restore their vanishing nesting habitat.
- It has involved the Kadars, an indigenous community, in the Vazhachal forest division.

- The programme had technical support of the Western Ghats Hornbill Foundation for the conservation processes.
- Kadar, small tribe of southern India, are residing along the hilly border between Cochin in Kerala and Coimbatore in Tamil Nadu.
- Kadar live in the forests and do not practice agriculture.

Ganga Prahari

- Ganga Prahari refers to the volunteers (about 4000 in number) who are part of the task force called "Guardians of the Ganga." They are individuals who have joined the National Mission for Clean Ganga and Namami Gange initiative to protect and preserve the Ganga River in India.

Training:

- The Wildlife Institute of India provides training in conserving biodiversity as well as livelihood training opportunities to the volunteers.

Responsibilities:

- Monitoring the river, preventing littering, and reporting instances of poaching.
- The United Nations in December 2022 recognised the Namami Gange initiative as one of the top 10 World Restoration Flagships involved in reviving the natural world.

e-Malkhana

Context:

- Visakhapatnam City police is set

to introduce e-Malkhana in all police stations by June this year.

What is e-Malkhana?

- e-Malkhana is a scientific storage system implemented by the Visakhapatnam Police Commissionerate to preserve and organize items and evidence recovered from crime scenes.

Features:

- The system uses standardized cardboard boxes labelled with unique numbers and QR codes for easy retrieval and access to case-related information.

Benefits:

- It enhances efficiency, transparency, and the chain of custody for law enforcement officials.

Other such measures are:

- Crime and Criminal Tracking Network and Systems (CCTNS), e-Courts, e-Prisons, National Database on Sexual Offenders (NDSO), Integrated Criminal Justice System (ICJS), etc.

Sunflower oil

Context:

- The Ukraine-Russia war had a significant impact on sunflower oil consumption in India.

Status of Sunflower Oil:

- Globally:
 - Ukraine (the highest producer) and Russia account for 60% of the world's sunflower oil production
 - Other top producers of sunflower oil globally include

Ukraine, Russia, Argentina, Romania, and Bulgaria

- In India:

- Sunflower oil is the fourth most consumed edible oil in India, following mustard, soybean, and palm oil.
- Domestic production of sunflower oil has significantly declined over the past decade, unlike soybean oil, which has expanded its cultivated area.
- India imports a substantial amount of sunflower oil due to limited domestic production.
- Major producers: Karnataka (highest producer in India); Telangana and Maharashtra
- Major Consumer: Karnataka, Telangana, and Maharashtra

About Sunflower:

- Sunflower (*Helianthus annuus* L.), popularly known as "Surajmukhi" (it follows the sun by day) is an annual flowering plant, native to North and Central America but is now cultivated worldwide for its versatile uses.
- It is known for its large, bright yellow flowers.
- Sunflowers are relatively easy to grow and are adaptable to different climates and soil types.
- They require full sun exposure and well-drained soil.
- They are known for their ability to extract heavy metals from the soil, making them useful in phytoremediation efforts to clean up polluted areas.

WHO's advice on non-sugar sweeteners

Context:

- The WHO's new guidelines advise against the use of non-sugar sweeteners (NSS) as a "healthy" alternative to sugar.

Non-sugar sweeteners (NSS)	
Meaning	<ul style="list-style-type: none"> They are marketed as low or no-calorie alternatives to free sugars which aid in weight loss, and in controlling blood glucose in individuals with diabetes.
Categories	<ul style="list-style-type: none"> Aspartame (to sweeten diet colas), advantame, cyclamates, neotame, saccharin (to sweeten tea or coffee), sucralose, stevia, etc.
Rise in Popularity	<ul style="list-style-type: none"> In 2015, when WHO said that a high intake of free sugars is linked to weight gain and obesity.
WHO's new guidelines?	<ul style="list-style-type: none"> NSS should not be used as a means of achieving weight control or reducing the risk of diet-related non-communicable diseases. Long-term use of NSS could lead to increased risk of Type 2 diabetes, cardiovascular diseases, chronic kidney disease and cancer.
Concerns for India	<ul style="list-style-type: none"> One in 9 women and one in 25 men are obese (NFHS5), and an estimated 25 million people living with pre-diabetes in India (WHO).
WHO's nutritional advice	<ul style="list-style-type: none"> Having alternative foods which are minimally processed, unsweetened foods and beverages.

