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M.S.Shashank
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1.Polity & Governance

1.1. Rohini panel report on 'sub-categorisation' of OBCs

Why in News?

- The **Justice G Rohini commission** set up to examine the sub-categorisation of Other Backward Classes (OBCs) submitted its report to the President of India recently. But, the contents of the report have not been made public as yet.

Background

- **The Kalelkar Commission**,1953, was the first to identify backward classes other than the Scheduled Castes (SCs) and Scheduled Tribes (STs) at the national level.
- **The Mandal Commission Report, 1980** estimated the OBC population at 52% and classified 1,257 communities as backward. It recommended increasing the existing quotas, which were only forSC/ST, from 22.5% to 49.5% to include the OBCs.
- In 2008, the Supreme Court directed the central government to **exclude the creamy layer** (advanced sections) among the OBCs.
- The **Justice Rohini Commission** was constituted under **Article 340** of the Constitution in recognition of the perceived distortions in the affirmative action policy. It was seen that a few castes cornered the bulk of benefits available under the 27% quota for OBCs.

Need for sub-categorisation of OBCs:

- There are more than 2,600 entries in the Central List of OBCs, but over the years, a perception has taken root that only a few affluent communities among them have benefited from the quota.
- Therefore, there is an argument that a "sub-categorisation" of OBCs (quotas within the 27% quota) is needed in order to ensure "equitable distribution" of the benefits of reservation.
- A 2018 analysis by the same commission showed:
    - **97% of all jobs and education seats to total OBS quota have gone to 25% of OBC castes, and** 24.95% of these jobs and seats have gone to just 10 OBC communities.
    - As many as 983 OBC communities — **37% of the total — were found to have zero representation in jobs and educational institutions**
    - **994 OBC sub-castes had a representation of only 2.68% in recruitments and admissions**.
- A five-judge Constitution Bench of the Supreme Court in August 2020(**State of Punjab vs Davinder Singh**) also ruled that the 2005 decision of another five-judge Bench in **'E V Chinnaiah vs State of Andhra Pradesh'** must be revisited.

Terms of reference of the Rohini Commission:

- Examine the extent of inequitable distribution of benefits of reservation among the castes or communities included in the broad category of OBCs with reference to such classes included in the Central List;
- Work out the mechanism, criteria, norms and parameters in a scientific approach for sub-categorisation within such OBCs;
- Take up the exercise of identifying the respective castes or communities or sub-castes or synonyms in the Central List of OBCs and classifying them into their respective sub-categories.
- To study the various entries in the Central List of OBCs and recommend correction of any repetitions, ambiguities, inconsistencies and errors of spelling or transcription.

1.2. Forest (Conservation) Amendment Bill 2023

Why In News?

- Recently, the Forest (Conservation) Amendment Bill 2023 was cleared by Parliament.

About the Forest (Conservation) Amendment Bill, 2023

- **Restrictions on activities in the forest:** The Act **restricts the de-reservation of forest** or **use of forest land for non-forest purposes**.
    - Such restrictions **may be lifted** with the prior approval of the central government.
    - **Non-forest purposes** include the **use of land for cultivating horticultural crops**, running zoos, 'eco-tourism' facilities or for **any purpose other than reafforestation**.

- **Assigning of land through a lease or otherwise:** Under the Act, **state government or any authority** requires prior approval of the central government to direct the assigning of forest land **through a lease or otherwise to any organisation** (such as a private person, agency, authority, corporation) not owned by the government.
- **Building forest carbon stock & improving Livelihood:** The predominant idea of the proposed changes is **to build forest carbon stock** by **raising plantations**.
    - The Bill talks about keeping up with **"dynamic changes in the ecological, strategic and economic aspirations of the country"** and **"improvement of livelihoods for forest-dependent communities."**
    - The scope of the amendments boils down to **pushing plantations to achieve carbon neutrality** by limiting the scope of the Act.

- **Compensatory afforestation:** The Bill also seeks to **make land available for developers** to **meet their legal obligation** towards **compensatory afforestation** in lieu of **forest land diverted** for **development projects**.
    - If the scope of the FC Act is restricted, **fewer projects will be required to obtain forest clearance**, which is **considered a 'hurdle' by most developers** in and outside the government.
    - But it will also help developers secure forest clearance when they need it.
    - A key condition for forest clearance is that **a developer must carry out compensatory afforestation** on **equivalent non-forest land** or, if non-forest land is not available, on degraded forest land twice the extent of the forest area diverted.
- **BorderLands:** It also exempts border lands from the obligation to seek permissions to clear forests in order to construct "strategic linear projects of national importance".

Criticisms

- **Definition of a 'forest':** The Bill's principal thrust is that it **redefines what a 'forest' is in Indian law**. It stipulates that only those lands that were notified as 'forest' under the Indian Forest Act 1927, any other relevant law or were recorded as 'forests' in government records will be acknowledged as 'forests' under the Act as well.
    - **This revision stands in stark contrast** to the wide applicability of the extant Act at present – i.e. it applies to "any forest land".
    - So, **the amendment opens up all land** that hasn't been officially classified as 'forests' to commercial activity.
- **No checks and balances:** The Act also removes the checks and balances the Act currently includes, in the f**orm of forest clearance permissions** and the **informed consent of the local community**.
- **Choosing plantation over forests:** Forests are **a lot more than a sum of trees**. Unlike **man-made plantations,** natural forests perform a range of ecosystem services that are **key to the survival and well-being of the millions of species** that they support, and also provide direct livelihood and subsistence to crores of people.
- **Exemption for linear infrastructure projects:** The Bill seeks to exempt linear infrastructure projects – like roads and highways – **from seeking forest clearance permissions** if they are located within 100 km of the national border.
    - Experts have raised concerns because **"strategic linear projects of national importance" is an undefined term** and can thus be misused to push through infrastructure projects that are devastating for the local ecology.
- **Non-inclusivity of nomenclature:** There were objections to the Act's new name — **Van (Sanrakshan Evam Samvardhan) Adhiniyam, translated as Forest (Conservation and Augmentation) Act**, instead of the existing **Forest (Conservation) Act** — on the grounds that it was "non-inclusive" and left out many among the "(non-Hindi speaking) population both in South India and also in the North-East."
- **Not referred to Parliamentary Standing Committee:**
    - It has also been claimed that the Bill was not referred to the relevant Parliamentary Standing Committee, which in this case would have been the **Standing Committee on Science and Technology, Environment, Forests and Climate Change**.

Implications

- **How much area will be affected?**
    - For an idea of the scale, consider the latest State of Forests Report (SFR 2021), which

records India's forest cover as 713,789 sq km.
    - Of this, nearly 28% or 197,159 sq km — roughly the size of Gujarat — is not recorded as 'forest'.
- The **areas that stand to be affected** in a significant way include about **40% of the Aravalli range** and **95% of the Niyamgiri hill range**; the latter is home to the **Dongria Kondh**, a Particularly Vulnerable Tribal Group.
- Many experts are also uncertain, and thus apprehensive, about the **actual extent of land that will fall outside the purview of the amended Act** considering the State-wise data of deemed forests is not publicly available.
- Exemption of linear infrastructure projects is of particular concern in the **Northeastern States**, where the exemption would apply de facto almost across the region.

1.3. Minimum Age to Contest Polls

Why in News?

- A Parliamentary Standing Committee recently recommended reducing the age for contesting Lok Sabha and Assembly elections to 18 years.

Present Scenario

- At present, the minimum age for a person to contest various elections is as follows:
    - **President and Vice President of India: Article 58** of the Constitution for President Of India and **Article 66** for the Vice President Of India says no person shall be eligible for election unless he is a citizen of India and has completed the age of **35 Years**.
    - **Lok Sabha and Legislative Assembly polls: Article 84** of Constitution of India provides that the minimum age for becoming a candidate for Lok Sabha election shall be **25 years.** Similar provision exists for a candidate to the Legislative Assemblies vide **Article 173 (b).**
    - **Rajya Sabha or the State Legislative Council: Article 84** of Constitution of India provides that the minimum age for becoming a candidate for Lok Sabha election shall be **30 years.** Similar provision exists for a candidate to the Legislative Councils vide **Article 173 (b).**
    - **Member of Panchayats and Municipality: Article 243** provides that the minimum age to contest elections is **21 years.**

Arguments in Favour of Lowering the Age

- The Standing Committee on Personnel, Public Grievance, Law and Justice held that **young individuals can be "reliable and responsible" political participants.**
- Since **18 is the minimum voting age in India**, the same age limit should be applied to contesting elections.
- **Global practices:** In countries such as Canada, the United Kingdom, and Australia, the minimum age for candidacy in national elections is 18 years.
- The Standing Committee also said that the viewpoint for reducing the age was reinforced by a vast amount of evidence, such as, the **increasing political consciousness among young people, and the advantages of youth representation.**

Arguments Against of Lowering the Age

- The Election Commission of India said it was **"unrealistic" to expect 18-year-olds to possess the necessary "experience and maturity"** for being Members of Parliament and State legislative bodies.

Way Ahead:

- Considering the huge demographic dividend that India has with the largest population of youth in the world, India needs to change its electoral policies with the changing time.
- However, a thorough study needs to be conducted before reaching any conclusion on reducing the age for contesting elections in India.

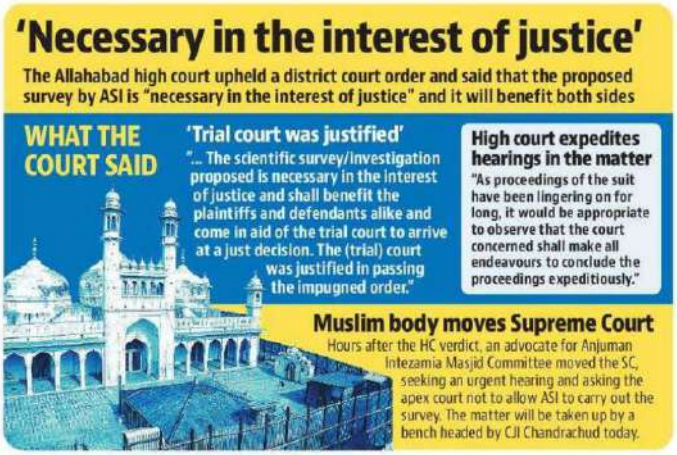
1.4. Gyanvapi Mosque Dispute

Why In News?

- The Supreme Court refused to stop the Archaeological Survey of India (ASI) from continuing with their "scientific investigation" of the Gyanvapi mosque premises at Varanasi.
- The Allahabad High Court had given its nod for the ASI to go ahead with the survey ordered by the Varanasi District Judge.

About the Gyanvapi mosque

- The Gyanvapi mosque is located near the iconic Kashi Vishwanath temple in Uttar Pradesh's Varanasi.
- Some believe that the Kashi Vishwanath temple has gone through multiple reconstructions, with an older version of the temple where the Gyanvapi Mosque stands today.
- Some historians believe that **Mughal ruler Aurangzeb** built the Gyanvapi mosque in the **17th century by demolishing the temple.**



Dispute

- The Gyanvapi mosque-Kashi Vishwanath dispute first reached the courts in 1991, when a petition sought the removal of the mosque from the site and the transfer of possession of the land to the Hindu community.
- The petitioners, which included the Kashi Vishwanath Mandir Trust, claimed that **Maharaja Vikramadity**a had built the temple more than 2,000 years ago and that the mosque was only constructed in 1664 after Mughal ruler Aurangzeb ordered the demolition of the temple.
    - The petitioners alleged that the Gyanvapi mosque was built on a portion of the land using the ruins of the temple, saying that remains of the old temple could still be seen adjacent to the mosque.
- The Vishwa Hindu Parishad, however, contends that the Places of Worship Act is not applicable to the Gyanvapi issue, as there was no change to the religious structure since 1947, and that Hindus have always been performing puja at the site.

Arguments of managing committee of the mosque

- In **1998**, the managing committee of the mosque filed an application before the court, demanding the dismissal of the Trust's petition.
- The committee also expressed to the Court that the temple and mosque had co-existed for a long time and that both the communities had been offering prayers in their respective shrines without any hindrance.
    - The Court stayed the proceedings and the legal battle remained dormant for more than 20 years before it was revived in 2019.
- The ASI survey had been ordered when there were still "serious doubts" about the maintainability of the suit filed by four Hindu women seeking a declaration of their right to worship their deities at the premises of the mosque.
- It is argued that the **1991 Act prohibited** any attempts to convert the religious character of a place of worship as it had existed on the day of Independence.
    - The survey was a breach of the Places of Worship (Special Provisions) Act of 1991, which was enacted to guard fraternity and secularism through protection of the religious character of religious places.

1.5. Jharkhands Anti Cheating Bill

Why in News?

- The Jharkhand Legislative Assembly recently passed the Jharkhand Competitive Examination (Measure for Control and Prevention of Unfair Means in Recruitment) Bill, 2023,

About the Bill

- It aims to crack down on use of unfair means and irregularities in examinations and plug incidents of question paper 'leaks'.
- The Bill says that an examinee, who is caught cheating or making another examinee cheat, could be sentenced for a period of up to three years in jail as well as be charged with a fine.
- For second-time offenders, the jail term could go up to seven years.
- **Imprisonment:** Most notably, the Bill proposes imprisonment of up to life, and a fine of up to Rs 10 crore for wrongdoers involved in the examination process — such as those involved in printing question papers and employees of examination authorities.
- **Search and Seizure:** If the Deputy Commissioner has reasons to believe that any person is involved in the unfair means, then the DC may appoint an officer to search any place, box, locker, safe etc.

- **Arrest:** Bill says, if the police officer authorised under the Act has the material in possession, and there is a reason to believe that any person is guilty of offence, then the person will be arrested.

Other states to have passed similar laws

- **Uttarakhand** brought in a similar law through an ordinance in this year, and **Rajasthan** brought in such a law last year.
- In case of Jharkhand, the jail time for the second-time offender examinees is seven years, while in Uttarakhand it is 10 years and in case of Rajasthan there seems to be no clarity.

Concerns raised

- The provisions of this Bill are considered more powerful than laws like Prevention of Sedition, POCSO, SC ST Atrocity Acts.
- A 10-year ban on candidates, registering FIRs without preliminary investigation, and arrest without investigation is considered as too harsh.

Way Ahead

- Incidents of question paper leaks badly affect the society and the consciousness of students preparing for competitive exams for recruitment.
- Hence, there is a need to make legal provisions to impose stricter penalties to prevent these incidents.

1.6. Indian Penal Code

Why in News?

- Union Home Minister,introduced a bill in the **Lok Sabha to replace the Indian Penal Code of 1860.**

About

- The Indian Penal Code was **enacted in 1860,** and came into force on January 1, 1862. This makes it the longest surviving code in the common law world.
- The Code came up during the heyday of British colonialism in India and was very much a product of prevailing attitudes and circumstances.

The need for codification

- As British colonial control expanded across the Indian subcontinent, so did the difficulties it faced in administration, particularly in the legal sphere.
- Indian law prior to codification consisted of a complex array of Parliamentary Charters and Acts, Indian legislation (after 1833), East India Company Regulations, English common law, Hindu law, Muslim law, and many bodies of customary law.
- Hence **Thomas Babington Macaulay** (1800-1859), saw codification as the means to lift India from backwardness into modernity – as promised by the British "civilizing mission".

Influence of Bentham

- Macaulay was most directly influenced by the ideas of **Jeremy Bentham,** English philosopher commonly recognised as the **father of modern utilitarianism.** One of Bentham's most central concerns was the codification of law.

- For Macaulay, in a country like India, where laws did not just vary, but were also, in many cases, unwritten, a code was perhaps even more important. It would not only bring about consistency in laws, but also do away with the judicial discretion that marked the legal system of the time.

Macaulay drafts the IPC

- **In 1833**, the British Parliament passed the first Government of India Act to organize British rule in the country. Subsequently, a **Law commission** was created under Macaulay to **"modernize laws and the colonial governance of civil society."**
- Macaulay began his task by focussing on criminal law and completed the first version of the **IPC in 1837.**The IPC completely ignored existing Indian laws and instead was founded on British common law.

The Rebellion of 1857 and the IPC

- While Macaulay did receive a lot of latitude when it came to framing the IPC, it would take years for his proposal to finally be enacted. The IPC remained in limbo for years, undergoing revisions during that time.
- However, **the Rebellion of 1857** changed everything. It led to the eventual demise of the East India Company, with the British Crown taking over direct control in 1858.This helped the enactment of the IPC.

1.7. Cauvery water sharing issue

Why in News?

- Recently, the Tamil Nadu government urged the Supreme Court to direct Karnataka to ensure the release of water as per the Cauvery Water Disputes Tribunal (CWDT)'s final award of February 2007 that was modified by the SC in 2018.

The dispute over Cauvery water

- The use and development of Cauvery waters were regulated by **agreements** of **1892 and 1924** between the erstwhile princely state of **Mysore and the Madras presidency**.
  - The **1924 agreement** had been necessary because Madr**as had objected to Mysore building the Krishnarajasagar dam** across the Cauvery, and the agreement facilitated it by **allowing Madras to build the Mettur dam.**
  - A significant feature of the agreement was that it **put restrictions** on the **extent of area** that could be **safely irrigated** by the two states by using the Cauvery waters.
- The **802-km-long Cauvery river**, which **originateas at Talacauvery** in Kodagu district in **Karnataka**, traverses mainly through **Karnataka and Tamil Nadu** while its **basin** covers areas in **Kerala** (which has three of its tributaries), and Karaikal region of **Pondicherry**, (now Puducherry) as well.
- The **basic dispute** has always been about the **sharing of waters in the Cauvery Basin.**
- As per the **1892 and 1924 agreements** the approximate river water allotments were as follows:
  - **75%** to **Tamil Nadu and Pondicherry**,
  - **23%** to **Karnataka**, and
  - the rest to **Kerala** .

Cauvery Fact Finding Committee:

- In **1976**, a **final draft** was prepared based on findings of the a **Cauvery Fact Finding Committee** (CFFC) .
- This draft was **accepted by all states** and the union government also made an announcement to that effect in Parliament.
- However, **Tamil Nadu** came under **President's rule** soon after that and the agreement was put on the backburner.
- The **successive AIADMK government rejected the draft agreement** and insisted that the 1924 agreement had only provided for an extension and not a review.
  - It demanded that a **status quo** should be restored and everyone should **go back to the agreements of 1892 and 1924**.

The Cauvery Water Dispute Tribunal

- In **1986**, a **farmer's association** from Tanjavur in Tamil Nadu **moved the Supreme Court** demanding the **constitution of a tribunal** for **adjudication for the Cauvery water dispute**.
- In **1990**, the Supreme Court, while hearing the petition, **directed the two states to complete negotiations**.
- Following the **failure of negotiations** between the two states, the Supreme Court **directed the union government to constitute a tribunal** to adjudicate the dispute and **pass an award and allocate water** among the four states.
- In accordance with the **Inter-State Water Disputes Act, 1956**, the Cauvery Water Disputes Tribunal was constituted on June 2, **1990** with **Chittatosh Mookerjee**, retired chief justice of the Bombay High Court, as **Chairman**.
  - Justice **Mookerjee resigned** in 1999 and **N.P. Singh** was appointed in his place.
- Thereafter, the **four parties to the dispute**— Tamil Nadu, Karnataka, Kerala and Pondicherry — **presented their demands** to the Tribunal as under:
  - **Karnataka**: 465 TMC
  - **Kerala**: 99.8 TMC
  - **Pondicherry** : 9.3 TMC
  - **Tamil Nadu** - the flow of the water should be in accordance with the terms of the agreements of 1892 and 1924; that is:
    - 566 TMC for Tamil Nadu and Pondicherry;
    - 177 TMC for Karnataka and
    - 5 TMC for Kerala.

Final order of the Cauvery Water Disputes Tribunal

- In 2007, the three-member Cauvery Water Disputes Tribunal delivered its **final award** on.
- While considering that the **total availability** of water the Cauvery basin spread across the 4 states is **740 TMC** in a "**normal year**" the Tribunal has allocated the water as follows:
  - **Tamil Nadu:** 419 TMC (which had demanded 512 TMC),
  - **Karnataka**: 270 TMC (which had demanded 465 TMC),
  - **Kerala**: 30 TMC, and
  - **Pondicherry**: 7 TMC

- Besides allocating 726 TMC for the four states, the award reserves **10 TMC for environmental purposes** and **4 TMC** for **inevitable outlets into the sea.**

How is the water being shared?

- A **monthly schedule** is in place for **Karnataka**, the upper riparian State of the Cauvery basin, to **release water to Tamil Nadu**.
- As per the schedule, Karnataka is to make available to Tamil Nadu at **Biligundlu** a **total quantity of 177.25 TMC** in a **normal water year** (June to May).
    - Of this quantity, **123.14 TMC** is to be given during the period from **June to September,** also marking the season of the **southwest monsoon**.
- It is during this period that the **Cauvery issue gets flared up,** when the **monsoon yields lower rainfall** than anticipated.
- After the SC gave its judgment in **2018** on the CWDT's 2007 award, the **Cauvery Water Management Authority (**CWMA) and **Cauvery Water Regulation Committee** (CWRC) were established to **ensure the implementation of the judgment**.

The current issue:

- Karnataka would have to provide **0.86 TMC a day** or 12.9 TMC totally in the 15 days.
- The Authority also decided that based on future rainfall, there would be a **re-evaluation of the quantity** to be released.
- But, what apparently irked Tamil Nadu was the **refusal of Karnataka** to abide by the quantity that was agreed upon at the meeting.

Arguments of Karnataka:

- Karnataka has contended that **lower rainfall** in the Cauvery catchment including in Kerala has led to the **poor inflow to its own reservoirs**.
- According to data of the Meteorological Department, Kodagu, received **44% less rainfall** during June 1-August 15 than what it was expected to experience.
- Karnataka had **refused to accept the demand** of Tamil Nadu for following a **distress-sharing formula**.

Way forward:

- **Tamil Nadu**, especially its farmers in the Cauvery delta, is eagerly awaiting to see whether **Karnataka will go at least by the decision** of the Authority.
- The **present storage** of the Mettur reservoir in Tamil Nadu is **precariously low** with about 20 TMC, which will **last only 10 days** after giving allowance for **dead storage and drinking water requirements**, even though water will be required **at least for one more month** for the standing short-term crop, **kuruvai**.

1.8. Permanent security units for all courts

Why in News?

- The Supreme Court has proposed "permanent security units" to guard court complexes across the country, recalling incidents of gunfire and violence on court premises.

Need for permanent security units:

- In the past year, courts in India have witnessed at least **three major incidents of gunfire**.
- Hence it is critical that judicial institutions take comprehensive steps to **safeguard the well-being of all stakeholders.**

The plan:

- The Supreme court has asked the High Courts to prepare security plans in consultation with the Principal Home Secretaries, Directors-General of Police and Police Commissioners to protect the courts.
- The security plan may include a proposal for setting up of permanent court security unit(s) in each complex.
- The security plan ought to indicate the:
    - strength and source of drawing of manpower for these security units, including armed and unarmed personnel and supervisory officers for each unit,
    - the minimum term and mode of deployment of manpower,
    - their list of duties
    - additional financial benefits,
    - special modules for training and
    - sensitising personnel in matters of court security.

1.9. Missing Right to Information (RTI) applications

Why in News?

- The public records obtained by Right to Information (RTI) applicants over years had disappeared from the **RTIOnline website** from many users' accounts. It has processed 58.3 lakh applications since 2013.
    - Portal said the public records disappeared because of maintenance activity.

About:

- The Data prior to 2022 is moved to the archive database for better performance and manageability.
- RTIOnline portal promised missing RTI applications will be restored, and Archival Data (before 2022) will be available soon and be plugged into present provided reports.
    - This is the third time in recent months that the RTIOnline portal has gone into 'maintenance' mode without offering any new features or showing improvements in performance.
- Appeal Data prior to 2022 will be available on the portal by 26th August 2023.

About RTIOnline portal:

- The **Department of Personnel and Training (DoPT) administers and disseminates training and standards** for government officials who handle RTI applications.
- According to the National Informatics Centre (NIC), it requires very little internet bandwidth to serve users, and maximum data load on RTIOnline was 8Mbps.
- **Heavy usage of the portal till 2022:** The RTIOnline portal allows citizens to pay â‚¹10 through many digital payment options to file an RTI application, a facility that is far more convenient than the other typical method of mailing an application through post with a postal cheque.

Government response:

- The Union Government removed the facility of creating an account on the RTIOnline portal, with the DoPT citing a 'heavy load' on the website.
- Existing account holders must file at least one application in a six-month period if they wish to retain their accounts.
- **Public dissatisfaction:** RTI appeals were at an all-time high at Union Government bodies, with 1.62 lakh applications being appealed, which indicates a very high degree of dissatisfaction with the performance of these public authorities of their obligations under the RTI Act.

1.10. ST status for Paharis and Paddaris

Why in News?

Recently, the government has brought a Bill to include **four communities** in the **list of Scheduled Tribes (STs) in Jammu and Kashmir**.

- The Tribes are namely, "**Gadda Brahmin", "Koli", "Paddari Tribe", and "Pahari Ethnic Group".**

The current procedure and criteria for inclusion

- According to the modalities, for inclusion first framed in 1999, the proposal for inclusion **must originate** from the **respective State or Union Territory government**.
    - Following this, the proposal is sent to the Union Tribal Affairs Ministry, which sends it to the Office of the Registrar General of India (ORGI).
- If the ORGI approves the inclusion, the proposal is forwarded to the National Commission for Scheduled Tribes.
    - the **ORGI continues** to follow the criteria set out by the **Lokur Committee** in **1965** to decide whether a community can be included in the ST list.
        - These criteria include indications of primitive traits, distinctive culture, geographical isolation, shyness of contact with the community at large, and backwardness.
- Only after the concurrence of these institutions, will the proposal go forward to the Cabinet to bring in the appropriate amendment to the Constitution (Scheduled Tribes) Order, 1950.
- The final decision rests with the President's office issuing a notification specifying the changes under powers vested in it from Articles 341 and 342.

Benefits of Inclusion in ST List / Constitutional Safeguards

- Reservation in educational institutions has been provided in **Article 15(4) of the constitution** while

reservation in posts and services has been provided in **Article 16(4), 16(4A) and 16(4B)** of the Constitution.
- Specific safeguards have been provided in **Article 244** read with the provisions contained in the **Fifth and Sixth Schedules** to the Constitution.
- **Article 243D** provides reservation of Seats for **Scheduled Tribes in Panchayats**.
- **Article 330** provides reservation of seats for Scheduled Tribes in the Lok Sabha.

About:

- **Paharis:** The Paharis are Hindus, Muslims, and Sikhs, and include people of Kashmiri origin who settled in the districts of Rajouri and Poonch over a period of time.
- **Paddaris:** They live in the **remote Paddar area** of the hilly Kishtwar district.
- Spread over two tehsils, the Paddari homeland borders Zanskar (Ladakh) in the north and the east, Pangi in Himachal Pradesh in the south, and the rest of J&K in the west.

2. Economy

2.1. Revised manufacturing rules for drug firms

Why in News?

- Recently the center government directed all pharmaceutical companies in the country to implement the revised **Good Manufacturing Practices (GMP)**.

Background

- There have been a string of incidents where other countries have reported **alleged contamination in India-manufactured syrups, eye-drops, and eye ointments**. The deaths of children in the Gambia and Uzbekistan, three persons in the United States, and six deaths in Cameroon have been linked to these products.
- **A risk-based inspection of 162 manufacturing units by the government found several deficiencies** — incoming raw materials not being tested before use, product quality not being reviewed , absence of quality failure investigation, infrastructure deficiency to prevent cross-contamination, faulty design of manufacturing and testing areas, missing qualified professionals, and poor documentation.

What are the major changes?

- **Quality control:**The revised GMP guidelines focus on quality control measures, proper documentation, and IT backing to maintain quality of medicines produced.It introduces pharmaceutical quality systems, quality risk management, product quality review, and validation of equipment.
- **Stability studies:** The companies will also have to carry out stability studies as per the climate conditions. "Most companies at present keep their samples stored under recommended conditions and test for various parameters from time to time. Now, they will be needed to mandatorily maintain the drugs in a stability chamber, set the proper temperature and humidity, and carry out an accelerated stability test as well."
- **GMP-related computerized systems:**The guidelines also state that companies should have GMP-related computerized systems, which ensure that there is no tampering of data related to the processes. Such GMP systems will prevent unauthorized access and changes to the data. There will also be controls against omission of data. In case sensitive data is entered manually to the system, there will be additional checks to validate the accuracy of the data. Backups would also be created to ensure there is no loss of data.
- **Schedule M:**The new schedule M also lists out the requirements for additional types of products, including biological products, agents with radioactive ingredients, or plant-derived products. also lists the requirement for investigational products being manufactured for clinical trials.
- Larger companies with a **turnover of over Rs 250 crore** have been asked to implement the changes within six months, while medium and small-scale enterprises with **turnover of less than Rs 250 crore** have been asked to do so within a year.

Significance of the improved standards

- Implementation of the new norms will bring the Indian industry on par with global standards.
- It will improve the quality of drugs in the domestic markets. Most of the 8,500 manufacturing units that are not WHO-GMP certified supply medicine within India.
- The improved standards will ensure that pharmaceutical companies follow standard processes, quality control measures, and do not cut corners, improving the quality of medicines available in India as well as sold in the global market.

Concluding Remarks

- This is a welcome step by the government as it will ensure that all the manufacturing units in the country are at par with global standards, reducing the need for repeated inspections by different regulators. It will make India a quality pharmaceutical hub of the world. In addition, it will ensure that our citizens also receive export-quality medicines.
- To help such companies, the department of pharmaceuticals also has a scheme to provide credit-linked capital and interest subsidy for upgradation of MSME units.

2.2. Select metrics of India @76

Why In News?

- The analysis measures **India's relative performance** in the **past 76 years** compared to other countries across **four parameters** — GDP per capita, Human Development Index (HDI), Infant Mortality Rate (IMR) and women's participation in Parliament.

Analysis

- **India is compared with these countries:** BRICS (Brazil, Russia, China, South Africa), G-7 countries (Canada, France, Germany, Italy, the United Kingdom, and the United States), emerging economies (Argentina, Chile, Colombia, Egypt, Hungary, Indonesia, Iran, Malaysia, Mexico, the Philippines, Poland, Saudi Arabia, Thailand, Turkey, and the United Arab Emirates) and the Indian subcontinent (Bangladesh, Bhutan, Nepal, Pakistan and Sri Lanka).
- **GDP per capita (in $):** India's GDP per capita ranking of **24 out of 26 nations** analysed remained unchanged between the 1960s and 2022.
    - While Indonesia and Nepal were lagging behind India in the 1960s, Pakistan and Nepal were lagging behind in 2022.
- **Infant Mortality Rate:** Between 1960 and 1975, India had the **seventh-worst IMR among 32 nations.**
    - In 2021, India regressed four spots and became the third-worst. Of the six countries which were behind India in 1960-75, five (Turkey, Bangladesh, Bhutan, Egypt and Nepal) surpassed India by 2021. However, South Africa regressed.
- **Human Development Index:** Between 1950 and 2021, India's HDI increased by 0.11 points in 1950 to 0.633 in 2021. However, India's ranking slipped from 26 in 1950 to 29 by 2021.
    - Of the five countries which lagged behind India in 1950, Saudi Arabia, Indonesia and Bangladesh—moved ahead by 2021.
- **Share of women in Parliament:** Women's participation in India increased from 7% in 1997-98 to 14.9% in 2022. Over 10 countries were behind India in this indicator in 1997-98. In 2022, only five remain below India.
- **Access to Electricity:** Between 1993 and 2000, **only 50% of India's population** had access to electricity. By 2020, this **increased to 99% of its population.**
    - A majority of the 32 countries considered providing electricity to over 99% of their population by 2020, except for Pakistan, South Africa and Nepal where the share remains below 90%.
- **Access to Internet:** In 1990, almost no country considered, except for the U.S., had any access to the Internet.
    - But by 2020, India has managed to provide internet access to 43% of its population. While India lags behind 27 countries in this indicator, Bhutan (53.5%) is the only country in the subcontinent that is ranked above India.
- **Most Populous:** In 1960, with a population of 45.05 crore people, India had the second-highest population behind China (66.7 crore).
    - By the end of 2022, India's population stood at 1.417 billion, surpassing China's 1.412 billion, making India the **most populous country** in the world, according to the World Population Review.

2.3. Reserve Bank Innovation Hub (RBIH)

Why In News

- The Reserve Bank of India (RBI) has announced the development of a Public Tech Platform for **'frictionless credit'** by the **Reserve Bank Innovation Hub (RBIH).**

About Reserve Bank Innovation Hub (RBIH)

- It is a **wholly owned subsidiary of the Reserve Bank of India (RBI)** set-up to promote and facilitate an environment that accelerates innovation across the financial sector.
- RBIH will provide the platform to anchor a shared vision among all financial ecosystem stakeholders and aid them in crafting forward-looking innovation strategies while addressing the most pressing issues in the Indian financial sector.
- It will identify challenges in the Indian financial system by **building applied research and extensive stakeholder consultation.**

Frictionless Credit

- Currently, data needed for credit appraisal are available with different entities such as central and State governments, banks, credit information companies, etc.
- This has created **hindrance in the frictionless delivery of loans**.
- The Public Tech Platform would enable delivery of frictionless credit by **facilitating seamless flow of required digital information to lenders.**
- The platform would be rolled out as a **pilot project in August 2023** in a calibrated fashion and it would bring about efficiency in the lending process.

2.4. Expansion of the Digital India Programme

Why in News?

- The Union Cabinet Approved the five year extension and expansion of the Digital India programme.

About

- Digital India programme was launched in **2015 to** enable digital delivery of services to citizens.
- The expansion of the programme will have an outlay of **â,¹14,903 crore.**

Key Highlights of the programme

- **6.25 lakh** IT professionals will be re-skilled and up-skilled under the **FutureSkills Prime Programme;**
- 2.65 lakh persons will be trained in information security under the Information Security & Education Awareness Phase (ISEA) Programme;
- 540 additional services will be available under the **Unified Mobile Application for New-age Governance (UMANG)** app/ platform. At present over 1,700 services are already available on UMANG;
- **The National Supercomputing Mission,** which has deployed 18 supercomputers, will add nine more such machines. "These supercomputers will have so many applications in weather forecasting, geology, agriculture, and Artificial Intelligence (AI) modeling
- **Bhashini,** the AI-enabled multi-language translation tool (currently available in 10 languages) will be rolled out in all 22 schedule 8 languages;
- Modernisation of the **National Knowledge Network (NKN)** which connects 1,787 educational institutions;
- **DigiLocker,** the online repository operated by the government for official documents, will be expanded to serve Medium, Small and Micro Enterprises, or **MSMEs.** This will make it easier for them to get verified documents for business loans.
- **1,200 startups** will be supported in Tier 2/3 cities and Cyber-awareness courses for 12 crores college students;
- **3 Centers of Excellence** in Artificial Intelligence on health, agriculture and sustainable cities will be set up;

2.5. Pradhan Mantri Jan Dhan Yojana (PMJDY)

Why In News?

- As per the latest reports submitted by banks the total number of Jan Dhan accounts have crossed 50 crore as on 9th August 2023.
    - Out of these accounts **56% accounts belong to women** and **67% accounts** have been **opened in Rural / Semi-urban areas.**

About Pradhan Mantri Jan Dhan Yojana (PMJDY)

- It is **National Mission for Financial Inclusion** to ensure access to financial services, namely, basic savings & deposit accounts, remittance, credit, insurance, pension in an affordable manner.

- It was launched on 28th august **2014** .
- Under it , a **basic savings bank deposit (BSBD)** account can be opened in any bank branch or Business Correspondent (Bank Mitra) outlet, by persons not having any other account.

Features

- One basic savings bank account is opened for unbanked people.
- There is no requirement to maintain any minimum balance in PMJDY accounts.
- Interest is earned on the deposit in PMJDY accounts.
- Rupay Debit card is provided to the PMJDY account holder.
- Accident Insurance Cover of Rs.1 lakh (enhanced to Rs. **2 lakh to new PMJDY accounts opened after 28.8.2018)** is available with RuPay card issued to the PMJDY account holders.
- An overdraft (OD) facility up to Rs. **10,000 to eligible account holders is available.**
- PMJDY accounts are eligible for Direct Benefit Transfer (DBT), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), Pradhan Mantri Suraksha Bima Yojana (PMSBY), Atal Pension Yojana (APY), Micro Units Development & Refinance Agency Bank (MUDRA) scheme.

Objectives

- The major objective of the scheme is to provide universal access to banking facilities to every household, and access to credit, insurance and pension facilities to every adult individual.

Achievements

- It has been successful in changing the financial landscape of the country and has brought near saturation in bank accounts for adults.
- It has been the foundation stone for people-centric economic initiatives.
- It has completed almost 9 years and the deposits in PMJDY accounts are above Rs. 2.03 lakh crore and about 34 crore RuPay cards have been issued in these accounts free of cost.
- The average balance in PMJDY accounts is Rs. 4,076 and more than 5.5 crore PMJDY accounts are receiving DBT benefits.
- PMJDY has brought the unbanked into the banking system, expanded the financial architecture of India and brought financial inclusion to almost every adult.

Issues and Challenges

- There are certain challenges hindering the growth in access to banking services, especially in rural areas which include **large number of dormant accounts, lack of training** to banking correspondents, **lack of knowledge** about functioning of ATMs, e-banking and government schemes among customers, **poor digital infrastructure, risk of cyber frauds**, **data privacy, etc.**

Way Ahead

- The technological issues like poor connectivity, on-line transactions need to be addressed.
- Mobile transactions through telecom operators and their established centres as Cash Out Points are also planned to be used for Financial Inclusion under the Scheme.
- Also an effort is being made to reach out to the youth of this country to participate in this Mission Mode Programme.
- To achieve the cherished goal of providing access to financial services to each adult, emphasis should be given on quality rather than quantity, financial literacy and credit counselling programmes, adoption of secure digital technology with adequate safeguards and consumer protection measures.

2.6. Fair Lending Practice - Penal Charges in Loan Accounts

Why in News?

- The Reserve Bank of India (RBI) issued guidelines to **Regulated Entities (REs) such as banks, NBFCs and other lenders** to ensure reasonableness and transparency in disclosure of penal interest.

About the guidelines

- **Background**: It has been **observed by the RBI** that many **Regulated Entities (REs)** use penal rates of interest, over and above the applicable interest rates, in case of defaults / non-compliance by the borrower with the terms on which credit facilities were sanctioned.
- The **instructions** in the guidelines shall come into **effect from January 1, 2024.**
- **Source of power to issue the guidelines by RBI:**
    - The instructions are issued under different *sections* of the **Banking**

Regulation Act, 1949, the **Reserve Bank of India Act, 1934**, and the **National Housing Bank Act, 1987** and shall be updated in the relevant Master Directions / Master Circulars of the applicable REs.

Significance of the guidelines

- **No capitalisation of penal charges:** The intent of levying penal interest/charges is essentially to inculcate a sense of credit discipline and such charges are **not meant to be used as a revenue enhancement tool** over and above the contracted rate of interest.
    - No further interest computed on such charges. However, this will not affect the normal procedures for compounding of interest in the loan account.
- **Interest charged on the advances:** The lending institutions have the operational autonomy to formulate Board approved policy for levy of penal rates of interest.
    - Penalties charged for non-compliance with material terms and conditions of loan would be treated as 'penal charges' and not be levied in the form of 'penal interest'.
    - The quantum of penal charges shall be reasonable and commensurate with the non-compliance with material terms and conditions of loan contract without being discriminatory within a particular loan/product category.
- **Impact on Consumers:** The penal charges in case of loans sanctioned to 'individual borrowers, for purposes other than business', **shall not be higher** than the penal charges applicable to non-individual borrowers for similar non-compliance of material terms and conditions.
- **Fair Practice by REs:** The quantum and reason for **penal charges shall be clearly disclosed by REs** to the customers in the **loan agreement** and **most important terms & conditions / Key Fact Statement (KFS)** as applicable, in addition to **being displayed on REs website** under Interest rates and Service Charges.
- **Exemption:** The **instructions in the guideline will *not* apply to** Credit Cards, External Commercial Borrowings, Trade Credits and Structured Obligations which are covered under product-specific directions.

2.7. Switch from floating to fixed rate regime

Why in News?

- The Reserve Bank of India (RBI) asked all regulated entities (REs),including banks and NBFCs, to give personal loan borrowers an option to switch over from a floating rate to a fixed rate regime at the time of resetting interest rates.

What are the new changes?

- **Clear communication:** At the time of sanction, REs will have to clearly communicate to the borrowers about the possible impact of a change in benchmark interest rate on the loan leading to changes in EMI and/or tenor or both.
    - Any increase in the EMI/ tenor or both will have to be communicated to the borrower immediately through appropriate channels.

- **Switchover**: At the time of reset of interest rates, REs will have to give the option to borrowers to switch over to a fixed rate as per their board-approved policy. The policy will also specify the number of times a borrower will be allowed to switch during the tenor of the loan.
    - REs will have to disclose all applicable charges for switching loans from floating to fixed rate and any other service charges/ administrative costs in the sanction letter and also at the time of revision of charges or costs from time to time.
- **Elongation:**The borrowers will also be given the choice to opt for enhancement in EMI or elongation of tenor or for a combination of both options, and to prepay, either in part or in full, at any point during the tenor of the loan, with foreclosure charges.

Why has RBI issued new regulations?

- **Unreasonable elongation of tenor:**The supervisory reviews undertaken by the RBI and the feedback and references from members of the public have revealed several **instances of unreasonable elongation of tenor** of floating rate loans by lenders without proper consent and communication to the borrowers.
- **Banks can change the interest rate** by changing the internal benchmark rate and the spread during the term of the loan which could harm the interest

of the borrower and also impair monetary transmission.

- **The borrower can refinance the floating rate loan** by going to another bank, but in practice, this does not work well. Floating rate loans of different banks with internal benchmarks are not identical even if spreads are identical at loan origination and in future, given that different banks change or reset internal benchmarks differently.
    - The borrower in such a situation is more often left with no choice, but to remain captive to the original bank and pay higher charges on existing loans rather than refinance.

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2.8. Public Tech Platform for Frictionless Credit

Why in News?

The **Reserve Bank of India (RBI)** has initiated a pilot programme aimed at evaluating the feasibility of a **'Public Tech Platform for Frictionless Credit'**, seeking to facilitate **seamless and efficient credit delivery** by lenders for **Credit Appraisal**, and therefore boosting **Financial Inclusion** in India.

- The initiative comes as part of RBI's developmental and regulatory policies and was introduced following the **Monetary Policy Committee (MPC)** meeting in August 2023.

About Public Tech Platform for frictionless credit (PTPFC):

- The Public Tech Platform for frictionless credit is an end-to-end digital platform that has been developed by the Reserve Bank Innovation Hub, a wholly-owned subsidiary of the central bank.
- **Developed by**: The public platform will be developed by the **Reserve Bank Innovation Hub (RBIH).**

- The newly launched Public Tech Credit platform will help in seamless disbursal of non-collateral based loans for Micro, Small and Medium Enterprises (MSMEs), **Kisan Credit Card loans** up to Rs 1.6 lakh, dairy loans, personal loans, and home loans.
- **Objective:** The aim of the pilot project is to connect borrowers and lenders, which will make credit more accessible to millions of individuals looking for small loans.

How will it work?

- The platform has been designed to have **open application programming interface (API) standards**, which will allow other financial institutions to readily adopt it into their systems. Instead of having discrete information systems, the **centralisation of borrower information** can make it much easier for new loan applicants to avail credit facility.
- It is expected to linkage with services like **Aadhar e-KYC**, Aadhar e-signing, land records from on-boarded state governments (Madhya Pradesh, Tamil Nadu, Karnataka, Uttar Pradesh and Maharashtra), satellite data, PAN validation, and transliteration, account aggregation by account aggregators (AAs), milk pouring data from select dairy co-operatives, and house/property search data.

- **Significance of the Programme:**
- It ensures that **credit or other financial instruments** are extended to a larger set of borrowers with good credit history.
- It would provide a **basis for improved credit risk and overall credit portfolio management.**

The Credit appraisal process for loan reimbursement:

- Digital delivery of credit (or delivering credit/loans though digital means) is preceded by a process of scrutiny known as **credit appraisal**.
- The process attempts to evaluate and accordingly predict the prospective borrowers' ability for **repayment of credit/loan** and adhering to the credit agreement.
- The process rests on three important pillars, namely, the **problem of adverse selection** (that results from the asymmetry of information from either the borrower or lender), **measurement of exposure risk** and the **assessment of default risk** (the probability that the borrower may default in repayment).
- This **pre-disbursal process** is particularly important for banks since it would in turn determine their **interest income** and **impact on the balance sheet.**

How will it help in MSME and Kisan Credit Card Loans?

- The effect of the PTPFC has been immediately seen with few banks announcing that it will be launching **Kisan Credit Card (KCC)** and **unsecured MSME loans** to small business customers through the platform.
- Once the pilot programme is over, the RBI will be taking a look at the programme and further extend the scope of the project.
- Future changes to the program include adding more products, and providers, as well as onboarding more lenders.
- As the project expands, the PTPFC is expected to further improve credit access to more underserved areas of the country.

2.9. Foreign Exchange regulation Bill

Why in News?

The Finance Minister, in the Lok Sabha introduced the **Foreign Exchange Regulation Bill** which is going to be applicable to **the foreign banks**.

About the Bill:

- **Objective:** The Bill aims at consolidating the law regulating certain **payments, dealings in foreign exchange and securities, transactions** indirectly affecting foreign exchange and the **import and export** of currency and bullion for the conservation of the foreign exchange resources and the proper utilisation thereof in the interests of the **economic development of the country**.

Amendments introduced:

- There are seven official amendments in **Clause 28 of the act** restricting;
- Permission of any **trade mark** to be used by any **person or company** for any direct or indirect consideration, without the **permission of the Reserve Bank** is void.
- Till now, **Foreign Exchange Regulation Act (**FERA) imposes restriction on every dealing involving foreign exchange. No dealing in foreign exchange is permitted **unless allowed by the RBI.**
- Under section 8, no person, other than an **authorized dealer**, can deal in India and no person resident in India, other than an authorized dealer, can outside India **purchase or otherwise acquire**, borrow from, or sell, or otherwise transfer or exchange with any

person not being an authorized dealer, any foreign exchange.
- This restriction will **not apply to any purchase or sale of foreign currency** in India between any person and a money changer.

The Foreign Exchange Regulation Act (FERA), 1973:

- FERA is an act to regulate dealings in **foreign exchange and foreign securities** with the objective of conservation of foreign exchange resources of India and its proper utilization in the economic development of India.
- It provides for imprisonment for violation of even a very minor offense.
- Under this act, a person is presumed guilty unless he proves himself innocent whereas under other laws, a person is presumed innocent unless he is proven guilty.
- **Applicable to:**
- The Act extends to the whole of India.
- It applies also to **all citizens of India outside India** and to **branches and agencies outside India** of **companies or bodies corporate, registered or incorporated in India**.
- Foreign exchange means foreign currency and includes :-:
- All deposits, credits and balances payable in any foreign currency and any drafts, traveller's cheques, letters of credit and bills of exchange expressed or drawn in Indian currency but payable in any foreign currency.
- Any instrument payable at the option of the drawee or the holder thereof or any other party, either in Indian currency or in foreign currency or partly in one and partly in the other.

Definitions under FERA:

- **Authorized dealer** means a person for the time being authorized by the Reserve Bank of India (RBI) under section 6 to deal in foreign exchange.
- **Bearer certificate** means a certificate of title to securities, whose ownership can be transferred by mere delivery, whether with endorsement or not. In this sense, it is similar to a bearer cheque ie whoever has such a certificate can easily encash it without any other person's endorsement.
- **Certificate of title to a security** means any document used in the ordinary course of business as a proof of the possession or control of the security or authorizing or purporting to authorize, either by endorsement or by delivery the possessor of the document to transfer or receive the security thereby represented.
- **Coupon** means the coupon representing the dividends or interest on a security. Eg. Dividend warrants.
- **Foreign currency** means any currency other than Indian currency.

2.10. Demystifying the Insolvency and Bankruptcy Code

Why in News?

In response to recurring financial defaults in India, the government implemented robust legal measures to empower lenders in holding **defaulting companies accountable**, despite challenges posed by democratic principles and limited effective legal avenues.

Challenges in Legal Procedures

- **In current laws**: SARFAESI Act, DRTs, BIFR, and SICA faced time delays, rigid criteria, and overlapping laws, hindering effective debt recovery.
- **Winding-up Effectiveness**: Companies Act 1956's winding up process, though slow, yielded more logical conclusions through liquidation or negotiation.
- **Limited Recovery Success**: SARFAESI offered debt restructuring, but till 2016, poor statistics indicated inadequate results for banks' recovery efforts.

Need for Insolvency and Bankruptcy code (IBC)

- **RDDBFI and SARFAESI Shortcomings**: Recovery efforts through RDDBFI and SARFAESI led to increasing bad debts for banks. SARFAESI's recovery declined due to reduced effectiveness.
- **Post-Liberalization Scenario**: After 1991's liberalization, foreign companies' entry and unchecked lending led to growth, but lack of adherence to parameters and due diligence caused loans to turn bad.
- **Lending Challenges**: Loans for expansion turned non-performing, banks faced multiple restructuring proposals, trapping lenders deeper, leading to a point of no return for Indian businesses.

Debate over IBC

- **Challenges in Execution Proceedings**: Execution proceedings were lengthy, making winding up unattractive. BIFR sheltered defaulting companies, deviating from rehabilitation intent.
- **Inception of IBC**: The Indian banking sector faced mounting issues due to non-merit loans, necessitating exceptional measures. IBC, introduced in 2016, aimed at recovery and reformation.
- **Debate over IBC**: IBC, a significant law, garnered support from banks but raised concerns for operational creditors and promoters due to asset distribution and creditor control.

3. International Relations

3.1. Kuril islands dispute

Why in News?