Types of Sugar Substitutes	Examples
Natural Sweeteners	Honey, Molasses, Dates, Coconut Sugar
Artificial Sweeteners	Aspartame, Saccharin, Sucralose
Sugar Alcohols	Xylitol, Erythritol
Novel Sweeteners	Stevia, Tagatose

International Museum Expo 2023

Context:

- The Prime Minister inaugurated the International Museum Expo 2023 in New Delhi to celebrate the 47th International Museum Day (IMD).
- Also, India will have the world's largest museum, Yuge Yugeen Bharat, that will capture 5,000 years of India's history.

More about Museums:

Topic	Description
Museum	A museum is a place that preserves, collects, exhibits and interprets various objects and artefacts of cultural, historical, artistic, or scientific significance.
About International Museum Day	Observed on 18th May every year to raise awareness about museums.
About International Council of Museum (est. 1946; HQ: Paris)	<ul style="list-style-type: none"> • Membership association and NGO that establishes professional and ethical standards for museums worldwide. • The ICOM Red Lists of Cultural Objects at Risk are practical tools to curb the illegal traffic of cultural objects.
Importance of museums	<ul style="list-style-type: none"> • It serves as a repository of knowledge, providing visitors with opportunities to learn, explore, and appreciate different aspects of human history, culture, and creativity. • Provides inspiration from the past and a sense of duty towards the future.
Efforts by the Indian Government	Annapurna statue stolen from Banaras (recently returned from Canada), Mahishasur Mardini statue stolen from Gujarat (returned by New York's Met Museum in 2018), and Chola Nataraja idols.
Administration of Museums in India	Not all museums are administered by the Ministry of Culture. Some are run independently under a Board of Trustees.
Notable Museums in India	National Museum, New Delhi; National Gallery of Modern Art, Bengaluru; Victoria Memorial Hall, Kolkata; Asiatic Society, Kolkata; National Museum of Natural History, New Delhi.

Pangenome Map

Context:

- A pangenome reference map has been built using genomes from 47 anonymous individuals from Africa, the Caribbean, the Americas, East Asia, and Europe.

About Pangenome Map

Topic	Description
What is Pangenome Map?	<ul style="list-style-type: none"> • A pangenome map is a way of looking at the collective genetic information of a group of related organisms or species. • It goes beyond just one individual's genetic makeup and considers the genetic diversity within that group.
What is genome and genome sequencing?	<ul style="list-style-type: none"> • The human genome refers to the entire set of DNA in the nucleus of every cell in the human body. • It is like an identity card (e.g., Aadhar) unique to each individual. • Genome sequencing is a method used to determine the precise order and arrangement of the four letters (A, T, G, and C) in the genome. • It helps us understand human diversity at the genetic level and our susceptibility to certain diseases.
What is a reference genome?	<ul style="list-style-type: none"> • A reference genome is a complete set of genetic information for a specific individual. • When newly sequenced genomes are compared, they are matched against a reference map called a reference genome.
How pangenome map is different from the Reference genome?	While a reference genome represents a single individual, a pangenome map captures the genetic diversity and variation across multiple individuals or populations.
Principle	<ul style="list-style-type: none"> • The concept of a pangenome acknowledges that a species' genome is not a fixed entity and is different for different individuals. • This genetic variation contributes to differences in traits, disease susceptibility, and other biological characteristics.
Why is a pangenome map important?	<ul style="list-style-type: none"> • A pangenome map provides a comprehensive understanding of a species' genetic content. • This helps explain genetic differences, and human diversity, study gene evolution, identify disease-associated genes, and understand the overall genomic architecture of a species. • This can shed light on disease prevalence, aid in discovering new genes for rare diseases, design better diagnostic methods, and facilitate the discovery of novel drugs for those diseases.
Pangenome map and India	<ul style="list-style-type: none"> • The current pangenome map does not include genome sequences from Indians. • However, it can still help map Indian genomes against existing error-free and complete reference genomes.



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 தயாராக 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 பாடங்களைத் 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.



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