- As **Russia's invasion of Ukraine** drags on some conservative voices in **Japan** are hinting the war could give Japan a chance to take control of what the Japanese call the **Northern Territories or the Kuril Islands.**

The Kuril Island Dispute:

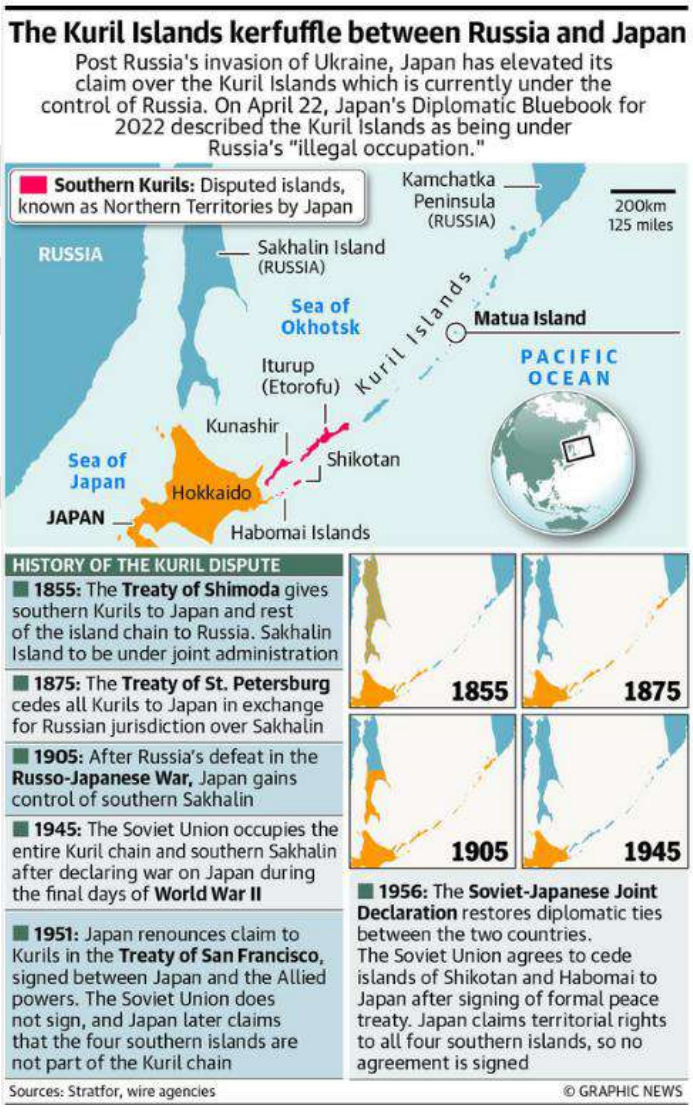
- The dispute is over the **sovereignty of the South Kuril Islands**, comprising Etorofu island, Kunashiri island, Shikotan island and Habomai island.
- **Japan and Russia** claim their territorial ownership of the land.
- The strategically located islands are known as Kuril Islands in Russia, and were **seized by Soviet forces in the closing days of WWII.**

Significance of the Islands:

- The Kuril Islands **stretch** from the **Japanese island of Hokkaido** to the southern tip of **Russia's Kamchatka Peninsula.**
- It **separates** the **Okhotsk Sea** from the **North Pacific Ocean**.
- These are part of the **Ring of Fire belt** and have over 100 volcanoes, of which **35 are said to be active volcanoes** along with hot springs.
- The location of the islands is significant because they have **rich fishing grounds** and are expected to have **offshore reserves of oil and gas.**
- The islands are significant because of their **strategic locations** as **Russia has deployed its missile systems** in the areas and also intends to start a **submarine project** to prevent American military use in the region.

Several treaties related to the dispute:

- To resolve and maintain peace in the region, **several treaties and agreements were signed** between Russia and Japan but **failed to settle the dispute.**
- In **1855**, the **Treaty of Shimoda** was signed between Japan and Russia which **gave Japan control of the four southernmost islands** and the remaining land was given to Russia.
- After 20 years in **1875**, the two signed the **Treaty of Saint Petersburg** and Russia in **exchange for control of Sakhalin Island ceded** the **ownership of the Kurils islands** to Japan.
    - However, Soviet Russia **seized the region again** at the end of the world war.
- The **Yalta Agreement** was **signed in 1945** and formalised in 1951 as a treaty of peace with Japan.
    - Under this agreement, the islands were **ceded to Soviet Russia** and Japanese people were deported and replaced by the Soviets.
- In **1951**, the Allies (France, Great Britain, the United States, the Soviet Union) and Japan signed the **San Francisco Peace Treaty** and **made Japan give up its rights**, title and claim to the Kuril Islands.
    - Also, the **treaty does not recognise the sovereignty** of the **USSR** on them.



3.2. Chabahar Port Issue

Why In News?

- India and Iran have agreed to drop the clause for arbitration in foreign courts concerning the Chabahar port.

More about the News

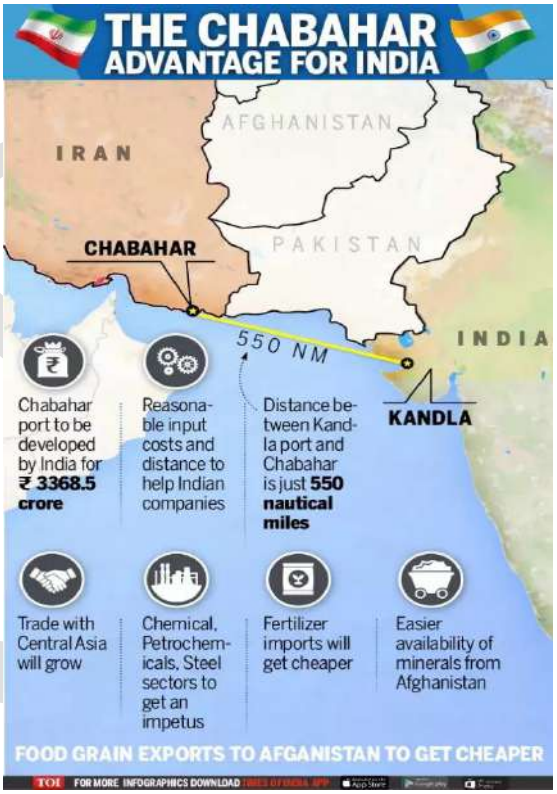
- This had been a hurdle for the framing of a long-term agreement around the facility.
- This major development coincided with the decision of the BRICS grouping to admit Iran along with five other countries.
- Both sides have agreed to **pursue arbitration under rules** framed by the **UN Commission on International Trade Law (UNCITRAL)** which is favoured by India over other international trade arbitration mechanisms.

Significance

- A longer- term agreement between India and Iran over Chabahar will **ensure greater predictability and boost the confidence of stakeholders** in the feasibility of the facility which is located in southeastern coast of Iran.
- The move is being **interpreted as a step by India to stay ahead of China** which has been showing interest in Iranian ports and infrastructure projects.
- Apart from India and Iran, the resolution of the contentious issue will also help sanctions-hit Russia which has been eager to reach the Indian Ocean region through the 13-nation **International North South Transport Corridor which passes through Chabahar.**

United Nations Commission on International Trade Law (UNCITRAL)

- **About:** It is the **core legal body** of the United Nations system in the field of **international trade law.**
  - UNCITRAL was **established in 1966** with a recognition that "**international trade cooperation** among States is an important factor in the promotion of friendly relations and, consequently, in the maintenance of peace and security".
  - Its business is the **modernization and harmonization** of rules on international business.
  - There are **60 members in UNCITRAL** elected for six years: 14 from Asia, 14 from Africa, 10 Latin American and Caribbean, 8 Eastern European and 14 western European and other states.
  - India in the recent past had described UNCITRAL as the **"core legal body under the U.N. system** in the field of international trade law

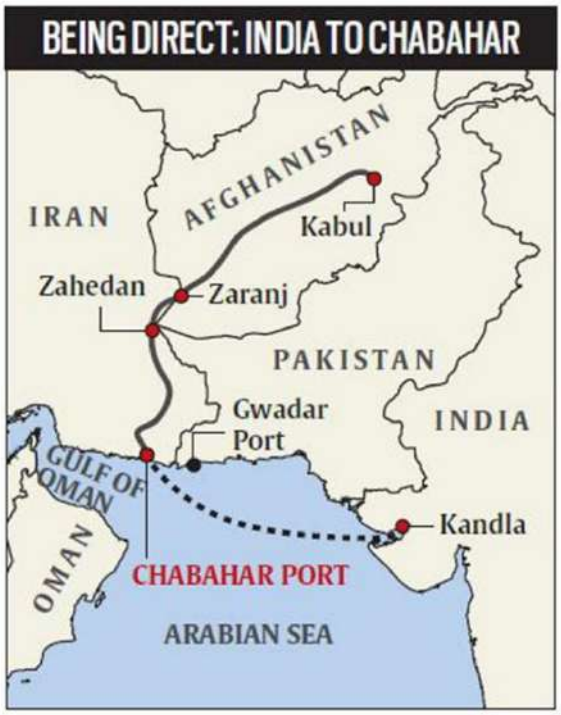


- **Role of UNCITRAL:** UNCITRAL is **formulating modern, fair, and harmonized rules** on commercial transactions. Includes:
  - **Conventions, model laws and rules** which are acceptable worldwide
  - **Legal and legislative guides** and recommendations of great practical value
  - Updated information on case law and enactments of uniform commercial law
  - Technical assistance in law reform projects
  - Regional and national seminars on **uniform commercial law**

Chabahar Port: Key Facts

- **Location:** It is a seaport in **Chabahar** located in **southeastern Iran**, on the **Gulf of Oman**.
  - It consists of two separate ports named **Shahid Kalantari** and **Shahid Beheshti**.

- It is only about 170 kilometres west of the **Pakistani port of Gwadar**.



- **History:** Development of the port was first proposed in 1973 by the last Shah of Iran, though development was delayed by the 1979 Iranian Revolution.
- **Strategic location:** India needs access to iron from **Afghanistan's Hajigak mine** and other natural resources from the **Central Asian countries of Kazakhstan, Turkmenistan, and Uzbekistan**, which is made possible by the Chabahar port.
- **Central Asia Region:** Central Asia is a **subregion of Asia** that stretches from the
  - **Caspian Sea** in the west to **China and Mongolia** in the east
  - From **Afghanistan** and **Iran** in the south to **Russia** in the north.
  - The region consists of the former Soviet republics of **Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan,** and **Uzbekistan**.
  - Major rivers of the region include: The **Amu Darya**, the **Syr Darya, Irtysh, the Hari River** and **the Murghab River**.

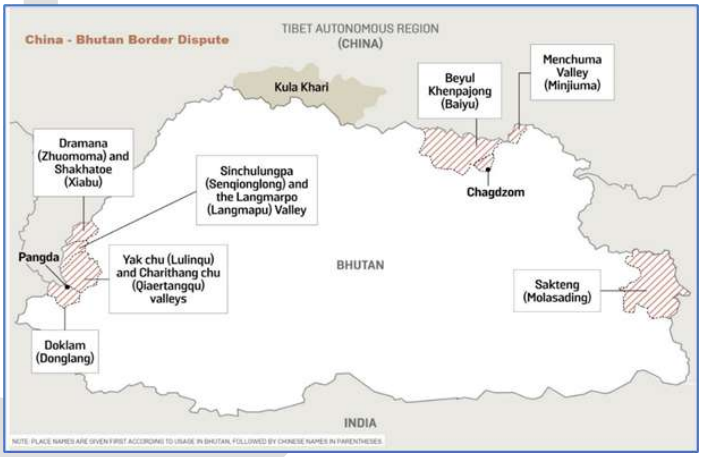
3.3. China-Bhutan boundary dispute

Why In News?

- The 13th Expert Group Meeting (EGM) on the China-Bhutan boundary issues was held recently .

Key Highlights

- Both the countries have agreed to establish a joint technical team and to take "simultaneous steps" to expedite the implementation of a 'three-step roadmap' that will lead to the demarcation of boundaries.
- The two sides also agreed upon keeping the positive momentum of frequent Expert Group Meetings, holding the 14th Expert Group Meeting on the China-Bhutan Boundary Issues as soon as possible and maintaining communication on holding the 25th Round of China-Bhutan Boundary Talk



Dispute

- Bhutan shares a 477 km-long border with China and among all the contentious places, the key issue is a strategic plateau called **Doklam**
- **Doklam** is an area comprising a plateau and a valley at the trijunction between India, Bhutan and China.
- It is surrounded by the Chumbi Valley of Tibet, Bhutan's Ha Valley and Sikkim.
  - Despite several rounds of engagement between China and Bhutan, the dispute between the two over Doklam has not been resolved.

Various Agreements

- The boundary talks between **Bhutan and China began in 1984**, and the 24th round was held in 2016.
  - They also signed two agreements: the Guiding Principles on the Settlement of the Boundary Issues in 1988, and the Agreement on Maintenance of Peace and Tranquillity along the border areas in 1998 to set the base for their talks that basically focus on

disputed areas to Bhutan's North, and to its West, abutting the **Doklam platea**u.

- However, these have been stalled since 2016, especially after the **2017 Doklam incident** between the **Indian and Chinese armies.**

Impacts on India

- Experts in India have said any deal between Bhutan and China that accedes to a "swap arrangement" between areas to the North (Jamparlung and Pasamlung valleys) with Doklam to the West would be of concern to India, given the proximity to India's narrow "Siliguri corridor" that connects northeastern states with the rest of India.
    - India and China were involved in a stand-off in Doklam near the India-China-Bhutan trijunction in 2017.
- It views Chinese presence near Doklam as a major security concern close to the strategic Siliguri corridor.

Way Ahead for India

- **Doklam** is near **India's Siliguri corridor** and was the site of a long standoff between Indian and Chinese troops in 2017.
- Any development in the China-Bhutan boundary negotiations will be keenly watched by India
- India will monitor any move to take forward the China-Bhutan talks.

3.4. India-Greece Relations

Why In News?

- Prime Minister Narendra Modi paid an **official visit to Greece, officially the Hellenic Republic.**

Outcomes of the Summit

- **Upgrade in Relations:** Both the countries upgraded Greek-Indian bilateral ties to the level of a "**Strategic Partnership"** and agreed to work to further expand bilateral cooperation in political, security and economic spheres.
- **Bilateral Trade:** The leaders also directed that both sides shall work to **double bilateral trade by 2030.**
- **MOU:** They took note of the **signing of the MOU** on Cooperation in the field of Agriculture, including the establishment of a Hellenic-Indian Joint Sub-committee on Agriculture for facilitating sectoral cooperation for mutual benefit.
- **Free Movement of Workforce:** Both leaders agreed that an early finalization of a Mobility and **Migration Partnership Agreement (MMPA)** would be mutually beneficial, facilitating in particular the free movement of workforce between the two countries.

Tomb of Unknown Soldier

- The Prime Minister paid tributes at the **'Tomb of Unknown Soldier'** in Athens.
- It is a war memorial located in Syntagma Square in Athens, in front of the Old Royal Palace. It is a cenotaph **dedicated to the Greek soldiers killed during various wars.**
- Thereafter, he was accorded a Ceremonial Guard of Honour.

Grand Cross of the Order of Honour

- The Prime Minister was conferred with the Grand Cross of the Order of Honour by the President of Greece.
- He is the **first foreign Head of Government to receive this honour.**
- The Grand Cross of the Order of Honour is conferred by the President of Greece to prime ministers and eminent personalities who by reason of their distinguished position, **have contributed to enhancing the stature of Greece.**
    - The Order of Honour was **established in 1975.**

Overview of India and Greece Relations

- Diplomatic relations between Greece and India were established in **1950**.
- Greece participated with India in the **Six-National Delhi Declaration on Nuclear Disarmament in 1985.**
- Both the countries pledged reciprocal support for **election to the non-Permanent seat in UNSC.**
    - It supported India at the Nuclear Suppliers' Group in 2008, and 2016, MTCR, WASSENAAR arrangements, Australia Group.
- The country has also refrained from taking a diplomatic position on controversial issues in India's domestic politics.
- **Institutional Mechanism:** The two main forums for conducting bilateral talks are: Joint Economic Committee (JEC) and Foreign Office Consultations (FOC). It meets alternatively in Delhi and Athens.
- Greece has consistently been supportive of **India's core foreign policy objectives** and India concurs

with Greece's emphasis on promoting international law and regional security.

- **The economic and commercial relations** between the two countries continue to grow. The bilateral trade stood at nearly **$2 billion in 2022-23.**
- At the military level, India and Greece had signed a **Memorandum of Understanding (MoU) on Defence Cooperation in 1998,** which was followed by joint programmes of the two militaries and periodic visits of Indian warships at the Souda Bay in Crete, the **most important naval base in the Mediterranean Sea.**
    - After 1998, military interactions have been visiting by our NDC teams (2002, 2003, 2008 and 2022), transits by IAF Mirage 2000 ferries in 2004 involving a landing in Greece and two port calls by 2 Indian Naval Ships in 2003 and visits of 4 Indian Naval ships in July 2006 and 2009.

Significance of India-Greece Cooperation

- **Location and Position of Greece:** Greece is a member of both **North Atlantic Treaty Organisation (NATO) and the European Union (EU),** and its **location in the Eastern Mediterranean Sea** makes it a country embedded in the Western security network.
    - It has emerged as a **dynamic independent sea power in the Mediterranean**, upgrading its military power, diplomatic network with its allies especially the United States (US) and France, and also with both Israel and the Arab states**.**



- A **new international order** uniting **three major seas** (Mediterranean Sea, Red Sea and Gulf) and **three continents** (Europe, Asia and Africa) is being witnessed.
- The addition of India as the **major pole of this network** shall create a **powerful bloc,** extending from Europe and the Mediterranean Sea to the Indian Ocean and the Himalayas.
- **Support on Mutual Interest:** At the diplomatic level, India and Greece can support each other on issues of mutual interest.
- **Indo- Pacific Region:** Greece is a seafaring nation and it currently hosts o**ne of the greatest merchant fleets globally** and thus its vital interests are structurally intertwined with freedom of movement in the seas. This is a common ground with India, a leading power in the Indo-Pacific region.
- **Joint Exercises:** The presence of Indian naval forces in the Mediterranean in the framework of joint Indo-Greek aeronautical exercises would be a clear symbolic and practical message of power projection across the Eurasian landmass.
    - Strategic partnership with Greece, a NATO and EU member, would further strengthen the notion of **India as a valuable partner of Europe in Asia.**

Way Ahead

- A few decisive steps have already been undertaken to promote relations between the two countries, and some specific additional steps can further enhance and deepen the strategic cooperation between India and Greece.
- India is the core state of Asia and a global power, while Greece is an essential partner in the Mediterranean Sea and a member of both NATO and the EU. The two countries can deepen their cooperation in various fields by building on their **military and diplomatic synergies**.
- The strategic alignment of India and Greece in the new geopolitical environment would cater to the **national interests of both countries.**

3.5. G20 Trade and Investment Ministers Meeting

Why In News?

- Trade and Investment Ministers of G20 nations agreed recently to map global value chains, integrate small businesses with them and ease trade documentation.

About

- The three annexes sum up the outcomes of the meet.

- First, a **G20 generic framework for mapping global value chains,** to understand where the problems are and what needs to be done to make value chains more inclusive, sustainable and shock-proof.
- Second annexe addresses micro, small and medium enterprises (MSMEs). It's a **Jaipur call for action for enhancing MSMEs' access to information** and to strengthen the ability of MSMEs.
- The third annexe relates to **high-level principles on digitalisation of trade documents** so that paper documents and impediments to seamless flow of goods and services will be curbed.

G20 Grouping

- The G20 is an informal group of **19 countries and the European Union,** with representatives of the IMF and the World Bank.
- **The G20 membership accounts for**
  - two-thirds of the world's population,
  - 85% of global gross domestic product,
  - 80% of global investment and
  - over 75% of global trade.
- **The members of the G20 are**
  - USA, Canada, Mexico;
  - Argentina, Brazil;
  - EU, Germany, France, UK, Italy;
  - South Africa, Saudi Arabia and Turkey;
  - India; Indonesia; Australia;
  - Russia, China, South Korea and Japan.
- The G20 Summit is held annually with a rotating presidency, and **in 2023, India holds the presidency.**
- The group **does not have a permanent secretariat** and is supported by the previous, current, and future holders of the presidency, known as the **troika**.
- The G20 Summit is formally known as the **"Summit on Financial Markets and the World Economy".**

3.6. India's Arctic Engagement and the Northern Sea Route

Why in News?

- The Arctic region, with its remote landscapes and icy expanses, has become an arena of growing interest for nations across the globe. In recent times, India's involvement in cargo traffic through Murmansk, the beginning point of the Northern Sea Route (NSR), has been gaining momentum.
- This article delves into the various dimensions of India's engagement with the Arctic, the significance of the Arctic region for India's interests, and the intricate interplay between the NSR and India's maritime strategies.

Arctic Significance for India

- The Arctic, situated above the Arctic Circle and encompassing the Arctic Ocean with the North Pole at its epicenter, holds immense significance for India.
- Climate change-induced alterations in the Arctic climate can have cascading effects on India's economic security, water security, and overall sustainability.
- The melting ice caps and shifting weather patterns could disrupt established trade routes, impacting global trade flows and potentially affecting India's maritime trade.
- Additionally, the Arctic region presents a treasure trove of untapped resources. It is estimated that the region holds over 40% of the world's current reserves of oil and gas, along with potential reserves of coal, zinc, and silver.
- Despite this wealth of resources, India's approach to Arctic economic development is aligned with the United Nations' Sustainable Development Goals, reflecting a commitment to responsible resource utilization.

India's Historical Arctic Engagement

- India's engagement with the Arctic dates back to the signing of the Svalbard Treaty in 1920, a significant milestone that laid the foundation for India's scientific pursuits in the region.
- Over the years, India has undertaken diverse scientific studies and research activities spanning atmospheric, biological, marine, hydrological, and glaciological domains.
- The establishment of the research station "Himadri" at Ny-Ålesund, Svalbard, in 2008 marked India's tangible presence in the Arctic research landscape.
- In subsequent years, India's commitment to Arctic research grew stronger with the launch of a multi-sensor moored observatory in 2014 and a northernmost atmospheric laboratory in 2016.
- This scientific exploration culminated in India's status as an observer state of the Arctic Council in 2013, a position shared with five other nations, including China.

Unveiling the Northern Sea Route (NSR)



- The Northern Sea Route (NSR) stands as a pivotal focal point in India's Arctic engagement. This route, spanning 5,600 km, emerges as the shortest shipping passage connecting Europe with the Asia-Pacific region.
- It traverses four Arctic Ocean seas, commencing at the boundary between the Barents and Kara seas and culminating in the Bering Strait.
- The NSR's allure stems from its potential to drastically reduce shipping distances, offering as much as a 50% reduction in comparison to the traditional Suez or Panama routes. The 2021 Suez Canal blockage heightened interest in the NSR, underscoring the need for alternative, reliable maritime pathways.

Russia's Role in Navigating the NSR

- Navigating the NSR poses a unique challenge due to the Arctic Ocean's seasonal icebound conditions. Russia has pioneered efforts to ensure the navigability of the NSR, boasting the world's sole fleet of nuclear-powered icebreakers.
- The historic launch of the nuclear icebreaker "Lenin" in 1959 marked a transformative moment in NSR development.
- Presently, FSUE Atomflot, a subsidiary of Rosatom, manages the fleet of nuclear-powered icebreakers. The fleet, comprising seven such icebreakers and an additional nuclear-powered container ship, guarantees safe passage along the NSR. Further expansion is planned, with three more nuclear icebreakers anticipated to join the fleet between 2024 and 2027.

Driving Factors for India's NSR Participation

- India's involvement in the NSR is driven by several compelling factors. The burgeoning cargo traffic along the NSR, boasting a growth rate of around 73% during 2018-2022, is a primary motivator.
- This increase aligns with India's heightened imports of crude oil and coal from Russia, solidifying the NSR's significance as a secure and efficient transport route for vital energy resources.
- India's geographical location further amplifies the NSR's importance. The country's substantial reliance on maritime trade underscores the need for optimal trade routes, and the NSR's potential to expedite maritime journeys holds immense appeal.

Chennai-Vladivostok Maritime Corridor: A Strategic Confluence

- The Chennai-Vladivostok Maritime Corridor (CVMC) emerges as a key piece in India's Arctic puzzle. The project, conceived through a memorandum of intent signed in 2019, could serve as a bridge to the NSR. Stretching over 10,500 km, the CVMC would dramatically reduce transport time, connecting the Sea of Japan, the South China Sea, and the Malacca Strait. This corridor promises to slash travel time by almost a third compared to the existing St. Petersburg-Mumbai route.
- CVMC's potential impact on India's trade landscape is substantial. Essential cargoes like coking coal, crude oil, liquefied natural gas (LNG), and fertilizers could be seamlessly imported from Russia to India through this corridor, benefiting diverse industries.

Geostrategic Dynamics and Future Prospects

- As India deepens its engagement with the NSR, broader geostrategic implications come into play. The collective influence of China and Russia over the NSR's development is a topic of discussion among experts, raising questions about potential shifts in regional power dynamics.
- Looking ahead, Russia's NSR development plan until 2035 outlines ambitious cargo traffic targets. Despite economic sanctions imposed by the West, Russia remains steadfast in pursuing NSR growth. This commitment is evident in Russia's engagement with India, including dialogues with the Indian business community to facilitate year-round NSR operations.

Conclusion

- India's burgeoning involvement in Murmansk's cargo traffic is a testament to its strategic interest in

the Arctic region and the Northern Sea Route. The Arctic's vulnerability to climate change, coupled with its vast untapped resources, presents both challenges and opportunities for India.

- As the NSR emerges as a transformative maritime pathway, India's participation aligns with its quest for secure and efficient trade routes.
- The Chennai-Vladivostok Maritime Corridor adds another layer of strategic depth, potentially reshaping trade dynamics between India and Russia. In a world marked by shifting geopolitical dynamics, India's foray into the Arctic holds the promise of shaping its future maritime endeavors.

3.7. Expansion of BRICS

Why In News?

- Recently there have been internal conflicts about the nature and scope of the potential expansion of **BRICS**.

About BRICS Expansion

- A number of governments have stated their interest in joining **BRICS (Brazil, Russia, India, and China) platform.**
    - Several countries, such as Argentina, Nicaragua, Mexico, Uruguay, Nigeria, Algeria, Egypt, Senegal, Morocco, Saudi Arabia, the United Arab Emirates, Turkiye, Syria, Iran, Afghanistan, Indonesia, Thailand, Kazakhstan, and Bangladesh, seem to have evinced an interest in joining the BRICS grouping.

Rationale behind the expansion

- **Economic strength:** The economic strength of the five members of the grouping is not as promising as it was when the platform was first announced in 2009.
    - Though the BRICS nations certainly represent 43% of the world's population and around 30% of the global economy, their economic weaknesses are certain.
- **Global challenges:** Russia is getting marginalised in the global economy, while China is facing a difficult economic environment with the west turning against it.
- **China's anti-western orientation:** China is focused on a quick expansion of BRICS with the aim of giving the platform a distinctly anti-western orientation.

Expansion challenges

- **Lack of common understanding:** China's attempt to expand the platform is being resisted by India and Brazil.
    - India is keen that first there should be an express delineation of principles that can define the process of expansion.
    - So, there is a lack of a common understanding among the five members on standards, criteria, and procedures of what an expanded grouping would look like.
- **Sluggish pace of NDB:** The New Development Bank, or "BRICS bank", has seen its already sluggish pace of lending further hobbled by sanctions against founding member Russia.
- **Lack of purpose & coherence:** A larger grouping will have to figure out a new purpose in global politics
    - It will also struggle even more with a lack of coherence, something that even a smaller grouping of BRICS has struggled with since its very inception.

Way Ahead

- Because the platform works through consensus, it will be difficult for China to push its agenda unilaterally.
- Even with their strategic divergences, there is much that the BRICS members can do before they go in for an expansion, especially strengthening the New Development Bank by bringing in more stakeholders and exploring the idea of a BRICS currency more seriously.



3.8. India and Bangladesh Annual Defence Dialogue

Why in News?

- India and Bangladesh held the fifth Annual Defence Dialogue on 28 August 2023 in Dhaka.

More Details

- The Annual Defence Dialogue between India and Bangladesh is the highest institutionalized interactive mechanism between both countries.
- In the dialogue, both countries highlighted its significance in chartering the future course of the relations between the two armed Forces.
- During the meeting, the ongoing defence cooperation activities between the two countries were reviewed and both sides expressed satisfaction at the increasing defence cooperation engagements. The talks covered the existing bilateral exercises and both sides agreed to increase the complexity of these exercises.

India Bangladesh Defence Relations

- India and Bangladesh have **a close and friendly defence relationship** that covers diverse areas of cooperation and is guided by the spirit of their shared sacrifices during the **Liberation War of Bangladesh.**
- Defence cooperation between India and Bangladesh has significantly progressed in the last few years. It is depicted in the exchange of visits between the two countries' leaders and the conduct of training programmes, joint exercises, and **humanitarian assistance and disaster relief (HADR).**
- Under 'joint training and exercises, the defence services of both countries now participate in joint exercises, medical assistance, and training programmes. **SAMPRITI, the joint military exercise operation** to counter terrorism, completed its 10th edition at Jashore Military Station on June 16, 2022.
- The exercise allows the contingents from both Armies to understand each other's tactical drills and operational techniques and share their experience in counter-insurgency/ Counter Terrorism, peacekeeping, and Disaster Relief Operations under the United Nations mandate.
- India considers Bangladesh as an eternal strategic ally. India has extended a $500 million line of credit to Bangladesh for defence imports from India and has gifted 18 new 120mm mortars to the Bangladesh Army in December 2020 under army-to-army cooperation.

4. Science & Technology

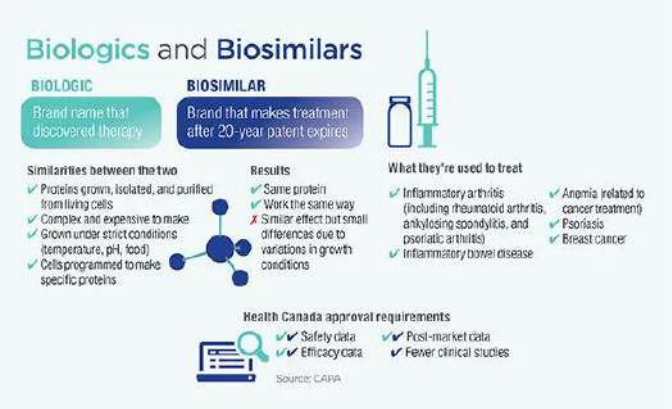
4.1. Biosimilars

Why in News?

- The health ministry plans to revamp guidelines for approving **biosimilar drugs** to make the regulatory pathway **more robust and sync it with the rapidly evolving global landscape.**

What are Biologics?

- Medicines known as biologics or biological products are created using **living organisms through extremely intricate production procedures.**
- The term **"biologics"** refers to a broad range of goods, including vaccines, therapeutic proteins, monoclonal antibodies, and gene and cell therapies.



What are Biosimilars?

- A biosimilar is a biologic that is **"similar" to another biologic medication.**
- Biosimilars and reference products are very similar in terms of safety, purity, and potency, but may differ somewhat in clinically inactive components.
- They are **duplicates of biologic medications** that have been utilized to treat a variety of diseases and disorders rather than brand-new pharmaceuticals.

- Every biosimilar is produced utilizing the same amino acid starting materials and exact, step-by-step procedures as its reference medicine, a well-researched, widely-used biologic drug that has been available for years. Biosimilars are all prescribed medications.
- The same raw materials and production techniques as the original biologic are used to create biosimilars. They are created and developed to be close to the original medication on which they are based.
- Examples include **Semglee (insulin glargine-yfgn), Amjevita (adalimumab-atto), and Inflectra (infliximab-dyyb).**
- Biosimilars are usually lower-cost alternatives to their original biologic.

Prospects of Biosimilars

- The growth of the market for biologics used to treat cancer (monoclonal antibodies), diabetes (insulin), and numerous other autoimmune diseases has opened up new opportunities for biosimilars worldwide.
- A large number of pharmaceutical companies in India are investing significantly in the creation of biosimilars.
- The first biosimilar version of trastuzumab emtansine, not only inhibits the growth of cancer cells (trastuzumab), but also delivers a cytotoxic agent to the cancer cell and aids in its destruction.
- The market for biosimilars is expanding because they are less expensive than biologics, whose high price puts them out of reach for many patients.
- The complex generics and biosimilars are intended to treat non-communicable diseases like cancer, asthma, and arthritis, encouraging their manufacturing can have a beneficial development impact.

Challenges of Biosimilars

- The pricey and drawn-out development process might take up to six or seven years.
- The temperature has a significant impact on the maintenance of biosimilars because of their great sensitivity. They must therefore be distributed via a cold chain network.
- Biosimilars and generic products differ significantly in terms of manufacturing costs and the required capital expenditures for machinery, buildings, and other assets.

State of Biosimilar in India

- **The Regulation and Development of Biosimilars come under:**
  - Department of Biotechnology (DBT)
  - Central Drugs Standard Control Organization (CDSCO)
  - Indian council of Medical Research (ICMR)
  - Institutional Biosafety Committee (IBC)
  - National Control Laboratory Biosafety Committee
- **The various Acts and Guidelines that Biosimilar comes under:**
  - Drugs and Committee Act (1940)
  - Drugs and Cosmetics Rules (1945)
  - Environment Protection Act (1986)
  - Recombinant DNA Safety Guidelines (1990)
  - Guidelines for preclinical and clinical data for rDNA vaccines, diagnostics and other biologicals (1999)
  - CDSCO guidance for Industry (2008)

Way Forward

- To ensure unfair and unethical practices, a regulatory structure must be put in place, and proper monitoring must be carried out.
- India needs to invest in fundamental research and education to grow its ecosystem for biological research.

4.2. Supernovae – the universe's engines

Why in News?

- A supernova took place at the end of a star's life cycle was recently seen in the news.

About:

- A supernova is the largest explosion of a star that takes place in space. It is a cosmic engine that drives the evolution of new stars and planets.
- A supernova happens when a particularly massive star has exhausted fuel to fuse and blows up.

What Causes a Supernova?

- It happens where there is a change in the core, or centre, of a star. A change can occur in two different ways:

1. **In the binary star systems:** One of the stars, a carbon-oxygen white dwarf, steals matter from its companion star. Eventually, the white dwarf accumulates too much matter that causes the star to explode, resulting in a supernova.
2. **At the end of a single star's lifetime:** As the star runs out of nuclear fuel, some of its mass flows into its core. Eventually, the core is so heavy that it cannot withstand its own gravitational force. The core collapses, which results in the giant explosion of a supernova. The sun is a single star, but it does not have enough mass to become a supernova.

Significance

- A supernova expels large amounts of energy, radiation, and elements into the space around it. The heavy metals like gold and uranium etc found in earth's crust were first created in the crucible of some supernova aeons ago.

4.3. Voyager Mission

Why in News?

- The National Aeronautics and Space Administration (NASA) recently lost communication with **Earth's longest-running space probe, Voyager 2**.

About Voyager 1 and 2

- Launched in 1977, **Voyager 2** is the second spacecraft to enter interstellar space(the region that lies outside the impact of our Sun's constant flow of material and magnetic field).
- The first was Voyager 1, sent to space about two weeks after Voyager 2 (Voyager 1 was launched after Voyager 2).
- The most interesting discoveries made by Voyager 1 included the finding that **Io, one of Jupiter's moons, was geologically active.**
- Voyager 1 and Voyager 2 **discovered three new moons of Jupiter: Thebe, Metis and Adrastea.**

4.4. First India-made MRI scanner

Why In News?

- The **first India-made MRI scanner** to be launched for clinical work in October, 2023. This MRI scanner is designed in a way to **avoid reliance on liquid helium, instead** using **liquid nitrogen.**

About

- The indigenously developed machine is characterised by several innovations, including avoiding reliance on scarcely available liquid helium, bottom-up software design, and customised hardware.
- This will reduce the cost of scanning by 30%.
- Helium is the **most common use as a coolant** in large superconducting magnets powering Magnetic Resonance Imaging (MRI) scanners.
- The **Russia-Ukraine** war has squeezed liquid helium supply which has rippling effects on diagnostic facilities around the world, including India, thus **unable to fully utilise their MRI scanners.**

What is Magnetic Resonance Imaging (MRI)?

- MRI is a noninvasive medical imaging test that produces detailed images of almost every internal structure in the human body including organs, bones and tissue.
- MRI scanners create images of the body using a large magnet and radio waves. No radiation is produced during an MRI exam, unlike X-rays.

Working of MRI

- The MRI machine is a **large, cylindrical (tube-shaped) machine** that creates a strong magnetic field around the patient and sends pulses of radio waves from a scanner.
- The **strong magnetic field created by the MRI scanner** causes the atoms in your body to align in the same direction. Radio waves are then sent from the MRI machine and move these atoms out of the original position.
- As the **radio waves are turned off, the atoms return to their original position and send back radio signals**. These signals are received by a computer and converted into an image of the part of the body being examined.

4.5. Metagenome Sequencing Technology

Why In News?

- **Metagenome sequencing technology** is transforming pathogen surveillance.

What is Metagenome sequencing technology?

- Metagenomics is the **study of the entire genetic content** of all microbiota members in a natural

habitat by utilisation of the **whole genome sequencing technique.**

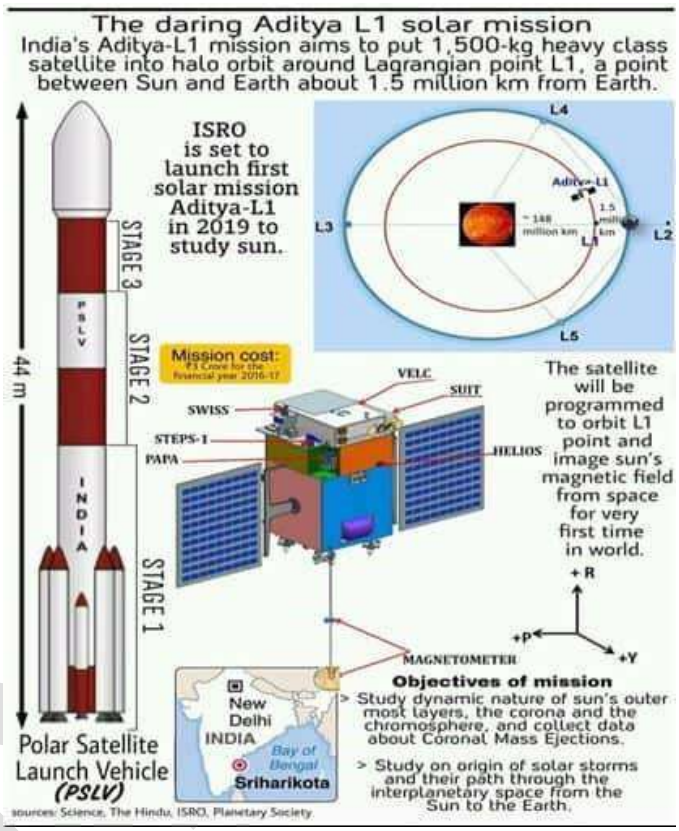
- The field of metagenomics centres upon **direct genetic analysis** of microbial genomes isolated from **various environments** ranging from the human gastrointestinal tract (gut microbiome) to geothermal hot springs.
- **Genomics vs Metagenomics:** The main difference between genomics and metagenomics is the **nature of the sample.**
  - Genomics explores the complete genetic information of a single organism only, whereas **metagenomics explores a mixture of DNA** from multiple organisms and entities, such as viruses, viroids and free DNA.

Significance

- By offering direct access to the entire genetic make-up of microbial communities, metagenomics **can provide valuable molecular insights** into novel enzymes and biocatalysts, as well as into genomic linkages between community function and structure.
- The metagenomics approach serves as a powerful tool for elucidating the relationship between host-associated microbial communities and host phenotype.

Application

- **COVID -19:** One of the initial breakthroughs in the **definitive identification of SARS-CoV-2** as the causative agent of COVID-19 came from the application Metagenome Sequencing Technology instead of the more time-consuming microbiology route.
- It also allowed the scientists to **rule out viral infections** in some individuals and **link their symptoms to pesticide poisoning** instead.
- The studies have demonstrated the power of metagenomic sequencing investigations for pathogen detection and disease diagnosis, and to inform public **health outbreak responses.**
- The global mpox virus outbreak 2022 was attributed to a super-spreader event and threatened the planet with another epidemic, but which fortunately 'fizzled' out.
  - One reason is that scientists were able to **apply genome-sequencing technologies perfected during the COVID-19** pandemic to understanding the origin and spread of the mpox virus.
  - Such initiatives have also been mooted for other seasonal pathogenic viruses, including **Zika and dengue.**
- More recently, experts have used genome sequencing technologies as frontline tools to motivate the detection and surveillance of **lumpy skin disease in cattle and the emergence of drug-resistant tuberculosis**.



4.6. Aditya-L1 mission

Why in News?

- The Indian Space Research Organisation (ISRO) released images of the Aditya-L1 mission.

What is the Aditya-L1 mission?

- **Aditya-L1** is the first space-based Indian observatory to **study the Sun**.It will be launched by the **PSLV-C57.**
- The solar mission will not see the spacecraft actually go to the sun, it will instead create a space observatory at a point from which the sun can be observed even during an eclipse.
- The spacecraft is planned to be placed in a halo orbit around the **Lagrange point 1 (L1**), around 1.5 million km from the Earth, of the Sun-Earth system.
- **It is equipped with seven payloads** (instruments) on board with four of them carrying out remote sensing of the Sun and three of them carrying in-situ observation.

What are the seven payloads?

- **The Visible Emission Line Coronagraph (VELC)** will study the Corona, imaging and spectroscopy, and Coronal mass ejections.
- **The Solar Ultraviolet Imaging Telescope (SUIT)** will focus upon the Photosphere and Chromosphere imaging- narrow and broadband. It will also measure the solar irradiance variations.
- **The Solar Low Energy X-ray Spectrometer (SoLEXS)** and **High Energy L1 Orbiting X-ray Spectrometer (HEL1OS)** will study the soft and hard X-ray flares from the Sun over a wide X-ray energy range.
- **The Aditya Solar wind Particle Experiment (ASPEX)** and **Plasma Analyser Package For Aditya (PAPA)** will analyze the electrons and protons in the Solar wind or particles. It will also study the energetic ions.
- **The Advanced Tri-axial High Resolution Digital Magnetometers** will study the interplanetary magnetic field at L1 point.

Why is studying the Sun important?

- **To understand space weather:** Every planet, including Earth and the exoplanets beyond the Solar System, evolves and this evolution is governed by its parent star. The solar weather and environment affect the weather of the entire system. Variations in this weather can change the orbits of satellites or shorten their lives, interfere with or damage onboard electronics, and cause power blackouts and other disturbances on Earth.
- **To learn about and track Earth-directed storms:**Continuous solar observations are needed to predict the impact of these storms as every storm that emerges from the Sun and heads towards Earth passes through L1.

Major objectives of the mission

- The mission will focus on study of the **Solar upper atmospheric (chromosphere and corona)** dynamics. It will also study the chromospheric and coronal heating, physics of the partially ionized plasma, initiation of the coronal mass ejections, and flares.
- The mission will identify the chronology of processes that take place in the Sun's multiple layers — chromosphere, base and extended corona — which often eventually leads to solar eruptive events.In the solar corona, the mission aims to find out the magnetic field topology and measurements.
- It will also identify what drives **space weather**, along with the origin, composition and dynamics of the solar wind.

4.7. Graphene-Aurora Program

Why in News?

- Recently, the **Graphene-Aurora Program** was launched at Maker's Village, Kochi (Kerala).

Graphene-Aurora Program

- **About:**
  - This program is being implemented by **Digital University Kerala with joint funding from the Ministry of Electronics & Information Technology (MeitY), Government of India.**
- **Aim:**
  - By encouraging research and fostering commercialization, the program puts emphasis on cutting-edge graphene technology to assist India in establishing a strong presence in the global new materials market.
  - The proposed project aimed at boosting the production of valuable allotrope of carbon would mark a new chapter of innovation in the country's technological field.
- **India Graphene Engineering and Innovation Centre (I-GEIC):**
  - A nonprofit organization called 'India Graphene Engineering and Innovation Centre (I-GEIC)' shall be set up to cater the needs of the project.

About Graphene

- Graphene is often referred to as a **wonder material for its extraordinary electrical and electronic properties.**
- It was **discovered in 2004 by Andre Geim and Konstantin Novoselov**, who received the Nobel Prize in Physics for this in 2010.
- It is stronger than steel, very stretchable and can be used as a flexible conductor.
- Its **thermal conductivity is much higher than that of silver.**

- Graphene has a number of properties which makes it interesting for several different applications.
- It is an ultimately thin, mechanically very strong, transparent and flexible conductor. It can be used in applications such as **touch screens, light panels and solar cells.**

Applications of Graphene

- **Biomedical:** Improved brain penetration, DIY health testing kits, targeted drug delivery, "smart" implants, and DIY health testing.
- **Composites and Coatings:** Combining graphene with already-existing products to create so-called composite materials is one of the simplest and most efficient methods to utilize the promise of graphene.
- **Electronics:** Graphene has the potential to develop the electronics of the future, which are now only found in science fiction. Improved semiconductors, foldable phones, and other electronics with faster transistors.
- **Battery:** Graphene has the potential to significantly extend the life of a conventional lithium-ion battery, allowing for faster charging and longer-lasting electronics.
- **Graphene Membranes:** When it comes to gases and liquids, graphene oxide membranes can create an impeccably tight seal. They are exceptionally good at removing water from a gas mixture and effectively separating organic solvent from water.
- **Sensors:** Extremely sensitive graphene sensors could find tiny harmful particles, protecting potentially hazardous surroundings.
- **Other Applications:** It includes anti-corrosion paints and coatings, accurate and quick sensors, quick and efficient electronics, flexible displays, quick DNA sequencing, medicine delivery, and more.

4.8. Gene-Edited Mustard

Why in News?

- Indian scientists have developed the first ever low-pungent mustard that is pest and disease-resistant. It is based on **CRISPR/Cas9 gene editing.**

Need/ Significance of Gene Editing in Mustard

- **Pungency:** Traditional mustard is strong in glucosinolates, sulfur, and nitrogen-containing chemicals, which add to the pungency of mustard oil and meal.
- **High Glucosinolate:** The high glucosinolate content of mustard oil limits its attractiveness among consumers who prefer softer smells and scents in food.
    - **Reduced glucosinolate levels** in the seeds result in mustard oil with a softer flavor and odor, making it more appealing to customers.
- **Quality of feed for Animals:** Rapeseed meal is a byproduct of oil production that is used in livestock and poultry feed. High glucosinolate levels leaves the meal unappealing for some animals, resulting in decreased feed intake, diseases and organ abnormalities.
- **Pest and Disease Resistance:** The created mustard variety has improved resistance to pests and diseases, resulting in increased agricultural yields and less reliance on chemical pesticides.

Mustard Cultivation in India

- The most extensively grown **oilseed crop in India is mustard**, which is planted on 9 million hectares annually. It is cultivated during the Rabi Season.
- Given that it has a greater average oil content (38%) and is a good "oilseed" crop, mustard is also a good source of protein and fat for humans and other animals.
- For farmers in states like Rajasthan, Haryana, Madhya Pradesh, and Uttar Pradesh, among others, mustard is a significant cash crop.

Technique of Gene Editing in Mustard Breeding

- The **CRISPR/Cas9 gene-editing technique** is used in mustard plants to change the Glucosinolate Transporter (GTR) genes.
- Ten of the twelve GTR genes in the high-yielding Indian mustard variety 'Varuna' are altered.
- Using the Cas9 enzyme, particular nucleotide sequences in the DNA are changed, rendering the encoded proteins inactive.

GE (Genome Editing): Involves precise modification of specific genes within an organism's genome without introducing foreign genes, resulting in targeted genetic changes.

GM (Genetically Modified): Involves the insertion of foreign genes from unrelated organisms into an organism's genome to confer specific traits or characteristics.

4.9. Chandrayaan-3 Successfully Lands on Moon's South Pole

Why in News?

- **Chandrayaan-3** has made history by becoming the first mission to soft-land on the **lunar south pole**, a region that has never been explored before. The mission aimed to demonstrate safe and soft lunar landing, rover mobility, and **in-situ scientific** experiments.
- India now joins the **United States, Russia, and China** as one of the few countries to successfully land on the Moon.

How did Chandrayaan-3 Prevail Over Obstacles Encountered in the Previous Mission?

- Chandrayaan-3's successful landing came after the setback of the Chandrayaan-2 mission's landing failure in 2019.
- The **Vikram** lander of Chandrayaan-2 had lost control and communication during descent, leading to a crash on the lunar surface.
- Lessons from the **Chandrayaan-2** mission were applied to **Chandrayaan-3,** focusing on a **"failure-based"** design approach to anticipate and mitigate potential issues.
- Critical changes included strengthening the lander's legs, increasing fuel reserves, and enhancing landing site flexibility.

What are the Intended Actions for Chandrayaan-3 after its Landing?

- Chandrayaan-3 is expected to operate for at least **one lunar day (14 Earth days)** on the lunar surface.
- The **Pragyan rover** will move around the landing site within a radius of **500 meters**, conducting experiments and sending data and images to the lander.
- The **Vikram lander** will relay the data and images to the orbiter, which will then transmit them to Earth.
- **Lander and Rover modules** are collectively equipped with advanced scientific payloads.
- These instruments are designed to conduct comprehensive investigations into diverse facets of lunar characteristics, encompassing terrain analysis, mineralogical composition, surface chemistry, atmospheric attributes, and crucially, the exploration for water and potential resource reservoirs.
- The propulsion module that carried the lander and rover configuration till 100 km lunar orbit also has a **Spectro-polarimetry of Habitable Planet Earth (SHAPE)** payload to study the spectral and Polari metric measurements of Earth from the lunar orbit.



4.10. Shiv Shakti Point

Why In News?

- The Prime MInister, Narendra Modi has announced that the point where the Chandrayaan-3 lander touched down on the lunar surface will be **named Shiv Shakti.**

About

- The point where Chandrayaan-2 left its imprints would be named as **Tiranga point**. Chandrayaan-1 crashed in 2008 is named as **'Jawahar Point'.**
- PM Modi said this will serve as an inspiration for every effort that India makes and remind us that failure is not the end.
- The **23rd August** will be celebrated as **'National Space Day'** on the mark of soft landing of Chandrayaan-3 at the South Pole of the moon.

Law regarding Ownership, Naming Sites in Space

- As per the **United Nations 1966 Outer Space Treaty**, no nation can claim sovereignty over the moon - or other celestial bodies - and that the exploration of space should be carried out for the benefit of all countries.
- The **1979 The Moon Agreement** states that no part of the moon "shall become property of any State, international intergovernmental or non-

governmental organization, national organization or non-governmental entity or of any natural person."
- The law clearly states that nations cannot law claim to the moon or its land, however they can carry out certain activities.
- However, there is **no legislation regarding naming places on the Moon.**

Who decides the names?

- The **International Astronomical Union (IAU)** is the leading authority in assigning official names to lunar features. India is one of the 92 members of the space body.
- The **IAU has been the arbiter of planetary and satellite nomenclature** since its inception in 1919.
- Many countries have been giving informal names to the spots on the moon during lunar missions. The United States gave informal names to lunar sites during Apollo missions.
- Most of the informal names assigned during the A**pollo mission were later given "official" status by the IAU.** In 2021, the IAU approved China's application for naming eight new features on the moon around the landing site of the Chang'e-5 probe.

Process for considering names

- The IAU's Working Groups handle the process of naming lunar spots, though its decisions and recommendations are not enforceable by any international law.
- Any attempts by India to name physical features near the landing site will require the IAU's nod.

5. Social Issues & Justice

5.1. Removing gender stereotypes from the law

Why In News?

- The Supreme Court has recently launched a **'Handbook on Combating Gender Stereotypes'**.

More about the news

- **Aim of the handbook:** Handbook on Combating Gender Stereotypes aims to **free the judiciary and the legal community** from the **mechanical application** of gender stereotypical language **in judgments, orders, and court pleadings**.
    - It "aims to **assist judges and the legal community** in identifying, understanding and combating stereotypes about women".
- **Handbook contains:** It contains a **glossary of gender-unjust terms** and **suggests alternative** words or phrases which may be used while **drafting pleadings** as well as **orders and judgments**.
    - Some of the other terms that the handbook wants courts to avoid using are adulteress, bastard, career woman, carnal intercourse, concubine/keep, housewife, mistress, prostitute, transsexual and unwed mother.

Issues with stereotypes

- On a micro-level, stereotypes **lead to exclusion and discrimination** in workplaces, educational institutions, and public places.
- They may also have an adverse **impact on the mental health or professional performance** of the members of the stereotyped group because they are aware that they are being viewed in a particular manner.
- The use of stereotypes by judges also has the effect of entrenching and perpetuating stereotypes, creating a vicious cycle of injustice.

Significance of Handbook

- The handbook calls upon the Indian judiciary to **recognise the deep-rooted impact of gender stereotypes** and actively **work to dismantle them** from its thinking, decision-making, and writing.
- As pointed out by the Chief Justice of India, "even when the use of stereotypes does not alter the outcome of a case, stereotypical language may reinforce ideas contrary to our constitutional ethos".
- Using stereotypes, instead of objectively evaluating the situation, goes against the constitutional principle of 'equal protection of laws', which posits that the law should apply uniformly and impartially to every individual, irrespective of their membership to a group or category.

5.2. Barrier to Women's Labor Force Participation

Why in News?

Recently, the Tamil Nadu government has launched the **Kalaignar Magalir Urimai Thogai Thittam,** a women's basic income scheme, recognizing **Women's Unpaid Labor.** The scheme will provide **Rs 1,000 per month to women** in eligible households

- In Marriages, the wife bears and rears children and minds the home, and therefore bears the brunt of unpaid care and domestic work, hindering their **Participation in Labor Force.**

What are the Causes of Lower Women Participation in the Labour Force?

- **Patriarchal Social Norms:**
  - Deep-rooted patriarchal norms and **traditional gender roles often limit women's access to education** and employment opportunities.
  - Societal expectations may prioritize **women's roles as caregivers and homemakers,** discouraging their active participation in the labor force.
- **Gender Wage Gap:**
  - Women in India often face **wage disparities compared to men f**or similar work.
  - According to **World Inequality Report, 2022**, men in India **capture 82%** of labour income, while women **earn just 18%.**
  - This wage gap can **discourage women from seeking formal employment** opportunities.
- **Unpaid Care Work:**
  - The burden of unpaid care and domestic work **falls disproportionately on women,** limiting their time and energy for paid employment.
  - Married women in India spend over **7 hours per day on unpaid care** and domestic work, while men spend less than 3 hours.
  - This trend is consistent **across income levels and caste groups,** leading to a significant **Gender Disparity** in domestic responsibilities.
  - This unequal distribution of household responsibilities can be a significant barrier to women's participation in the labor force.
- **Social and Cultural Stigma:**
  - In some communities, there may be stigma or resistance associated with women working outside the home, leading to lower labor force participation rates.

What are the Statistics Regarding Unpaid Care of Women?

- **Female Labor Force Participation Rate (LFPR):**
  - Despite a surge in the enrollment rate for **girls in Class 10,** India's **Female LFPR** has declined **from 30% to 24%** over the past two decades.
  - The burden of domestic work is **a key factor contributing to lower female** LFPR, even among educated women.
  - India's female LFPR (24%) is the **lowest among BRICS countries** and select **South Asian countries.**
  - **China,** with the highest female population, boasts the **highest female LFPR at 61%.**
- **Impact on Women's Employment:**
  - Women not in the labor force **spend the most time on unpaid domestic/care** work, averaging 457 minutes (7.5 hours) per day.
  - Employed women follow closely, spending **348 minutes (5.8 hours) per day on such chores**, impacting their **ability to engage in paid work.**

Higher Women Labor Participation Impact the Society at Large

- **Economic Growth:**
  - Women's participation in the labor force is **directly linked to economic growth**. When a significant portion of the female population remains **underutilized, it results in a loss of potential productivity** and economic output.
  - Increased women's labor force participation can **contribute to higher GDP (Gross Domestic Product)** and overall economic prosperity.

- **Poverty Reduction:**
  - When women have access to income-generating opportunities, **it can lift households out of poverty**, leading to better living standards and improved well-being for families.
- **Human Capital Development:**
  - Educated and economically active women can **positively influence the education and health outcomes** of their children, leading to intergenerational benefits.
- **Gender Equality and Empowerment:**
  - Higher women's participation in the labor force can **challenge traditional gender roles and norms**, promoting gender equality.
  - Economic empowerment enables women to have greater control over their lives, decision-making power, and autonomy.
- **Fertility and Population Growth:**
  - Studies have shown that as women's labor force participation increases, fertility rates tend to decline.
  - This phenomenon, known as the "fertility transition," is associated with improved access to education, healthcare, and family planning, leading to more sustainable population growth.
- **Reduced Gender-Based Violence:**
  - Economic empowerment can enhance women's bargaining power and reduce their **vulnerability to gender-based violence** and abusive relationships.
- **Labor Market and Talent Pool:**
  - Increasing women's participation in the labor force can help **address skill shortages and labor market imbalances,** leading to a more efficient allocation of talent and resources.

Way Forward

- Gender equality discussions should move **beyond compartmentalizing women's lives into work and life** and recognize the comprehensive valuation of all kinds of work, both formal and informal, that women do.
- Policy solutions must be derived from **women's own negotiations within their cultural context,** focusing on increasing autonomy and flexible work options.
- Promoting and supporting higher **women's labor force participation** is not only a matter of gender equality but also a **crucial driver of societal progress** and development.
- By unlocking the full potential of **women in the workforce, societies can reap the benefits of economic growth,** poverty reduction, improved human capital, and more inclusive and equitable communities.

5.3. Child Trafficking increased in India: Study

Why in News?

To mark the **"World Day against Trafficking in Persons"** on July 30, a report, titled **'Child Trafficking in India: Insights from Situational Data Analysis and the Need for Tech-driven Intervention Strategies'** has been released.

- The Report has been published by **Games24x7 and the Kailash Satyarthi Children's Foundation (KSCF).**

Highlights of the Report:

- **Based on Number of Trafficked children**:
  - **Jaipur** has emerged as the **most prominent destination** for trafficked children in the country in the last six years.
  - Jaipur has emerged to be one of the prominent destinations for trafficked children with the maximum number **1,115 children rescued** from this district, accounting for **about 9 per cent of the total rescued children**.
- **Based on Average per year Trafficked children**:
  - **Uttar Pradesh** saw the maximum number of children trafficked on an **'average per year – 267'** in the **pre-COVID phase (2016-19)** and **1,214 in post-COVID phase (2021-22),** or an increase of over **350 per cent** with the year 2021 reporting 2,055 cases**.**
  - UP was followed by **Bihar and Andhra Pradesh,** together making up the **top three states** from where the **maximum numbers of children** were trafficked on an **average per year**.

- **Karnataka** showed a staggering increase in the number of children trafficked on an average per year, from six cases before COVID to 110 after it **— an 18-fold increase.**

About Human Trafficking:

- According to the UNODC, Human Trafficking is "**the recruitment, transportation, transfer, harbouring or receipt of people through force, fraud or deception, to exploit them for profit**."
- Human trafficking involves **recruitment, transportation, transfer, harbouring, or receipt of persons, by means of the threat or use of force or other forms of coercion, for exploitation.**

Child Trafficking in India:

- According to the **NCRB Report of 2021,** 2877 children were trafficked in India.
- Approximately **eight children were trafficked daily**, and the reports account for only those cases that **Anti-Human Trafficking Units** have registered; the unregistered traffic figure is enormous compared to this.
- The report also shows that trafficking increased in India by **28 per cent in 2021 compared to 2020 and 44 per cent of these victims are children.**

Laws related to prohibiting Human Traffic:

- **Immoral Traffic Prevention Act, 1986:** The purpose of this Act is to give effect to **the Trafficking Convention and to prohibit immoral human trafficking.**
    - It constitutes authorities at **the centre and state level to combat trafficking**. However, it does not elaborate on the role, function, and composition of these authorities.
- **Criminal Law (Amendment) Act 2013:** It has come into force wherein **Section 370 of the Indian Penal Code**has been substituted with **Section 370 and 370A IPC** which provide for comprehensive measures to counter the menace of human trafficking.
- **Protection of Children from Sexual offences (POCSO) Act, 2012**, is a special law to protect children from sexual abuse and exploitation.

What are causes of increasing Child Trafficking in India?

- Increase in Child trafficking in India is due to the root causes being- **poverty, a lack of education, and the need to financially support their family.**
- Due to the need for inexpensive labour in industries, many youngsters were trafficked and forced to serve as bonded labourers for reduced pay.
- Demand for trafficking from low-income to high-income areas is fuelled by economic disparities both within and between nations.
- Because **illiteracy prevents children, especially girls,** from knowing their legal rights, it has a substantial impact on human trafficking. Inadequate educational opportunities induce illiteracy. They are unable to act against exploiters as a result.
- Expanding the commercial **sex industry** in the country as well as abroad is another demanding reason.
- Lack of political will on the part of the government to create a strong system for law enforcement to use to combat trafficking.

Way forward:

- More community-based interaction and awareness are needed.
- Steps like **community-based rehabilitation** and revisiting the existing laws to deal with loopholes can be taken. Poverty-driven child labor needs to be addressed by cultivating more work for the families so that the children can be sent to school.
- To help all nations protect victims and **prosecute perpetrators**, there is a need to boost **technical aid and deepen collaboration.**



6. Health

6.1. National Nursing and Midwifery Commission Bill, 2023

Why In News?

- The Lok Sabha passed the National Nursing and Midwifery Commission Bill, 2023 .

About National Nursing and Midwifery Commission Bill, 2023

- It repeals the Indian Nursing Council Act, 1947.
- It provides for the regulation and maintenance of standards of education and services for nursing and midwifery professionals.

Key features of the Bill

- **National Nursing and Midwifery Commission:** The Bill provides for the constitution of the National Nursing and Midwifery Commission.
    - It will consist of 29 members. The chairperson should have a postgraduate degree in nursing and midwifery and have at least 20 years of field experience.
    - **Functions of Commission:** Functions of the Commission include:
        - Framing policies and regulating standards for nursing and midwifery education,
        - Providing a uniform process for admission into nursing and midwifery institutions,
        - Regulating nursing and midwifery institutions, and
        - Providing standards for faculty in teaching institutions.
- **Autonomous boards:** The Bill provides for the constitution of three autonomous boards under the supervision of the National Commission. These are:
    - the Nursing and Midwifery Undergraduate and Postgraduate Education Board, to regulate education and examination at undergraduate and postgraduate levels;
- **State Nursing and Midwifery Commissions:** Every state government must constitute a State Nursing and Midwifery Commission where no such Commission exists under state law. It will consist of 10 members.
- **Establishment of nursing or midwifery institutions:** Permission of the Assessment and Rating Board would be needed to establish a new nursing and midwifery institution, increase the number of seats, or start any new postgraduate course.
    - The Board must decide on the proposals within six months. In case of disapproval, an appeal can be made to the National Commission and a second appeal can be filed with the Central Government.
- **Practicing as a professional:** The Ethics and Registration Board will maintain an online Indian Nurses and Midwives' Register, containing the details and qualifications of professionals and associates.
- **Advisory Council:** The central government will also establish the Nursing and Midwifery Advisory Council.
    - The chairperson of the National Commission shall be the chairperson of the Council.

Objectives:

- According to the Indian Nursing Council records, till 2022, there were around 33.41 lakh nursing personnel registered in the country therefore the bill aims to streamline nursing education in India.

6.2. National Dental Commission Bill, 2023

Why In News?

- The Lok Sabha passed the **National Dental Commission Bill, 2023.**

About

- The ultimate goal of the bill is to regulate the dental profession, provide quality dental education, and make high-quality oral healthcare more accessible to the public.
- The Bill repeals the **Dentists Act, 1948** and constitutes:
    - the National Dental Commission,
    - the Dental Advisory Council and

- three autonomous Boards for regulating dental education and standards of dentistry.

Key features of the Bill are:

- **National Dental Commission:** The proposed bill aims to replace the **existing Dental Council of India with a new body called the National Dental Commission**. The primary objectives of the commission include **formulating policies and maintaining high-quality standards for dental education** and the dental profession in the country.
  - The Chairperson will be appointed by the central government, upon the recommendation of a search-cum-selection committee chaired by the Cabinet Secretary.
  - **Ex-officio members of the Commission include**: (i) Presidents of the three autonomous Boards, (ii) the Director General of Health Services, (iii) Chief of the Centre for Dental and Educational Research, All India Institute of Medical Sciences.
- **Autonomous boards**: The bill outlines the creation of three autonomous boards under the National Dental Commission's purview:
  - **Undergraduate and Postgraduate Dental Education Board:** This board will be responsible for setting standards and guidelines for dental education institutions.
  - **Dental Assessment and Rating Board:** The board's role will be to assess and rate dental institutions, publish assessment reports and ratings, and have the authority to recognize or de-recognize degrees.
  - **Ethics and Dental Registration Board:** This board will maintain an online and live national register for dentists, regulate ethics in dental practices, and ensure professional conduct.
- **Regulation of fees:** The bill regulates 50 percent of seats in private dental colleges to ensure more accessible and affordable dental education.
- **Establishment of a Dental Advisory Council:** It would be established by the central government. The council's primary function will be to advise the National Dental Commission and serve as a platform for states and Union territories to express their views on dental education and examination.
- **State Dental Council:** The state governments are required to institute State Dental Councils. The Councils are required to receive grievances related to professional/ethical misconduct against registered dentists.
- **Entrance examinations**: Admission to the Bachelor of Dental Surgery course will be done through NEET. The Commission will specify the manner of conducting common counselling for undergraduate and postgraduate admissions.
  - **A National Exit Test (Dental)** will be held in the final undergraduate year for: (i) granting licence to practice dentistry, (ii) enrolment in state/national registers, and (iii) for admission to postgraduate dental education. Until the passage of the Bill, postgraduate admissions in Master of Dental Surgery (MDS) will be conducted through NEET.

6.3. Single-pill strategy to beat Cardiovascular diseases

Why In News?

- Recently, the WHO included **three fixed dose combinations of cardiovascular medicines or polypills** on its revised Model Lists of **Essential Medicines (EML) 2023** for use in primary and secondary prevention of atherosclerotic cardiovascular diseases.

About

- The **polypill is not a new drug but a drug delivery mechanism**, which improves medication adherence (because it is a single pill) and saves money by preventing hospitalisations.
- The **WHO Expert Committee on Selection and Use of Essential Medicines noted that the use of the polypill** is associated with reduced risks of cardiovascular events, including fatal and non-fatal myocardial infarction and stroke, and the need for revascularization in primary and secondary prevention settings.

Significance

- The polypill is **not a new drug but a drug delivery mechanism**, which improves medication adherence (because it is a single pill) and saves money by preventing hospitalisations.

- The polypill is thus an important low-cost public health intervention which can prevent over millions of cardiovascular events and deaths every year.
- It is a simple treatment that can be administered with very little monitoring to a majority of people, with backup from physicians.

6.4. Digital Health Incentives Scheme

Why in News?

- The National Health Authority (NHA) announces the extension of its Digital Health Incentives Scheme (DHIS) under the Ayushman Bharat Digital Mission (ABDM) till December 2023.

About Digital Health Incentives Scheme (DHIS):

- The DHIS was launched as part of the Ayushman Bharat Digital Mission.
- The scheme proved to be a significant catalyst in promoting the adoption of digital health technologies and practices in healthcare delivery across the country.
- The incentives under this scheme would be provided to hospitals and diagnostic labs and also to the providers of digital health solutions such as Hospital/ Health Management Information Systems (HMIS) and Laboratory Management Information Systems (LMIS).
- The National Health Authority (NHA) is implementing Ayushman Bharat Digital Mission (ABDM) to create a digital health ecosystem for the country.

Important points under ABDM's Digital Health Incentive Scheme are:

- Incentives would be provided to the following entities:
  - Health Facilities having 10 or more beds
  - Laboratory/radiology diagnostics centers
  - Digital Solution Companies (entities providing ABDM-enabled digital solutions)
- The incentives shall be provided based on the number of ABHA-linked transactions i.e., the digital health records created and linked to Ayushman Bharat Health Account (ABHA).

7.Education

7.1. Indian Institutes of Management (Amendment) Bill

Why In News?

- The Union Education Minister introduced the **Indian Institutes of Management (Amendment) Bill**.

About Indian Institutes of Management (Amendment) Bill

- It proposes to amend the **2017 Act** so that the Visitor can nominate the Chairperson of the Board of Governors of IIMs .
  - Section 16 of the Act will be amended to provide more powers to the Visitor in the appointment of IIM Directors.
- It proposes to make the President as the Visitor of all IIMs.
  - A new Section, 10A, would be added so that the President shall be the Visitor of every Institute.
- It will empower the Central government to constitute an interim Board in case of suspension or dissolution of the said Board of Governors.

Key Highlights

- The Director will be appointed out of the panel of names recommended by a search-cum-selection committee to be constituted by the Board consisting of the Chairperson of the Board, who shall be the Chairperson of the search-cum-selection committee, one member to be nominated by the Visitor and two Members chosen from amongst eminent administrators, industrialists, educationists, scientists, technocrats and management specialists.
- The Bill is also to change the **National Institute of Industrial Engineering,** Mumbai as the Indian Institute of Management, Mumbai.
- **Section 17** of the Act, that gives powers to the Board for initiation of inquiry against the Director, has been deleted in the Bill.

- **Section 29** of the present Act on "Coordination Forum of the Institute" will also be amended so that an eminent person to be nominated by the Visitor shall be the Chairperson of the Forum.

Concerns

- IIMs were opposed to the idea because they feared that this would encroach upon their autonomy.
- They yielded when the Bill provided them complete autonomy in all matters, including the appointment of the Directors. Their boards were empowered. Now they have lost all of those things and will now be governed the way the IITs, NITs and the Central Universities are.

Conclusion

- The amendments will have an impact on the autonomy of IIMs and they will be governed the way Central Universities are governed.

7.2. Study in India Portal

Why in News?

- Recently, the **Study in India(SII) Portal** was launched to re-establishing India as a **global hub of education.**

About

- Study in India Portal is a dedicated website that will provide comprehensive information about the **Indian Higher Education Institutions (HEIs).**
- The website will illustrate academic programs i.e. **undergraduate (UG), postgraduate (PG), Doctoral level programs** as well as courses in Indian Knowledge System like Yoga, Ayurveda, classical arts etc.
- The website-portal will present information about the **academic facilities, research support, and related information**.The website will have the provision for students to apply in more than one institute/course of their choice.
- The portal will provide an integrated one-stop solution for student registration and **visa application process.**

Significance

- Portal will help in making India a preferred destination for higher education.
- SII will **establish a strong international footprint** of brand 'India' in the education sphere.
- The presence of international students will also benefit the domestic students by connecting them more closely to the globalizing world and preparing them better from the global workplace.

7.3. Akhil Bharatiya Shiksha Samagam and ULLAS Initiative

Why in News?

Recently, the Prime Minister (PM) of India inaugurated **Akhil Bharatiya Shiksha Samagam** a two-day event. The event is organized to mark the **third anniversary of the National Education Policy (NEP) 2020.**

- Additionally, the Union Minister of Education launched the **ULLAS: Nav Bharat Saksharta Karyakram mobile application.**

What are the Key Highlights of Akhil Bharatiya Shiksha Samagam?

- The PM released the **first installment of funds under the PM SHRI Scheme,** supporting the establishment of schools that nurture engaged, productive, and contributing citizens, in alignment with the NEP 2020 vision.
- The PM also released **education and skill curriculum books translated into 12 Indian languages**, enhancing learning by allowing students to **study in their mother tongue.**

What is ULLAS: Nav Bharat Saksharta Karyakram?

- **About:**
  - The **ULLAS (Understanding Lifelong Learning for All in Society)** is a transformative initiative launched by the Indian government to promote **lifelong learning and bridge the gaps in basic literacy** and critical life skills **among citizens aged 15 and above.**
  - The program aims to empower individuals with essential knowledge and skills for **personal and national development.**
  - ULLAS **User-Friendly Mobile Application** serves as a digital gateway to diverse learning resources via the **DIKSHA portal.**
- **Key Features of ULLAS: Nav Bharat Saksharta Karyakram:**
  - **Lifelong Learning Focus:**
    - Emphasizes continuous learning throughout life.

- Fosters a culture of knowledge-sharing and personal development.
- **Digital and Financial Literacy:**
  - Equip participants with digital literacy skills.
  - Promotes financial awareness and empowerment.
- **Critical Life Skills:**
  - Impart important life skills such as **legal literacy and digital literacy.**
  - Enhances **citizenship and empowerment.**
- **Incentives for Student Volunteers:**
  - Provides **credits in school/university for student volunteers.**
  - Offers appreciation through certificates, letters, and felicitations.

8. Agriculture

8.1. Surplus Production of Sugar

Why in News?

- India became the **world's top sugar producer in 2021-2022**, **surpassing Brazi**l, but the extensive use of resources in sugar production is depleting rapidly, leading to a potential crisis in the future.
  - India's top sugarcane-growing states rely heavily on groundwater for irrigation, leading to concerns over groundwater depletion.

Why is there excess sugar production in India?

- India is the world's largest consumer of sugar, and thus has to produce enough to meet its huge domestic demand. But the excess production stems from policies and measures that make farmers favour sugarcane cultivation.
- The **Central government offers a Fair and Remunerative Price (FRP)** scheme, which mandates a minimum price that sugar mills have to pay to sugarcane farmers, ensuring that farmers always get fair profits for their crop.
- State governments also offer heavy subsidies to incentivise sugarcane cultivation.
  - Countries like **Brazil, Australia, and Guatemala filed a complaint with the World Trade Organization (WTO) against India** for violating international trade rules by offering excessive export subsidies and domestic support to farmers to outcompete other countries in the global sugar market.

What efforts have been made to address this issue?

- To deal with the sugar surplus, the Indian government considered diverting it to the production of ethanol, an organic compound made by fermenting sugarcane molasses or sugar.
  - Ethanol is the active ingredient in alcoholic beverages and is also used in the chemicals and cosmetics industries.
  - In the transport sector, the use of ethanol-blended petrol (EBP) significantly reduces harmful emissions, such as carbon monoxide and various hydrocarbons, from vehicles.

How does excessive sugarcane cultivation impact groundwater?

- Sugarcane is a water-intensive crop that requires 3,000 mm of rainfall for cultivation, but top-growing States get 1,000-1,200 mm, relying heavily on groundwater from confined aquifers.
  - As per a **Central Groundwater Board (CGWB) report of 2022**, 100 kg of sugar needs two lakh litres of groundwater for irrigation, raising concerns of drought and groundwater-stress in low rainfall regions.

What are the solutions to this problem?

- Introducing fair and comprehensive subsidy schemes **for a variety of crops** can help farmers diversify as well as distribute cultivation evenly, **prevent monocultures**, and ensure an equitable income.
- The availability of a wider range of profitable and less resource-intensive crops can lower the strain on vital natural resources.
- Using environmentally responsible sugarcane cultivation practices that prioritise groundwater.
  - In drip irrigation, water is allowed to drip slowly but directly to the roots of

sugarcane plants, reducing water consumption by up to 70% relative to the current flood irrigation method.

What is the way forward?

- Concerted efforts to adopt cleaner practices such as rainwater harvesting, wastewater treatment, and canal irrigation networks, will help minimise stress on groundwater reservoirs.
- A better and more sustainable way would be to assess and then correct incentives that skew in favour of sugarcane over other crops.

8.2. Revolutionizing Agriculture

Why in News?

AICRP (ICAR-IIRR) launched a revolutionary IoT-based automated soil testing and agronomy advisory platform, Bhu-Vision (also known as **KRISHI-RASTAA Soil Testing System).**

About Bhu-Vision:

- The KRISHI-RASTAA Soil Testing System represents a new era **in precision agriculture.** The technology is a testament to the power of collaboration, having been jointly developed by ICAR-IIRR and KrishiTantra.
- Manufactured by HiMedia Laboratories and marketed by BhoomiSeva (HCF Tech Services Pvt. Ltd.), this system seamlessly **conducts 12 key soil parameter tests in just 30 minutes, providing quick, accurate results** directly to farmers and stakeholders through a soil health card on their mobile devices.
- The launch of Bhu-Vision (Krishi-RASTAA) signals a promising future for the nation's agricultural technology landscape.
- This platform will play a vital role in completing the **nation's soil health map** and gaining a more nuanced understanding of our agricultural scenario.

8.3. Smart & Youth-centric agriculture in India

Why in News?

With the increasing challenges posed by climate change, population growth and evolving market dynamics, the need for sustainable, smart, yet localised agricultural practices has become more pressing than ever before.

What is Smart and Youth-centric Agriculture?

- Smart Youth-Centric Agriculture" refers to the **integration of modern technologies, innovative practices, and youth engagement** to transform and enhance the agricultural sector.
- It focuses on leveraging the potential of young people in agriculture by equipping them with knowledge, skills, and tools to address challenges and capitalize on opportunities in the agricultural domain.
- This approach aims to make agriculture more **attractive, sustainable, and productive** while catering to the **needs and aspirations of the younger generation**.

How it can be beneficial?

- **For a sustainable future:** The convergence of traditional wisdom and technology in smart agriculture can open the gateway to a prosperous future for Northeast India's farmers and communities.
- **Adaptations to changing environment**: It will likely empower them to adapt to changing conditions, preserve their cultural heritage and build a stronger and self-reliant agricultural sector.
- **Inspire young minds towards agriculture:** It will lead to further innovations. As we have witnessed the IT revolution, which was led by young minds who saw a dream and believed in it.
- **Making agriculture aspirational**: A new approach to smart farming became possible with an effort to engage with children and youth at the school level, making community spaces into science and agriculture laboratories where children can connect with nature, science and technology while learning more about their agricultural and food histories.

How involvement of youth can be achieved?

- **Challenging modern techniques**: Monocropping was becoming popular, adversely impacting diversity in local diets as crop and diet diversities are intrinsically linked. These disturbing trends presented an opportunity to rethink agriculture and innovation and make it more community-centric, in fact, even child-centric.
- **Promoting community-centric participation**: Today, **krishisakhi, pashusakhi and solarsakhi** are creating an ecosystem of inquiry that helps open

minds to the idea of smart agriculture that is community-centred.
- **Sense of coexistence**: By attracting youth, helps them discover their relationship with the larger ecosystem, its relationship with **parents, friends, their community** and the environment around them.

Government Initiatives on similar lines:

- **Digital Agriculture Mission (DAM)**: It includes India Digital Ecosystem of Agriculture (IDEA), Farmers Database, Unified Farmers Service Interface (UFSI), and Funding to the States on the new Technology (NeGPA), Revamping Mahalanobis National Crop Forecast Centre (MNCFC), Soil Health, Fertility and profile mapping.
- The GoI started **eNAM (National Agriculture Market),** an electronic trading portal which creates networks between the existing Agricultural Produce Market Committee (APMC) mandis for the farmers.
- **Common platform called KISAAN:** The Farmer **FIRST (Farm, Innovations, Resources, Science and Technology) initiative** was launched by ICAR to enhance farmers-scientists interface to move beyond production and productivity.

9. Environment

9.1. Project Tiger and Project Elephant

Why In News?

- The Central government recently **merged Project Tiger and Project Elephant.**

More on the News

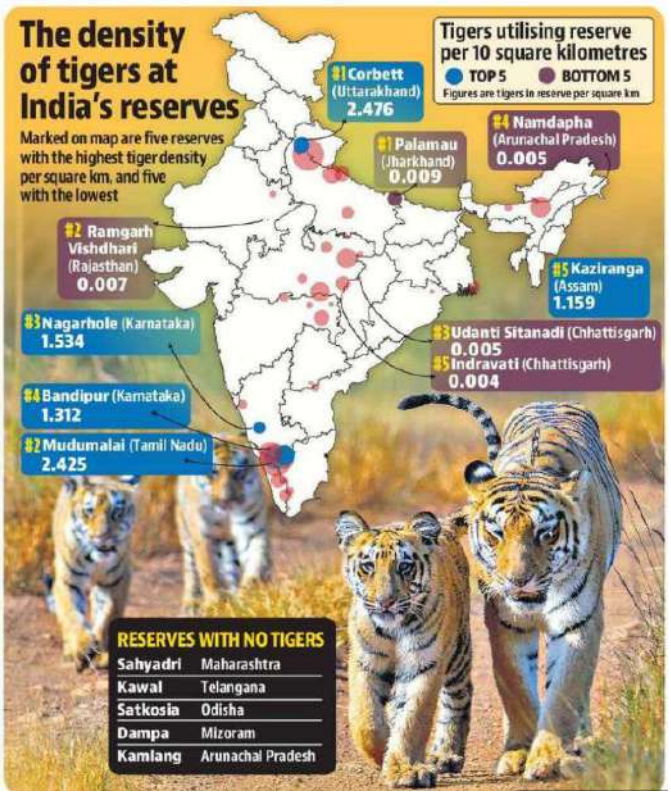
- A common allocation will fund both the projects beginning this year.The administrative setup for the two schemes will continue to exist separately, only funding is to be merged.
- A new division, **'Project Tiger and Elephant Division,'** has been notified under **the Ministry of Environment Forest and Climate Change.**
- The amalgamation will bolster the conservation of both the animals, as **they often share the same landscapes in the country.**

Concerns raised

- The decision, apparently driven by an effort to squeeze funds, is likely to impact conservation of both signature animals — particularly tigers.
- The merger will impact the funding pattern for tiger reserves, as Project Elephant will become a parasite on Project Tiger and both will suffer.
- There is a lack of details regarding the merger which is causing confusion.

Project Tiger

- The Project Tiger was launched by the government in **1973 from the Jim Corbett National Park in Uttarakhand** with an ambitious aim of increasing the population of the tiger in the country.
- The initial reserves covered under Project Tiger were the **Jim Corbett, Manas, Ranthambore, Simlipal, Bandipur, Palamau, Sundarbans, Melghta and Kanha national parks.**
- From 9 tiger reserves since its formative years, the Project Tiger coverage has **increased to 54 at present,** spread out in 18 of our tiger range states.



Project Elephant

- It was **launched in 1992** to provide financial and technical support to major elephant bearing States in the country for the protection of elephants, their habitats and corridors.

- It is a **centrally sponsored scheme** and seeks to address the issues of human-elephant conflict and the welfare of domesticated elephants.

9.2. Western Ghats

Why In News?

- The rapid shift from **traditional local grain cultivation** to **monoculture plantations** of mango and cashew in the **Sahyadri plateaus of Maharashtra** is impacting amphibians, insects, and reptiles that live under a crop of loose rocks.

About

- The loose rocks **shelter these animals** – some endemic and threatened – from scorching heat during summer and heavy monsoon rains.
- They have evolved to survive on the rocky plateaus, but their adaptability to changing conditions may not be enough for the pace of shift in the land-use pattern.

Western Ghats

- It is a chain of mountains running parallel to India's western coast, approximately 30-50 km inland, the Ghats traverse the **States of Kerala, Tamil Nadu, Karnataka, Goa, Maharashtra and Gujarat** from the river Tapti in the north to the southern tip of India.
- These mountains cover an area of around 140,000 km² in a **1,600 km long stretch** that is interrupted only by the 30 km Palghat Gap at around 11°N.
- A significant characteristic of the Western Ghats is the **exceptionally high level of biological diversity and endemism.** This mountain chain is recognized as one of the **world's eight 'hottest hotspots'** of biological diversity along with Sri Lanka.
- The part of western Ghats falling in the state of Maharashtra is known as **Sahyadri** and is sometimes called the **Great Escarpment of India.**

Sahyadri Range

- Sahyadri mountains are **volcanic in nature**, with an estimated age of 100 million years, and are made up of mostly **basaltic rock.**
- Geologic evidence indicates that they were formed during the break-up of the supercontinent of **Gondwana** some 150 million years ago.
- Sahyadri contains a very **large proportion of the region's flora and fauna,** many of which are only found in Maharashtra and nowhere else in the world.

9.3. Zoological Survey of India publication

Why in News?

- A recent publication by the Zoological Survey of India (ZSI) points out that about **5% of birds found in the country are endemic** and are not reported in other parts of the world. The publication, titled ***75* Endemic Birds of India**, was recently released on the 108th foundation day of the ZSI.

Birds in India:

- India is home to 1,353 bird species, which represents approximately 12.40% of global bird diversity. Of these 1,353 bird species, 78 (5%) are endemic to the country.

Report Findings:

- The publication aims to make information about the country's endemic birds available to everyone and highlight the efforts to conserve species found only in restricted areas.
- One of the authors of the publication said that of the 78 species, three species have not been recorded in the last few decades.
- They are the Manipur Bush Quail (Perdicula manipurensis), listed as 'Endangered' by the International Union for Conservation of Nature's (IUCN) Red List of Threatened Species with its last recorded sighting in 1907.
- The Himalayan Quail (Ophrysia superciliosa), is listed as 'Critically Endangered' with its last recorded sighting in 1876.
- The Jerdon's Courser (Rhinoptilus bitorquatus), listed as 'Critically Endangered' with its last confirmed sighting in 2009.
- The publication points out that the 75 bird species belong to 11 different orders, 31 families, and 55 genera, and exhibit remarkable distribution patterns across various regions in India.
- The highest number of endemic species has been recorded in the Western Ghats, with 28 bird species.

Some of the interesting species recorded in the country's bio-geographic hotspot are:

- The Malabar Grey Hornbill (Ocyceros griseus);
- Malabar Parakeet (Psittacula columboides);
- Ashambu Laughing Thrush (Montecincla meridionalis);
- The White-bellied Sholakili (Sholicola albiventris).

25 bird species are endemic to the Andaman and Nicobar Islands. Endemism in the Andaman group of islands must have developed because of the region's geographical isolation.

- The details of endemic bird species contained in the publication include etymology (meanings of scientific names) and their historical relevance along with vital facts such as subspecies' differences, distinguishing traits, preferred habitats, breeding habits, and food preferences,

What is Endemic Species:

- Endemism is the condition of being endemic, or restricted in geographical distribution to an area or region.
- The area or region can vary in size and is defined or identified in different ways. Endemism is an ecological classification in that it describes the range or distribution of a species or group of species.
- Endemic species are those that are found in just one region and nowhere else in the world.
- The cases where they have been spotted outside their natural habitat are due to humans introducing them when the animal was in captivity.
- **Examples:** Asiatic Lion in Gir Forest, Lion-tailed Macaque in Western Ghats of India, Nilgiri Tahr, Malabar large spotted civet, Nilgiri Blue Robin, Jerdon's Corser, Nilgai, Nicobar megapode, Black-and-orange Flycatcher (BOF) and the Nilgiri Flycatcher (NIF), two species endemics to the Western Ghats are some of the species of animal's endemic to India.

9.4. 7th GEF Assembly

Why In News?

- Environmental leaders from 185 countries gathered in Vancouver, Canada for the **Seventh Assembly of the Global Environment Facility (GEF).**

About

- This meeting comes at a time of significant diplomatic momentum with the historic Global Biodiversity Framework deal reached at COP15 and the high seas treaty agreed on in New York City, New York, in March 2023.

Global Environment Facility (GEF)

- It is the global body that coordinates financing for international efforts to address climate change, biodiversity loss, pollution, and factors inhibiting land and ocean health.
- It was established on the eve of the **1992 Rio Earth Summit** and meets every 4 years. **United Nations Development Programme (UNDP)** is a **founding member of the GEF.**
- The **GEF Trust Fund** was established to help tackle our planet's most pressing environmental problems. Funds are available to developing countries and countries with economies in transition to meet the objectives of the international environmental conventions and agreements.
- The GEF was selected to manage the new fund at the COP15 Convention on **Biological Diversity summit** in December 2022

Key Highlights of Meeting

- **Establishment of Global Biodiversity Framework Fund (GBFF):** The Global Biodiversity Framework Fund (GBFF) was finally ratified and launched .
    - The new Global Biodiversity Framework Fund (GBFF) has been designed to mobilize and accelerate investment in the conservation and sustainability of wild species and ecosystems, whose health is under threat from wildfires, flooding, extreme weather, and human activity including urban sprawl.
    - Governments, non-profits and the private sector can now contribute their funds here to ensure that the world meets the goals and targets of the **Kunming-Montreal Global Biodiversity Framework (GBF)** formulated by the **Convention on Biological Diversity (CBD) by 2030.**
- **Prioritizing LDSs:** It will also prioritize support for **Small Island Developing States and Least Developed Countries**, which will receive more than a third of the fund's resources. This is the first time there would be funds channeled to non-state actors like the indigenous communities.
    - Under **Target 19 of GBF**, at least $200 billion per year will need to be raised by 2030.

Need of such an initiative

- The launch of the GBFF has been particularly significant as it aims to address and assist the

brunt of climate change borne by developing countries.
- By allocating a third of the funds resources to least developed states and 20% to indigenous communities, it aims to take concrete steps in conserving wild species and protecting biodiversity for future generations.

9.5. The State of India's Birds Report

Why In News?

- The State of India's Birds Report has been released recently.

About

- It is a periodic assessment of the **distribution range, trends in abundance, and conservation statu**s for most of the bird species that regularly occur in India.
- The report is based on **30 million observations** contributed by **30,000 birdwatchers across the country.**
- As a comprehensive, national-level assessment, the report points the way towards **conservation needs of India's birds.**
- The first report on the State of India's Birds (SoIB) was released in **2020** at the Conference of Parties to the Convention on Migratory Species in Gandhinagar.

Findings

- **Species Assessed:** 942 species of Indian birds assessed in this report.
    - Of these 338 species, 204 have declined in the long term, 98 show a trend that is indistinguishable from stable, and 36 have increased.
- **Species whose number increased:** 150% increase in the abundance of peafowl across the country over the past decades.
    - 217 species stable or increasing in the last eight years
    - Indian Peafowl continues to thrive.
    - Asian Koel has increased in the past three decades.
    - Ashy Prinia and Rock Pigeon are among the species that are thriving in India.
- **Declining Trends:** Populations of mammals, birds, reptiles, amphibians, and fishes have declined by an average of 69% since 1970.
    - 39% of species show clear declines over the past decades.
    - **Habitat specialists**: particularly specialists of **grasslands and other open habitats**, **wetlands, and woodlands**—are declining rapidly.
    - **In terms of diet,** carnivores, insectivores, and granivores are declining more rapidly than omnivores or fruit- and nectar eaters.
    - Migratory species appear to be under greater threat than non-migrants.
    - And species endemic to the Western Ghats–Sri Lanka region are faring worse than others.
- **14 species**, including Indian Roller**, recommended for IUCN Red List reassessment.**
- Out of the 101 birds categorised as High Concern (i.e., Priority) in 2020, 74 remain in the same category. An additional 104 species have been newly listed as High Priority in 2023.
    - Hence, **178 species are classified as of High Conservation Priority**, and require immediate attention.

Threats

- **Monocultures**: It include commercial plantations of coffee, tea, arecanut, cardamom, rubber, teak, or other species, which are created by large-scale clearance or modification of natural habitats like forests and grasslands.
    - The principal threats to **woodpeckers are forest degradation, fragmentation, and conversion to monocultures.**
- **Environmental Pollutants:** Heavy metals, pesticides and even veterinary drugs are on top of the list of known environmental pollutants endangering birds.
    - **Diclofenac and other veterinary drugs** remain a **major threat to vultures**.
    - In India, many **raptors of open habitats feed in agricultural landscapes,** where pesticides and other chemicals are used with unknown consequences.
- **Forest Degradation:** It is a well-known driver of biodiversity loss. The factors include logging of varying intensity, spread of invasive species, high intensity forest fires, fragmentation, excessive livestock grazing, biomass extraction, insect pests, and severe weather conditions.
- **Urbanisation:** It has become a key driver of global land-use change in the past 50 years.

    - As roads and built-up areas increase, the resulting loss of natural habitat for birds exposing them to elevated pollution levels, increased temperature, and increased density of free-ranging domestic predators like cats and dogs.
- **Energy Infrastructure:** The major impacts of wind turbines on birds include
    - Direct collision of birds with the rotating wind turbine blades,
    - Displacement of birds from the turbine area due to disturbance.
- **Avian Diseases:** Anthropogenic drivers such as land-use change, intensive livestock production, wildlife trade, and climate change are now known to have indirect effects on the emergence and cross-species transmission of pathogens.
    - **Spot-billed Pelican,** a species suffering a rapid ongoing decline, is affected by **nematode and trematode parasites** that infest its alimentary canal, potentially causing infected birds to starve to death.
    - **Illegal Hunting and Trade:** Live birds are trapped for the pet trade, or hunted for their derivatives such as meat, eggs, feathers, claws, beak, and casque. Superstitious beliefs can lead to the illegal hunting of species like owls or Indian Roller.
- **Climate Change:** Phenological mismatches occur when the timings of annual events (e.g., migration, nesting, insect emergence) become asynchronous.
    - Higher temperatures also cause birds to alter their behaviour, making them more likely to seek shade and spend less time foraging, with negative impacts on survival and reproduction.

Recommendations as per the Report

- **Conservation action plans** are needed for all 178 species identified as being of High Conservation Priority.
    - For the 323 species identified as being of moderate priority, plans are needed to identify early warning signals and what research, policy, and conservation actions such signals would trigger.
- **Conserving Habitat:** Since, species cannot survive in the absence of the conditions they need. The establishment of **Protected Areas and other conservation-focussed areas** is essential.
- **Research:** Research on species, their habitats, the relationship between the two, and how humans affect these relationships is vital, and requires a supportive and enabling environment.

9.6. Terai-Arc Landscape(TAL)

Why In News?

- The poop of tigers has helped a team of scientists at the **Wildlife Institute of India (WII)** understand the prey selection patterns of the striped feline in the Indian part of the **Terai-Arc Landscape**(TAL).

About Terai Arc Landscape (TAL)

- It is a stretch between the river **Yamuna** in the west and the river **Bhagmati** in the east, comprising the **Shivalik hills**, the adjoining bhabhar areas and the Terai flood plains.
- It is spread across the Indian states of **Uttarakhand**, **Uttar Pradesh** and **Bihar**, and the low lying hills of Nepal.
- It has been shortlisted by FAO as the "World Restoration Flagship" as a part of the ongoing UN Decade for Ecosystem Restoration Campaign (2021-2030).
- **About 22% of the wild tiger population** in India is found across the TAL, living amidst some of the highest human and livestock densities on the subcontinent.
- The landscape also has a **high mammalian diversity** with **herbivores** including gaur, nilgai, sambar, northern swamp deer, wild pig, chital, goral, and some primates, carnivores such as leopard, wild dog, and hyena apart from the tiger, and omnivores including the sloth bear and Asiatic black bear.

Key Findings of recent assessment

- The assessment of the **food habits of the tiger (Panthera tigris)** was published in the latest edition of the Journal of Mammalogy, a peer-reviewed international publication.
- A team of researchers found protected areas and non-protected areas in the Terai region are more prone to livestock predation-related conflict
- The **feces of the tigers** also helped the scientists gather information about the hotspots of conflicts related to livestock predation across 15,000 sq. km of the animal's habitat along the foothills of the Himalayas.

- Large-bodied species - sambar, swamp deer, nilgai, chital, wild pig, and livestock – comprised about 94% of the diet, with sambar, chital, and livestock having the highest relative proportions.

Suggestions

- Given the significant role of large carnivores in maintaining ecological diversity and interactions within their respective biological communities, the scientists suggested careful management interventions with community involvement to reduce threats of livestock predation-related conflict.
- They also suggested long-term conservation plans including prey abundance estimation outside the PAs, reduction of grazing pressures, and detailed records of tiger mortalities with causal investigations to ensure future conflict-free tiger persistence across the TAL.

9.7. Climate Change and Health Hub

Why In News?

- India to open a **climate change and health hub** in the national capital in partnership with the **Asian Development Bank (ADB).**

About

- The hub will facilitate knowledge sharing, promote partnerships and innovations, and also help countries beyond the G-20, especially developing countries.
- Climate change affects all and this centre will give the opportunity to have different partners discussing this important issue and learning from each other.

Need for the Hub

- India also noted that climate change will continue to drive **health emergencies,** including the **emergence and re-emergence of infectious diseases,** and by increasing the severity and frequency of natural disasters, thereby threatening to overwhelm health systems' ability to deliver essential services.

About Asian Development Bank (ADB)

- ADB was established in **1966** as a **financial institution** that would be Asian in character and foster **economic growth and cooperation in one of the poorest regions in the world.**
- ADB assists its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development.
- From 31 members at its establishment in 1966, ADB has grown to encompass **68 members**—of which **49 are from within Asia and the Pacific and 19 outside.**
- **Headquarter: Manila, Philippines.**

9.8. Kampala Declaration on climate change

Why in News?

A total of **48 African countries** have now agreed to adopt the **Kampala Ministerial Declaration on Migration, Environment and Climate Change (KDMECC)** to address the nexus of **human mobility and climate change** in the continent.

About the Declaration:

- **Background**: KDMECC was originally signed and agreed upon by **15 African states** in Kampala, Uganda in July 2022.
- The Declaration is the first comprehensive, **action-oriented framework** led by Member States to address climate-induced mobility in a practical and effective manner.
- The **KDMECC-AFRICA** is expected to be signed by Member States during the **Africa Climate Summit** in Nairobi on September 4, 2023.
- **Need:**
  - Africa is one of the **world's most vulnerable continents** to the impacts of climate change.
  - Climate change, which leads to an **increased frequency and intensity of extreme weather events**, has a direct impact **on migration.**
- **Significance:**
  - The **Kampala Ministerial Declaration on Migration, Environment and Climate Change** gives us the unprecedented opportunity to support **Member State priorities** in addressing the challenges while also leveraging migration for sustainable development.
  - It will ensure that all voices, including those of **youth, women and persons in vulnerable situations** are the priority of the expanded declaration.

Linkage between Climate change and Human Rights:

- Climate change has indisputable long-term consequences on the environment, which, in turn, seriously undermine the enjoyment of human rights.
- The **African continent** is projected to be one of the hardest hit by the negative effects of climate change.
- The consequences of climate change are not only disproportionately felt by the most vulnerable and poorest populations; there are also disparities along gender lines.
- The connections between **climate change, gender equality, and women's rights** are complicated and multidimensional.
- In contrast, most existing studies on gender and climate change action offer a narrow conception of what gender equality and women's rights mean in the context of climate change action.

10. Internal Security

10.1. Lynchings and Mob Violence

Why In News?

- The Supreme Court recently asked the Centre and States to respond to a plea about lynchings and mob violence.

More about the Plea

- The plea said gruesome incidents of mob fury and vigilantism **continue to happen** despite a **five-year-old apex court judgment**, which had made the **government machinery squarely accountable** for protecting the lives of victims, including minority community members.

Mob Lynching

- **About:** It is a form of violence in which a mob, under the pretext of administering justice without trial, punishes and inflicts torture on a presumed offender, sometimes even resulting in murders.
- **Origin:** The word lynching in fact originated in the United States in the mid-18th century.
    - Historians believe that the term was first used by planter Charles Lynch to describe extra-judicial authority assumed by private individuals like him.
    - It came to be applied over time to extra-judicial killings by crowds, most commonly of African-Americans in the late 19th century.
- **Impacts:** The spate of incidents of lynching over the past few years has led to a heightened sense of insecurity among the marginalised communities.

Reasons

- **Combined effect of various factors:**
    - A combined effect of political, socio-economic, and psychological factors have led to a situation of hyper-reactivity among large populations even in rural areas and small towns.
    - These factors which instigated the people include deep discontent and anger in rural youth populations due to the worsened crisis of agriculture and bleak employment opportunities.
- **Poor Law and order:**
    - Most lynchings have occurred in remote areas, on highways, or in the countryside.
    - The network of law and order is generally lax in these areas and even a set of enthusiastic police personnel might not reach the location on time to prevent violence.
- **Role of social media:**
    - Smartphones and cheap internet have become a common phenomenon only after 2010.
    - Lynchings are often fuelled by rumors spread on social media platforms.
- **Religion-based:**
    - There have been dozens of killings on the name of religion in the last few years.
- **Witch-hunting:**
    - Witch-hunting was one of the reasons for mob violence, where 2000 mentally challenged women were lynched for rumours that put an allegation upon them of stealing and murdering children.

Government initiatives to deal such mob actions

- **Creation of Nodal Officers:**
  - Central government has asked states to appoint a nodal officer in each district to prevent the incidents of mob violence and lynching.
  - As per advisory from the Home Ministry, the nodal officer should be a superintendent of police-level officers.
  - It has also asked to set up a special task force to procure intelligence reports about the people who are likely to commit such crimes or who are involved in spreading hate speeches, provocative statements and fake news.
- **Creation of Two High Level Committees:**
  - Two high-level committees were constituted by the Central government to suggest ways and legal framework to effectively deal with incidents of mob violence and lynching.
- **Awareness generation:**
  - The government through audio-visual media has also generated public awareness to curb the menace of mob lynching.
  - The government has also sensitized the service providers to take steps to check the propagation of false news and rumours having the potential to incite mob violence and lynching.
- **Jharkhand's Law:**
  - The **Jharkhand Assembly** passed the Prevention of Mob Violence and Mob Lynching Bill, 2021, which aims at providing "effective protection" of constitutional rights and the prevention of mob violence in the state.
  - **The Bill defines lynching** as "any act or series of acts of violence or death or aiding, abetting or attempting an act of violence or death, whether spontaneous or planned, by a mob on the grounds of religion, race, caste, sex, place of birth, language, dietary practices, sexual orientation, political affiliation, ethnicity or any other ground".

Way ahead

- There are mainly two ways by which one can be stopped from doing an offence.
  - One is to inculcate fear in the mind of the offender about the consequences of his offences. Offences can be reduced by way of such punishments which have a deterrent effect.
  - The other way to curb the number of offences is to know why someone is committing an offence and then counter that mentality of the offender.
- In a country like India, people taking law into their own hands is unacceptable since citizens of the country have been granted various fundamental rights.

10.2. Free movement regime

Why in News?

- Amid tensions in Manipur, questions have been raised on the Free Movement Regime (FMR) that facilitates migration across the Indo-Myanmar Border (IMB).

About the Free Movement Regime

- The border between India and Myanmar runs for **1,643 km** in the four states of **Mizoram**, **Manipur**, **Nagaland**, and **Arunachal Pradesh**.
- The FMR is a **mutually agreed arrangement** between the two countries that allows tribes living along the border on either side to **travel up to 16 km inside the other country without a visa.**
- The FMR was **implemented in 2018**.

Need and Significance of FMR:

- The border between India and Myanmar was **demarcated by the British in 1826**, without seeking the opinion of the people living in the region.
  - The border effectively **split people of the same ethnicity and culture** into two nations without their consent.
  - People in the region have **strong ethnic and familial ties** across the border.
  - Apart from facilitating **people-to-people contact**, the FMR was supposed to give an **impetus to local trade and business**.
  - Given the low-income economy of the region, such exchanges are **vital for the sustenance of local livelihoods.**

- For the border people in Myanmar, **towns in India are closer for business, education, and healthcare** than those in their own country.

Challenges:

- **Insurgency and drug traficking:**
  - A number of **insurgent groups** have built camps in nearby regions.
  - They took shelter there, **obtained arms**, **trained cadres** and engaged in illegal activities such as **smuggling drugs** and **selling weapons** to raise funds.
  - This is possible because of the porous borders and frequent **misuse of FMR**. Therefore, managing and administering the border areas effectively is pertinent for reducing drug trafficking and illegal cross-border movement on unfenced borders," the paper said. (Revisiting Free Movement Regime (FMR): Challenges and Implications, November 2022)

Way forward:

- **Need of regulation:**
  - The FMR **needs better regulation**.
  - As the crisis in Myanmar escalated and the influx of refugees increased, India **suspended the FMR in September 2022**.
- **Taking the middle path:**
  - Due to the **changing socio-politico-economic condition** in Myanmar and the dynamic demographic profile, illicit activities along with border crimes along the IMB, it is imperative for New Delhi to tackle the issue by pursuing **'killing the snake without breaking the stick' approach."**

10.3. Talwar-class Stealth Frigates

Why In News?

- Two Krivak- or Talwar-class stealth frigates are now expected to be delivered by May and October in 2024.
  - The ship is in the final stages of development; in two months time, it will go for sea trials.

About Talwar-class stealth frigates

- The Talwar class of frigates of the Indian Navy have been built in Russia under an Indo-Russian joint production.
- The Talwar class guided missile frigates are modified **Krivak III class frigates from Russia.**
  - In October **2016, India and Russia** signed an Inter-Governmental Agreement for four stealth frigates, after which a **$1-billion deal** was signed for direct purchase.
- The Talwar Class has a displacement of 4,000 tons and speed of 30 knots and is capable of accomplishing a wide variety of naval missions, primarily, finding and eliminating enemy submarines and large surface ships.
- Due to the use of stealth technologies and a special hull design, the resulting frigate features reduced radar cross section (RCS) as well as electromagnetic, acoustic and infrared signatures.



11. Geography & Disaster Management

11.1. Anatomy of the Yamuna Floodplains

Why In News?

- Recently, the water levels of Yamuna floodplains hit a 60-year-high, advancing towards the Taj Mahal for the first time in half a century.
  - Causes, experts argue, can be traced to haphazard construction activities, urbanisation, lack of proper housing and lax regulations — all of which have besieged the floodplains.

About the river 'Yamuna'

- **The river system:**
  - It is a major tributary of the river Ganges.
  - It **originates from the Yamunotri glacier** near Bandarpoonch peaks in the Mussoorie range of the lower Himalayas in Uttarakhand.
  - It **meets the Ganges at the Sangam in Prayagraj**, Uttar Pradesh after flowing through Uttarakhand, Himachal Pradesh, Haryana and Delhi.
    - The river system includes **both water and land**. Yamuna is a **lifeline to five States**, and its floodplains are a charging point.
- **There are three stretches to the river:**
  - **Northern** (a 26-km run from Palla to Wazirabad barrage),
  - **Central** (22 km from the Wazirabad to Okhla barrage) and
  - **Southern** (4 km from the Okhla barrage till Jaitpur village, where it exits to Haryana).
- **Important Dams on the Yamuna:**
  - Lakhwar-Vyasi Dam (Uttarakhand),
  - Tajewala Barrage Dam (Haryana) etc.
- **Its tributaries:**
  - Chambal, Sindh, Betwa, Ken, Tons, Hindon.
- **The life built on Yamuna floodplains:**
  - A 2022 report found **there are 56 bastis** (one basti has 15 or more houses), with 9,350 households and 46,750 people.
  - Almost half of the households (4,835) practice **farming as a livelihood**; others **rely on daily wage work**, **fishing**, **nurseries**, and **animal herding**.

Challenges faced by the river system

- **Pollution load:**
  - According to a **2020 report** by the now-dissolved **Yamuna Monitoring Committee (YMC)**, the 22-kilometre stretch of the Yamuna - only 2% of the length of the river - accounts for over 75% of the total pollution load, an **accretion of industrial waste** and **domestic sewage**.
  - The low volume of water flow in the river causes the pollutants to accumulate and raise the pollution level.
- **Overboarded infrastructure:**
  - The South Asia Network on Dams, Rivers and People (SANDRP) in 2020 found large parts of the Yamuna floodplains and riverbed were **"grossly abused" due to lax implementation**: 23 **bridges** including **rail, road, metro and barrages** have been built; there was a **bridge at every 800m**.

Initiatives by the Government

- **Cleaning Yamuna:** Government has come up with **three action plans to clean the river** — Yamuna Action Plan 1, 2, 3. â‚¹1,514.7 crore was spent in the first two phases.
- **Delhi's Master Plan:** The Yamuna floodplain was designated as a protected area free from construction in the Delhi Master Plan of 1962.
  - The Central Ground Water Authority in 2000 also notified the floodplains as 'protected' for groundwater management.
- **Draft Master Plan For Delhi 2041:** The draft Master Plan For Delhi 2041 divides Delhi into 18 zonal areas, designating Yamuna's floodplains as **'Zone O',** delineated in two parts: **river zone (active floodplain)** and **riverfront (regulated construction is allowed)**.
  - The latter is where structures such as Akshardham Temple and Commonwealth Village have been built.
- **NGT's Blanket ban:** The National Green Tribunal (NGT) in 2016 imposed a blanket ban on **agriculture-related activities** till "Yamuna is restored and made pollution free".

Way ahead

- The concept of floodplain zoning is not mainstreamed in the Master Plan, and authorities haven't yet "taken cognizance of the river's right to expand.
    - This gap, along with poorly implemented policies, frees up river land for private and public real estate.
- Action can be focused on creating climate-resilient infrastructures, de-silting drains, creating green areas and improving drainage systems.

11.2. Kuril islands

Why in News?

- Russia's invasion of Ukraine forced it to funnel more and more of its resources to its western border thereby neglecting disputed Kurils island



with Japan along the eastern border.

About Kurils Island

- Kuril Islands, Russian Kurilskiye Ostrova, Japanese Chishima-rett, is an archipelago in **Sakhalin oblast province of far-eastern Russia.**
- The archipelago (56 islands) extends for 1,200 km from the southern tip of the **Kamchatka Peninsula (Russia)** to the northeastern corner of **Hokkaido island (Japan)** and **separates the Sea of Okhotsk from the Pacific Ocean.**
- The chain is part of the belt of geologic instability circling the Pacific and **contains at least 100 volcanoes**, of which 35 are still active, and many hot springs.
- Parallel to the chain, in the Pacific floor, is the **Kuril Trench,** which reaches a depth of more than 6.5 miles (10.5 km).

11.3. Devika Rejuvenation Project

Why in News?

- North India's **first River Rejuvenation Project of river Devika** is nearing completion.
- The project was launched to protect the sanctity of the **holy Devika River** in Udhampur, Jammu and Kashmir (J&K).It was built at a cost of over **Rs 190 crore** on the lines of **Namami Gange Programme.**

Devika river

- It originates from the **hilly Suddha Mahadev temple in Udhampur** district and flows down towards western Punjab (now in Pakistan) where it merges with the Ravi river.
- Devika is also known as **Gupt Ganga**, as it appears and disappears at many places.
- The river holds religious significance as it is revered by Hindus as the **elder sister of river Ganga**.This holy river finds mention in **Padma Purana** and other scriptures.
- There are many Shiva lingams on the bank of the river, so great importance is attached to the sacred bathing in its water on special days.Also a fair is organized on the eve of **Baisakhi every year** on the bank of the river.

11.4. Urban Flooding in India:

Why in News?

- Urban flooding in India has emerged as a pressing issue, with recent devastating floods hitting major cities like Delhi, Ahmedabad, and Mumbai.

Severity of the Issue

- This phenomenon is not new, as cities such as Hyderabad (in 2000), Srinagar (in 2014), Chennai (in 2021), and Bengaluru (in 2022) have experienced similar flooding during heavy rainfall in the past.

- The frequency and severity of these events have escalated due to factors like unplanned urbanization, population growth, and the loss of water bodies to construction activities.
- The consequences of flooding, such as water-logging and traffic congestion, significantly impact urban residents' lives. To combat this challenge, a comprehensive approach is imperative, involving better understanding, infrastructure revamp, and improved urban planning.

Understanding the Urban Flooding Challenge:

- A crucial first step in addressing urban flooding is conducting comprehensive studies in all cities to understand the catchment areas and flooding risks associated with urban water bodies and land use patterns.
- This data-driven approach can aid in developing short, medium, and long-term measures to rejuvenate water bodies and manage flooding more effectively.
- Involving local citizens in the upkeep of water bodies through participatory lake and river management plans is vital to ensure their sustainability. Emphasizing the use of geographic information systems (GIS) can help track encroachments and understand their seasonality, contributing to better flood risk management.

Investing in Robust Early Warning Systems:

- In light of changing weather patterns, investments in advanced early warning systems, including Doppler radar, are necessary to provide real-time updates on local weather changes.
- Integrating local rainfall data with regional flood control efforts can aid in timely response and risk assessment. Additionally, simulations for flooding hotspots and flood risk maps can guide urban planning and insurance product development, helping communities prepare for potential flooding events. Establishing comprehensive city-wide databases can further facilitate immediate relief and support during flooding-related disasters.

Revamping Drainage and Stormwater Networks:

- The lack of well-functioning sewerage networks in most Indian cities highlights the need to revamp and expand drainage and stormwater networks.
- Developing comprehensive drainage master plans and conducting surveys of existing pipelines are essential steps towards efficient water management.
- Emphasizing the separation of stormwater networks from drainage networks can significantly reduce water-logging and mitigate flooding risks. Addressing delays and coordination challenges among civic agencies managing these networks is crucial to improving infrastructure efficiency.

Enhancing Resilient Urban Planning:

- Long-term solutions demand an enhanced approach to urban planning. Coordination among multiple agencies and institutions involved in managing water bodies is crucial for effective results.
- The formulation of a well-defined urban water policy can provide guidance and a regulatory framework for water body conservation.
- Encouraging civic participation through community-driven approaches can lead to successful water body restoration projects, as demonstrated in cases like Mangalore's wastewater treatment plants and Bengaluru's Kaikondrahalli Lake.

Replicating Local Success Stories:

- Identifying and replicating successful examples of water body restoration and urban resilience is vital. Learning from initiatives like the Mangalore wastewater treatment plants and Bengaluru's community-driven approach for lake revival can inform other cities' strategies.
- Empowering citizens to actively participate in conservation efforts and tailoring plans to preserve local ecology ensures sustainable solutions for the future.

Promoting City-Wide Rainwater Harvesting:

- To reduce the strain on drainage systems and promote sustainable water management, widespread adoption of rainwater harvesting is crucial.
- Implementing rainwater harvesting measures in residential, commercial, and industrial buildings can significantly contribute to reducing stormwater run-off and recharging groundwater. Governments can incentivize rainwater harvesting through policy measures and public awareness campaigns.

Creating Green Spaces and Urban Green Infrastructure:

- Preserving and creating green spaces in urban areas play a vital role in mitigating the impact of flooding. Parks, gardens, and wetlands act as natural sponges, absorbing excess rainwater and reducing the risk of flooding. Incorporating urban green infrastructure, such as green roofs and permeable pavements, can enhance stormwater management and promote sustainable urban development.

Building Awareness and Community Engagement:

- Raising awareness among urban residents about the importance of water management, flood preparedness, and community participation is essential.
- Engaging local communities in flood response planning and early warning systems can improve disaster response and reduce vulnerability. Community-based initiatives can create a sense of ownership and responsibility towards water bodies, leading to their sustainable conservation.

Conclusion:

- Urban flooding poses significant challenges to Indian cities and their residents. To address the consequences of flooding and build resilience, a multifaceted approach is essential.
- Understanding flood risks through comprehensive studies, investing in advanced early warning systems, revamping drainage networks, improving urban planning, and fostering civic participation are crucial steps towards mitigating the impact of urban flooding.
- Implementing rainwater harvesting, promoting green spaces and urban green infrastructure, building flood-resilient infrastructure, and engaging communities are all essential components of a comprehensive flood management strategy.
- As cities advance, prioritizing sustainable water management and resilience-building measures will lead the way in combating climate change and creating a safer and more prosperous urban landscape for all.
- By implementing these measures and learning from successful initiatives, India can navigate towards a future where urban flooding is minimized, and its consequences are effectively managed.

12. History- Art & Culture

12.1. Anna Bhau Sathe

Why In News?

- Bharat Rashtra Samithi (BRS) founder president and Telangana Chief Minister K. Chandrasekhar Rao has demanded **Anna Bhau Sathe** be conferred with Bharat Ratna

About Anna Bhau Sathe

- Tukaram Bhaurao Sathe later came to be known as Annabhau Sathe was born in a Dalit family on August 1, 1920 in Maharashtra's Wategaon village in Satara district.
    - He belonged to the **Matang community among Dalits.**
- He was a social reformer, writer and folk poet of Maharashtra.
- He is also known as a pioneer of dalit literature
- He was influenced by the communist ideology and is often known as the 'Maxim Gorky of Maharashtra', having been inspired by the Russian writer-activist's work, as well as the Russian Revolution.
- **Contributions:** He decided to bring awareness among the **masses against Brahmanism** which imposed untouchability and virtually compelled the deprived lot to take recourse to criminal and military occupation against the British Government.
    - He used his art and poetic genius in educating the masses.
    - He formed Dalit Yuvak Sangh, a cultural group and started writing poems on workers' protests, agitations.
        - The group used to perform in front of the mill gates.

- In 1943, he along with Amar Sheikh and Datta Gavhankar, formed the Lal **Bawta Kala Pathak.**
  - The group toured across Maharashtra presenting programmes on caste atrocities, class conflict, and workers' rights.
- In 1943, he was part of the process that led to the formation of the Indian People's Theatre Association (IPTA).
  - He became its national president in 1949.
- He played a vital role in the Samyukta Maharashtra movement.

- **Literary Contributions:** In 1939, he wrote his first ballad 'Spanish Povada'.
  - Several of his works like 'Aklechi Goshta,' 'Stalingradacha Povada,' 'Mazi Maina Gavavar Rahili,' 'Jag Badal Ghaluni Ghav' were popular across the state.
  - His 'Bangalchi Hak' (Bengal's Call) on the Bengal famine was translated into Bengali and later presented at London's Royal Theatre.
  - He dedicated his most famous novel Fakira to Dr Ambedkar.

12.2. Subramania Bharathi

Why In News?

- **President Droupadi Murmu** unveiled a portrait of late nationalist **Tamil poet-journalist Subramania Bharathi** at the Raj Bhavan.

Who was Subramania Bharathi?

- C. Subramania Bharathi was a poet, freedom fighter and social reformer from Tamil Nadu.
- He was known as **Mahakavi Bharathiyar** and the laudatory epithet Mahakavi means a great poet.
- His songs on nationalism and freedom of India helped to rally the masses to support the Indian Independence Movement in Tamil Nadu.
- Durbar Hall on the campus was also renamed after him as **Bharathiar Mandapam.**

Contributions

- **As a Poet and Nationalist:**
  - Most parts of his compositions are classifiable as **short lyrical outpourings** on patriotic, devotional and mystic themes.
  - "Kannan Pattu" "Nilavum Vanminum Katrum" "Panchali Sabatam" "Kuyil Pattu" are examples of his great poetic output.
  - He exhorted the people to **join the independence struggle** and work vigorously for the liberation of the country.
  - He outlined his vision for a free India and published the sensational "**Sudesa Geethangal" in 1908.**
- **As a Journalist:**
  - He was the sub-editor in **"Swadesamitran"** in November 1904.
  - In order to proclaim its revolutionary ardour, Bharathi had the weekly printed in red paper. **"India" was the first paper in Tamil Nadu** to **publish political cartoons.**
  - He also published and edited a few other journals like **"Vijaya".**
- **As a Social Reformer:**
  - Bharathi was also against the **caste system.** He declared that there were only two castes-men and women and nothing more than that.
  - Above all, he himself had removed his sacred thread. He had also adorned many Dalits with sacred thread. He used to take tea sold in shops run by Muslims. He along with his family members attended church on all festival occasions. He advocated **temple entry of Dalits.**
  - He believed in **women's rights, gender equality** and women emancipation. He opposed **child marriage, dowry and supported widow remarriage.**

12.3. Gnana Muyarchi

Why in News?

- 18th Century Tamil manuscripts found in a monastery in Italy.

About

- The **Gnanamuyarchi**, a palm manuscript from the 18th Century, is discovered in an **Armenian monastery in northern Italy**.
- It is a copy of the first **Tamil translation of Spiritual Exercise, written by St. Ignatius of Loyola** in the 16th century.
- The translation is most likely by **Michele Bertoldi,** known in Tamil as **Gnanaprakasasamy**.

Background and Significance

- The **discovery was made by Tamil Bharathan**, a doctoral scholar from the Special Centre for Tamil Studies in Jawaharlal Nehru University (JNU).

- These palm manuscripts are of utmost importance in preserving historical and cultural knowledge, offering valuable insights into the time period they originate from, providing a firsthand account of the social, literary, and religious practices during that era.
- The manuscripts are written in Tamil, showcasing the influence of the language and its spread beyond its homeland.

12.4. Adichanallur

Why In News?

The Union Finance Minister visited Adichanallur and laid the foundation stone for the 'Iconic Site Museum' at the Adichanallur site.

- The museum will be built as a tribute to the history of Iron Age culture in southern India, in the context of Adichanallur,'

About Adichanallur

- It is an ancient and historical Iron-age burial site located in Thoothukudi District Tamil Nadu, set along the banks of the **Tamirabarani (Porunai) river.**
- This archaeological site was one of five declared to be developed as **'Iconic Sites' in the Union Budget 2020-21.**
- Various objects dating back to 467 BCE and food grains such as millets and paddy dated 665 BCE have been unearthed here.

12.5. Tamil manuscripts found in a monastery in Italy

Why in News?

- In northern Italy, palm manuscripts from the 18th Century, titled Gnanamuyarchi, have been discovered in an Armenian monastery.

About Findings:

- This significant finding sheds light on the rich history and cultural exchange between different regions during that time.
- This translation is most likely by Michele Bertoldi, known in Tamil as Gnanaprakasasamy. This is a prose text from the early 18th Century (likely the 1720s) and has been printed several times in the 19th Century by the Mission Press in Puducherry
- These palm manuscripts are of utmost importance in preserving historical and cultural knowledge.
- They offer valuable insights into the period they originate from, providing a firsthand account of the social, literary, and religious practices during that era. The manuscripts are written in Tamil, showcasing the influence of the language and its spread beyond its homeland.
- It serves as a reminder of the diverse historical interactions and intellectual exchanges that occurred across different regions and cultures.

13. Awards

13.1. Lokmanya Tilak National Award

Why In News?

- The Prime Minister, Shri Narendra Modi was conferred the Lokmanya Tilak National Award in Pune, Maharashtra.
    - The Prime Minister donated the cash prize to the Namami Gange Project.

About Lokmanya Tilak National Award

- The Award was constituted by Tilak Smarak Mandir Trust in 1983 to honour the legacy of Lokmanya Tilak.
- It is awarded to people who have worked for the progress and development of the nation and whose contribution can only be seen as remarkable and extraordinary.
- It is presented every year on the 1st of August - **Lokmanya Tilak's death anniversary.**

13.2. 69th National Film Awards

Why in News?

- The 69th National Film Awards has been announced for the year 2021.

Overview

- National Film Awards are the most prestigious awards, which are announced annually to **honor the best filmmaking talent** across the country. It aims at encouraging the production of films of aesthetic and technical excellence and social relevance.
- The awards are given in **three sections** – Features, Non-Features and Best Writing on Cinema.
- The winners of the awards are decided by the Jury comprising persons distinguished in the field of cinema, other allied arts and humanities.

History

- The awards were first presented in **1954** and were known as the **'State Awards**'. At the time,only best films in different regional languages were recognised and awarded.
- Separate awards for artists and technicians were **instituted in 1968** for the films of 1967.**Nargis Dutt** and **Uttam Kumar** being the first actress and actor to get the Best Actress and Best Actor (Awards respectively.

Key Recipient of 2023 Awards

- **Best Feature Film**: Rocketry
- **Best Hindi Film:** Sardar Udham
- **Best Non-feature film:** Ek Tha Gaon
- **Best Actor:**Allu Arjun , Pushpa
- **Best Actress**:Alia Bhatt, Gangubai Kathiawadi and Kriti Sanon,Mimi

14. Government Initiatives

14.1. Amrit Bharat Station Scheme

Why In News?

- Prime Minister Narendra Modi laid the foundation stone for the redevelopment of **508 railway stations** as a part of the A**mrit Bharat Stations scheme.**

Plan for the Amrit Stations

- All the Amrit stations will be built to meet the **standards of green buildings.** Government visions that by 2030, India will be a country whose railway network will run on **net zero emissions.**
- Every railway station will be a symbol of the **modern aspirations** of the country along with its ancient heritage.
- Jaipur Railway Stations will have glimpses of **Hawa Mahal and Amer Fort** from Rajasthan, Jammu Tawi Railway Station in Jammu and Kashmir will be inspired by the famous **Raghunath Mandir** and Dimapur Station of Nagaland will showcase the **local architecture of 16 different tribes** from the region.

About Amrit Bharat Station Scheme

- The scheme is set to **transform and revitalize 1309** railway stations across the nation.
- It envisages to take up **76 railway stations over Central Railway** for upgradation/modernization and out of that, foundation stone will be laid at 38 stations.
- It involves preparation of **Master Plans and their implementation in phases** to improve the amenities at the stations like improvement of station access, circulating areas, waiting halls, toilets, lifts/escalators as necessary, cleanliness, free Wi-Fi, kiosks for local products through schemes like **'One Station One Product',** better passenger information systems, Executive Lounges, nominated spaces for business meetings, landscaping etc.
- The scheme also envisages improvement of building, integrating the station with both sides of the city, multimodal integration, amenities for Divyangjans, sustainable and environment friendly solutions, provision of ballastless tracks, 'Roof Plazas' as per necessity, phasing and feasibility and **creation of city centres** at the station in the long term.

14.2. Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USHA)

Why in News?

- 14 states are yet to sign a memorandum of understanding (MoU) with the Union Education Ministry, to participate in the **Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USHA) scheme.**

About

- **Rashtriya Uchchatar Shiksha Abhiyan (RUSA):**In **2013** RUSA was launched as a Centrally Sponsored Scheme to fund States/UTs institutions, with the vision to attain higher levels of access, equity, and excellence in the State higher education system
- **The second phase** of the scheme was launched in **2018.**
- In the light of the **National Education Policy-2020,** RUSA scheme was launched as **Pradhan Mantri Uchchatar Shiksha Abhiyan (PM-USHA).**
- **Funding:**The proposal entails an expenditure of â‚¹12929.16 crore between 2023-24 and 2025-26,out of which Central Share is Rs. 8120.97 crores and the State Share is of Rs. 4808.19 crores.
- **Focus districts:** Under the scheme, priority would be given to the Focus Districts. The focus districts shall be identified by the concerned States/UTs on the basis of the following indicators:

    1. Low GER (Gross Enrolment Ratio)
    2. Population proportion and enrollment proportion for Females, transgenders, SCs, STs and OBCs
    3. Aspirational/ Border Area/ Left Wing Extremism prone district
    4. Gender parity

The objectives of the scheme are:

- To improve the overall quality of existing state higher educational institutions (HEIs) by ensuring their conformity to prescribed norms and standards and adoption of accreditation as a quality assurance framework;
- Implementation of recommendations of the NEP 2020 through funding support provided to State HEIs;
- Ensure governance, academic, and examination (and evaluation) reforms in the State higher educational institutions and establish backward and forward linkages with school education on one hand and employment market, on the other hand;
- Create an enabling atmosphere in the higher educational institutions to devote themselves to research and innovations;
- Correct regional imbalances between urban and rural areas in access to higher education;
- Developing infrastructure for ODL/Online/Digital mode of education in such States/UTs;
- Enhancing employability through skilling and vocationalization;
- Focus on multidisciplinary education, including STEM, commerce and humanities fields of education.

14.3. SARAS Aajeevika and ODOP Wall

Why in News?

- The Department for Promotion of Industry and Internal Trade (DPIIT) and Ministry of Rural Development jointly launch **'One District One Product' Wall at SARAS Ajeevika Store** to promote indigenous crafts and artisans of India.
    - The convergence is one more step forward towards showcasing the uniqueness of Indian Craft before the world.

The One District One Product (ODOP) Program:

- It is an initiative by the **Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry,** aimed to make the country and its people self-reliant by fostering balanced regional development across all districts of the country.
- The program selects, brands, and promotes one unique product from each district, showcasing the diverse range of products across the country which encompasses various sectors, including handlooms and handicrafts.

SARAS Aajeevika:

- It is an initiative by **Deendayal Antyodaya (DAY-NRLM), Ministry of Rural Development**.
- It is a strong supporter of women's empowerment, with a special focus on uplifting women artisans and Self-Help Groups (SHGs).

- By creating a special marketplace for their well-crafted products, SARAS Aajeevika boosts the skills and talents of these women, helping them become independent entrepreneurs.
- ODOP Wall at SARAS Aajeevika Store which stands as a symbol of the harmonious partnership between the Ministry of Commerce & Industry and the Ministry of Rural Development.

What are the objectives of the collaboration?

- It aims to implement innovative features such as product tagging and story cards, which aim to guide consumers and enthusiasts towards emporiums, thereby boosting sales and magnifying the visibility of India's exceptional products.
- The products are being identified from all districts to be promoted for their unique qualities and cultural significance which include various handicrafts, handloom, and agricultural products that have been associated with the identity of their place of origin.
- It aims to drive consumers towards emporia, boosting sales and increasing the visibility of SARAS products even further to promote indigenous crafts and artisans of rural SHGs women.

14.4. Schemes Announced on 77th Independence Day

Why In News?

- Prime Minister Narendra Modi on the occasion of the **77th Independence Day announced a host of schemes for skilled workers**, women self-help groups and the urban poor among others.

More In News

- The Prime Minister started his Independence Day speech by highlighting India's position as the largest democracy globally.
    - He talked about the sacrifices made by freedom fighters such as Mahatma Gandhi, Aurobindo Ghosh, and their compatriots.
    - He highlighted that the policies of the government are providing support to the youth of the country and their strength has helped India become the third largest startup ecosystem in the world.

About the Schemes

- **'Vishwakarma Yojana':** It will be launched on occasion of Vishwakarma Jayanti,benefiting individuals skilled in traditional craftsmanship, particularly from the OBC community.
    - Weavers, goldsmiths, blacksmiths, laundry workers, barbers, and such families will be empowered through the 'Vishwakarma Yojana', which will begin with an allocation of around 13-15 thousand crore rupees.
- **Lakhpati Didi:**The government is planning skill development training for two crore women under the **'Lakhpati Didi' s**cheme that aims to encourage them to start micro-enterprises
    - Under it,skill training will be provided to women so that they can earn at least Rs 1 lakh annually.
        - 15,000 women's SHGs would be given loan and training for operating and repairing drones.
        - The government will provide drones to thousands of such women SHGs.
        - Drone services will be available for agricultural work.
    - It is likely to speed up adoption of drone technology in the field of agriculture and will lead to substantial employment generation and agribusiness opportunities in rural areas."
- **Housing Scheme :** Prime Minister Narendra Modi announced a new scheme to help urban poor build houses in cities.
    - Under this programme, they would receive relief in interest rates and loans taken from banks to construct their houses.
    - It will benefit those families that live in cities but are living in rented houses, or slums, or chawls and unauthorised colonies."
    - If this section wants to build their own houses, the government will assist them with a relief in interest rates and loans from banks that will help them save lakhs of rupees.

14.5. Vishwakarma Yojana

Why in News?

- Prime Minister of India recently announced a scheme for artisans — Vishwakarma Yojana.

About the scheme:

- This scheme will provide empowerment and support to the traditional industries coming under the MSME sector.
- It will have an allocation of up to ₹15,000 crore to help skill development among the youth.
- The scheme was announced in this year's budget for traditional artisans and craftspeople to enable them to improve the quality, scale and reach of their products to integrate them with the MSME value chain.
- The components of the scheme will include:
    - financial support
    - access to advanced skill training,
    - knowledge of modern digital techniques and efficient green technologies,
    - brand promotion,
    - linkage with local and global markets,
    - digital payments, and
    - social security.

14.6. Green mobility initiatives

Why in News?

Recently, the Union Cabinet has approved a scheme to add **10,000 e-buses** to city bus services across the country, and to shore up urban infrastructure under **green mobility initiatives** with a focus on cities having no organized bus services.

About PM e-bus Sewa scheme:

- It will have an estimated cost of **57, 613 crore**, of which the Centre will provide **Rs.20, 000 crore**.
- It will support **bus operations for 10 years.**
- In 169 cities**, 10,000 e-buses** will be deployed using a **public-private partnership (PPP) model** and in 181 other cities, infrastructure will be upgraded under the **green urban mobility initiatives**.
- **The scheme will be implemented in two segments:**
- For cities in the first segment, **depot infrastructure** will also be developed or upgraded to support the new e-buses, including the creation of behind-the-meter power infrastructure like substations.
- For those in the second segment, initiatives will **focus on bus priority, infrastructure, multimodal interchange facilities, automated fare collection systems, and charging infrastructure.**
- **Implemented In:** Cities with a population of **three lakh and above** will be covered under the scheme, including all the capital cities of **Union Territories, and the northeastern and hill States.**

Significance:

- The adoption of electric mobility services will help reduce **noise and air pollution in Indian cities** and also curb carbon emissions.
- This scheme is also expected to bring in economies of scale for the procurement of electric buses through aggregation.
- Around **45,000 to 55,000** direct jobs are expected to be generated via the scheme.

Green Mobility and Importance:

- Green mobility refers to all those mobility options that emit lower emissions – in terms **CO2 g/km than pure Internal Combustion Engine vehicles** – through the use of **alternate fuels, drive-train technologies or other measures;**
- Bio-fuel and Methanol based mobility
- Compressed Natural gas (CNG) based mobility
- Electric and Hybrid Mobility (xEV)
- Hydrogen energy and fuel cell based mobility



15. Persons & Appointments

15.1. Telangana poet Gaddar

Why in News?

Balladeer and poet Gaddar, a prominent face of the Telangana statehood movement and an **activist for the rights of Dalits** and marginalized people, died in Hyderabad Sunday. He was 77.

About Gummadi Vithal Rao, Gaddar:

- Gummadi Vittal Rao well-known as Gaddar is a **revolutionary balladeer** who was active as a Naxalite before he joined the Telangana movement, backing the **demand for separate statehood.**
- Once a bank employee, Gaddar was an active Naxalite till 2010 and was known for presenting vociferous songs that stirred the conscience of the people in questioning the Government's policies, particularly when **concerned with the underprivileged and poor.**
- He **encouraged people to voice against the Government's failure** to take up welfare measures for the upliftment of the downtrodden.
- Later after joining the Telangana movement which was picking up pace in the late 2010s, he supported the demand of a separate State along with other leaders of the movement. Following separate Statehood Gaddar for some time kept aloof from politics.

15.2. Matangini Hazra and Kanaklata Barua

Why in News?

- During her address to the nation on the eve of Independence Day, President of India paid tributes to women freedom fighters.

Matangini Hazra:

- She was born in a village named Hogla, near Tamluk, West Bengal in 1869.
- Matangini was the daughter of a poor farmer who could not afford to provide her a formal education.
- With no means to raise a decent dowry, she found herself married at 12 and was widowed at 18.
- Matangani's love for Gandhi was so great that she became known in our village as Gandhiburi, the old Gandhian woman.
- At the age of 61, she was arrested for taking part in the Civil Disobedience Movement in 1930 and the Salt March led by Gandhi.
- She became an active member of the Indian National Congress and started spinning her own khadi in Gandhi's footsteps.
- Her involvement with the freedom struggle intensified during the Quit India Movement launched by Gandhi in August 1942.
- In September that year, a 73-year-old Hazra led a large procession of around 6,000 protesters, mostly women.
    - The procession marched with the aim to take over the Tamluk police station from British authorities.
    - British police personnel shot at her thrice.
    - She collapsed and died, chanting 'Vande Mataram'.
- In 1977, the first statue in the Kolkata Maidan dedicated to a woman revolutionary was that of Matangini Hazra.

Kanaklata Barua

- One of the youngest martyrs of the Quit India Movement, Kanaklata Barua has an iconic status in Assam.
- Barua led the Mrityu Bahini, a procession of freedom fighters, to unfurl the Tricolour at Gohpur police station on September 20, 1942.
- When police did not let them move forward, an altercation led to firing, killing Barua at the head of the procession.
- The squad strictly admitted members aged 18 and above but Kanaklata was an exception.

15.3. John Warnock

Why in News?

- Recently, John Warnock (the co-founder of Adobe) has passed away, leaving behind the legacy of technological innovation.

About John Warnock

- He is known for creating **the Portable Document Format (PDF).**
- Both Warnock and Charles Geschke **founded Adobe** in 1982.
- In 2009, Warnock and Geschke were awarded **the National Medal of Technology and Innovation.**
    - The award is the **highest US honor for technological innovation and achievement.**
- They developed **PostScript**, which is useful for small-scale printing and paves the way for ground-breaking PDF technology. He also developed **InDesign, Photoshop and Illustrator.**

What is a Portable Document Format (PDF)?

- The PDF is an open standard, maintained by **the International Organisation for Standardisation (ISO).**
- PDF documents can contain links and buttons, form fields, audio, video and business logic.
- They can be signed electronically and you can easily view PDF files on Windows or Mac OS using the free Adobe Acrobat Reader software.
- In 1991, Warnock launched the paper-to-digital revolution with an idea he called, **The Camelot Project.**
- The goal was to enable anyone to capture documents from any application, send electronic versions of these documents anywhere and view and print them.

15.4. R Praggnanandhaa

Why in News?

- 18-year-old chess prodigy R Praggnanandhaa has finished as runner-up in the **FIDE Chess World Cup** held at Baku, Azerbaijan.
    - He lost the summit clash to Norway's world No.1 Magnus Carlsen.

About Chess World Cup

- It has been the major chess event since its inception in 2000.
- It is organised by the International Chess Federation(FIDE).
- Since 2005, it has been a 128-player single-elimination chess tournament.
- This event is held every two years.
- The FIDE World Cup 2023 (hereinafter referred to as World Cup) was organised in Baku from 29 July to 25 August 2023.

15.5. Jayanta Mahapatra

Why In News?

- **Jayanta Mahapatra**, one of the greatest Indian poets in the English language, passed away.

About

- Mahapatra was part of a trio of poets who laid the foundations of Indian English Poetry, which included **A. K. Ramanujan and R. Parthasarathy.**
- Mahapatra penned 27 books of poems, of which **seven are in Odia language** and the rest in English.
- He authored poems such as **'Indian Summer' and 'Hunger'**, which are regarded as classics in modern Indian English literature.

Awards Conferred

- **Sahitya Akademi Award** (the fourth highest civilian honour in India) for his poem Relationship in 1981.
- He was awarded **Padma Shri** in 2015.

15.6. Neeraj Chopra

Why in News?

- Neeraj Chopra becomes **first Indian to win gold at 19th edition of World Athletics Championships**, held in **Budapest, Hungary.**
    - It was held from August 19 to 27, 2023

About:

- Neeraj Chopra clinched the **gold medal in the men's javelin throw**, and became the **first-ever Indian athlete to secure a gold medal** at this prestigious championship by recording a **stellar throw of 88.17 metres** in his second attempt.
    - It was **India's third medal ever** at the World Athletics Championships 2023 after **Anju Bobby George's long jump** bronze at Paris 2003 and **Neeraj's silver at Oregon 2022.**
    - **India** ranked **18th in the Medal Table** of the 19th edition of the Championships.
- **Arshad Nadeem of Pakistan** and **Jakub Vadlejch of the Czech Republic** secured **second** with a **silver medal** and **third** spot **bronze** medal respectively.

About the World Athletics Championships:

- The **first** event was held in **Helsinki, Finland.**
- The next World Athletics Championships will be held in **Tokyo in 2025** which will host the event for the second time and for the first time since 1991.

16. Important Days

16.1. National Handloom Day

National Handloom Day is observed across India on August 7 every year. The primary goal of celebrating Handloom Day is to **promote handloom** and to **recognize the efforts as well as skills of the community of weavers** engaged in the sector.

National Handloom Day 2023: Significance

- It is essential for all to know the significance of the day as it not only preserves the rich heritage of our country but also promotes the skill set. Reportedly, the handloom sector is one of the major pillars of the economy after the agricultural sector in our country.
- A large section of women contributes their service as weavers and other artistic hands in this industry which is becoming the largest epitome for employment as well.
- These artisans and craftsmen as an industry have been supporting the country as a soft power by ensuring a flow of income.

16.2. Hiroshima Day

- Hiroshima Day is observed on August 6 to commemorate the atomic bombing of Hiroshima, Japan, in 1945, at the end of World War II.

More Details:

- The horrific incident took place on August 6, 1945, when the United States dropped an atomic bomb named "Little Boy", on the town of Hiroshima in Japan. 2023 marks the 78th anniversary of the world's first atomic bombing.
- The day, which is observed at the Hiroshima Peace Memorial Park, Japan, highlights the effects of nuclear wars, pays respect to those who got killed, discourages nuclear proliferation and promotes world peace.

16.3. Quit India Movement Day

- Quit India Movement Day is observed on 8th August every year to commemorate the launch of the Quit India Movement on 8th August 1942 by Mahatma Gandhi. Also known as the August Movement or August Kranti, it was a significant civil disobedience movement against British colonial rule in India during World War II.

More Details:

- During the Quit India Movement, Mahatma Gandhi gave the famous call of "Do or Die" to the Indian people, urging them to demand complete independence from British rule. The movement aimed to mobilize the masses and invoke non-violent resistance to achieve freedom.
- On this day, various events and programs are organized across India to remember the sacrifices made by the freedom fighters and to reflect on the importance of the Quit India Movement in India's struggle for independence.
- It serves as a reminder of the collective strength and determination of the Indian people in their quest for freedom and self-rule. Timeline of the Indian Freedom Movement from 1885 to 1947.

16.4. Nagasaki Day

- The second atomic bomb dropped by the United States on Japan was Fat Man, which was dropped on Nagasaki on August 9, 1945.

More Details:

- The bomb was dropped by the B-29 bomber Bockscar, commanded by Major Charles Sweeney. The bomb exploded over Nagasaki at 11:02 am local time, killing an estimated 80,000 people instantly and another 35,000 people from radiation exposure in the following months.
- Fat Man was a plutonium implosion bomb, and it was much more powerful than the uranium bomb that was dropped on Hiroshima.
- The blast from Fat Man was equivalent to 21 kilotons of TNT, which is about 13 times more powerful than the Hiroshima bomb.
- The bombing of Nagasaki was a turning point in the war. The Japanese government was already considering surrender, but the bombing of Nagasaki convinced them that they could not continue the war. On August 15, 1945, Japan surrendered to the Allies.

16.5. International Youth Day

- Every year, on the 12th of August, the global community comes together to celebrate International Youth Day.

More Details:

- In 1999, the United Nations designated August 12 as International Youth Day. This significant observance was established with the purpose of acknowledging and celebrating the immense potential and valuable contributions of young individuals across different spheres of society.

Theme

- Every year, International Youth Day revolves around a distinct theme that spotlights various facets of youth empowerment and growth. For the year 2023, the chosen theme is 'Green Skills for Youth: Towards a Sustainable World.'

16.6. World Elephant Day

- World Elephant Day, observed globally on August 12, is a dedicated observance aimed at raising awareness about the critical challenges confronting elephants and advocating for their protection and conservation.

History of World Elephant Day

- On August 12, 2012, Patricia Sims, a Canadian, and the Elephant Reintroduction Foundation of Thailand, an initiative of HM Queen Sirikit of Thailand, co-founded World Elephant Day.
- Patricia Sims has continued to oversee World Elephant Day ever since. It has partnered with 100 elephant conservation organisations globally since its beginning and has reached countless people all over the world.
- The fact that World Elephant Day has garnered millions of participants worldwide demonstrates how much people care about elephants and want to do anything they can to save them.

17. Miscellaneous

17.1. Bharat Mandalam

Why In News?

- The Prime Minister dedicated to the nation the **International Exhibition-cum-Convention Centre (IECC) complex** in New Delhi named '**Bharat Mandalam'.**

About

- The IECC project revamps the old and outdated facilities at Pragati Maidan and has been developed as a **National project.**
- The IECC complex has been developed as **India's largest MICE (Meetings, Incentives, Conferences, and Exhibitions) destination.**
- The newly developed IECC complex at Pragati Maidan comprises multiple state-of-the-art facilities including Convention Centre, Exhibition halls and amphitheatre etc.

Architecture of IECC Complex

- The shape of the building is derived from the **Shankha (conch shell),** and different walls and facades of the Convention Centre depict **several elements of India's traditional art and culture** including **'Surya Shakti'** highlighting India's efforts in harnessing solar energy, **'Zero to ISRO',** celebrating achievements in space, **Pancha Mahabhuta** signifying the building blocks of universal foundation - Aakash (Sky), Vayu (Air), Agni (Fire), Jal (Water), Prithvi (Earth).
- Also, **various paintings and Tribal art forms** from different regions of the country adorn the Convention Centre.

MICE (Meetings, Incentives, Conferences, and Exhibitions)

- The main purpose of MICE events is to **create a networking platform** for business, industry, government, and academic communities and engage in meaningful conversations. Generally, they bring **large groups together for a specific purpose.**
- MICE is also known as the **'Meetings industry'** or **'Events industry'**. MICE tourism offers many other benefits to the economies such as **business opportunities, dissemination**

of knowledge and providing of training, skill upgradation etc.

- The MICE sector also helps increase local government and private sector investments that result in the **up-gradation of the general hospitality environment of the destination country.**

17.2. Geographical Indication (GI) Tags to Seven Products

Why In News?

- Seven products from across India including four from Rajasthan were given the Geographical Indication (GI) tag by the Geographical Indications Registry in Chennai.

About the products

- The **Jalesar Dhatu Shilp (metal craft) :** At Jalesar in Etah district in Uttar Pradesh, which was the capital of Magadha King Jarasandha, over 1,200 small units are engaged in making Jalesar Dhatu Shilp.
    - This place is known for making decorative metal craft as well as brassware.
- **Goa Mankurad mango:** The Portuguese named the mango as Malcorada meaning poor coloured and with time this word transformed to 'Mankurad' aamo.
    - Aamo means mango in Konkani language.
- **Goan Bebinca:** For the Goan Bebinca: Bebinca is a type of pudding and a traditional Indo-Portuguese dessert.
    - It is also known as the Queen of Goan desserts.
- **Udaipur Koftgari metal craft :** the Udaipur Koftgari metal craftsmen practices the ancient art of Koftgari used in making ornamental weaponry.
    - The weapons are exquisitely ornamented by a complicated process of etching of design, heating and then cooling intertwined with the process of embedding gold and silver wire into the metal, pressing and flattening it to a smooth surface using moonstone and finally polishing.
- **Bikaner Kashidakari craft :** Kashidakari work is done majorly on objects associated with marriage, especially gift items, and makes use of mirror work.
- **Jodhpur Bandhej craft :** The Jodhpur bandhej craft is the Rajasthani art of tying and dyeing. It is the art of printing varied patterns on fabrics using the tie and dye method.
- **Bikaner Usta Kala craft :** It is also known as gold nakashi work or gold manauti work, due to the prominence of golden colour in an actual manner developed by gold in the previous period.
    - Due to this, the craft has longevity.

17.3. Indian Eagle-owl

Why In News?

- The **Indian eagle-owl** was classified as a species only in recent years, thus distinguishing it from the Eurasian eagle-owl.

About

- **Scientific Name:** Bubo bengalensis
- It is also called the **rock eagle-owl or Bengal eagle-owl,** it is a large horned owl species native to **hilly and rocky scrub forests** in the Indian Subcontinent.
- It was earlier treated as a subspecies of the Eurasian eagle-owl.
- **Appearance:** It is splashed with **brown and grey,** and has a white throat patch with black small stripes.
- **Behaviour:** It is a nocturnal species usually seen in pairs. It has a deep resonant booming call that may be heard at dawn and dusk.
- **Hunting:** They primarily hunt rats and mice, but will also take birds up to the size of peafowl.
- **Habitat & Distribution:** They are seen in scrub and light to medium forests but are especially seen near rocky places within the mainland of the Indian Subcontinent south of the Himalayas and below 1,500 m (4,900 ft) elevation.
    - Humid evergreen forest and extremely arid areas are avoided.
- **IUCN Status:** Least Concern.

17.4. Clouded leopards

Why in News?

- Scientists from the **Wildlife Institute of India (WII)** recently observed a **clouded leopard** in western **Assam's Manas National Park.**

About Clouded Leopard

- **Clouded leopard (*Neofelis nebulosa*)** is a wild cat inhabiting forest habitat.
- It has large, dexterous paws with specialized footpads for gripping branches. Specialized ankle bones allow varied positions for climbing, including climbing headfirst down trees.
- Another distinctive feature is its **long canine teeth,** resembling **Ice Age saber tooth tigers.** These canines are longer in proportion to skull size than those of any other species of wild cat.
- While more closely related to big cats, the clouded leopard is frequently described as **bridging the gap between big and small cats** due to its smaller stature.
- It has proportionately short legs and a long tail. The coat is brown or yellowish-gray and covered with irregular dark stripes, spots and blotches.
- **Conservation Status: Vulnerable**
- The clouded leopard is **categorised into two species:**
    - **the Mainland clouded leopard** distributed from central Nepal, Bangladesh, and Assam (eastern India) to peninsular Malaysia, and
    - **the Sunda clouded leopard** (*Neofelis diardi*) native to Borneo and Sumatra.

17.5. Festival of Libraries

Why in News?

- The President of India, Smt Droupadi Murmu inaugurated the 'Festival of Libraries' in New Delhi recently.

About the Library festival

- This Festival is being organized by **the Ministry of Culture.**
- It aims to promote development and digitization of Libraries and cultivate the culture of reading.

Related Government Initiatives:

- **National Mission on Libraries:** It aims for Upgradation of Libraries, promotion of ICT application in all Libraries, Modernize Library Management, a National Survey of Libraries & Citizens and sustained development of libraries & information services in pursuance of National Knowledge Commission's recommendations.
- **National Virtual Library of India:** It is being developed to achieve the national goal of **'One Nation, One Digital Library'** by creating comprehensive digital resources and infrastructure with related user-friendly content discovery interfaces.
- **Traditional Knowledge Digital Library (TKDL)**: It is an initiative to protect Indian traditional medicinal knowledge and prevent its misappropriation at International Patent Offices.

17.6. Perucetus colossus (Ancient Peruvian whale)

Why in News?

- Researchers have identified a gigantic species of extinct whale that may have been heavier than any other creature on Earth.

About Perucetus colossus

- The **Perucetus colossus — meaning the colossal whale from Peru** —was almost twice that of the **largest blue whale** and more than three times that estimated for **Argentinosaurus, one of the largest dinosaurs ever found.**
- Its diet may have consisted of scavenging food or eating up tons of krill and other tiny sea creatures in the water.
- The density of the bones indicates that the whale may have been usually present in shallow, coastal waters like **dugongs and manatees (known as Sirenians).**
    - **Dugong (Dugong dugon)** also called as **'Sea Cow'** is one of the four surviving species in the **Order Sirenia** and it is the **only existing species of herbivorous mammal** that lives exclusively in the sea including in India.
    - Dugongs are protected in India and occur in Gulf of Mannar, PalkBay, Gulf of Kutch and Andaman and Nicobar islands.

17.7. Solnhofia parsonsi

Why In News?

- Scientists recently uncovered a 150-million-year-old fossil of **Solnhofia parsonsi**

About Solnhofia parsonsi

- It is a marine turtle with shorter limbs that lived approximately **150 million years** ago **during the Jurassic period.**
- It lived in a **network of coastal reefs and lagoons**, which were abundant in diverse coastal ecosystems.
- It had a massive head and swam through a shallow, tropical sea in what is now Europe.

17.8. Manas National Park and Tiger Reserve

Why In News?

- It has been observed that Manas National Park and Tiger Reserve is almost 63% short of staff.

About Manas National Park and Tiger Reserve

- It is situated in Assam.
- It is contiguous with the Royal Manas National Park in Bhutan.
- It is one of the first reserves included in the tiger reserve network under project tiger in 1973.
- It was declared as a National park in 1990.
- Manas river flows through the park with a unique blending of dense jungles and grass-land.
- **Biodiversity:** Manas National park is located at Himalayan foothills where it has a unique biodiversity and scenic landscapes.
    - **It** harbours the largest number of protected species of India including tiger, leopard, civet, elephants, buffalo, pygmy hog, golden langur, Assam roofed turtle, and the Bengal florican.
- **UNESCO's world heritage Site :** It is included as a site of international importance under UNESCO's world heritage convention as well as Biosphere Reserve .

17.9. Clouded leopards

Why in News?

- Scientists have found that the clouded leopard in western Assam's Manas National Park and Tiger Reserve seems to play a mysterious game of hide-and-seek in the tropical canopy forests.

More Details:

- The clouded leopard is also called **mainland clouded leopard**.
- It is a **wild cat** inhabiting dense forests from the **foothills** of the **Himalayas** through **Northeast India** and **Bhutan** to mainland **Southeast Asia** into **South China**.
- The clouded leopard is **locally extinct** in **Singapore**, **Taiwan** and in **Hainan Island** and **Vietnam**.
- Its **total population** is suspected to be **fewer than 10,000** mature individuals, with a **decreasing population trend**.
- **IUCN status**: **Vulnerable**.
- CITES: **Appendix I**
- **Threats:**
    - large–scale deforestation
    - commercial poaching for the wildlife trade.
    - its body parts are offered for decoration and clothing.
- The clouded leopard is categorised into **two species**:
    - the **mainland clouded leopard** distributed from central Nepal to peninsular Malaysia, and
    - the **Sunda clouded leopard** native to Borneo and Sumatra.
- In **India**, it occurs in the states of **Sikkim**, northern **West Bengal**, **Tripura**, **Mizoram**, **Manipur**, **Assam**, **Nagaland** and **Arunachal Pradesh** and **Meghalaya**.

17.10. Two Inter-State Routes for Helicopter Services

Why In News?

- **The Ministry of Home Affairs (MHA)** has granted permission to operate **inter-state helicopter services,** under the existing **75 percent Helicopter Subsidy Scheme** for two new routes.

About

- The two newly approved inter-state helicopter routes are set to connect **Churachandpur** in Manipur with Aizawl, Mizoram, and Kangpokpi/Senapati in Manipur with Dimapur, Nagaland.
- These routes are projected to **enhance accessibility and connectivity** to these regions, which have often grappled with infrastructural limitations.
- The new routes were added for operation under the **existing subsidy scheme**, which requires passengers to pay a **charge of â‚¹2,000,** with the State and Central governments bearing the rest of the fare.
- Approval had also been granted for **extra flying hours** in light of the new routes being added.

Helicopter Services In North Eastern States

- In order to provide connectivity to remote areas of NER, Helicopter subsidy scheme is being administered by MHA in the NE States of Arunachal Pradesh, Meghalaya, Nagaland, Sikkim, Tripura, Mizoram and Manipur.
- It further aims to provide **affordable passenger transport** in NER, **evacuation during natural calamities and for urgent medical evacuation etc.**
- MHA bears expenditure of **75% of total cost** of operation after deducting passenger recovery or flat 20% of actual operation cost, whichever is more.
- For the purpose of restricting subsidy**, annual ceiling of flying hours** has been fixed for the helicopter service operating in these States.

17.11. PM to launch revamp of 508 railway stations

Why in News?

- The Prime Minister will lay the foundation stone for the redevelopment of 508 railway stations spread across the country.
- These stations were part of the **Amrit Bharat Stations scheme** in which almost 1300 prime railway stations in the country will be redeveloped.

Amrit Bharat Stations scheme?

- **Launched by:** Ministry of Railways
- **Objective:** To develop railway stations on a continuous basis with a long-term approach.
- **Key Features of the scheme:** The scheme is based on preparing Master Planning for long term and implementation of the same as per needs and demand of the station to station.
- It aims to improve the amenities at the stations like improvement of station access, circulating areas, waiting halls, toils, lift/escalators necessary, cleanliness, free Wi-Fi, Kiosks for local products through schemes like 'One Station One Product', better passenger information systems among others.,
- The scheme also envisages improvement of building, integrating the station with both sides of the city, amenities for Divyangjans, sustainable and environment friendly solutions, provision of ballastless tracks, 'Roof Plazas' as per necessity, phasing and feasibility and creation of city centers at the station in the long term.
- **Railway Stations covered:** Under the scheme, almost 1300 prime railway stations in the country will be redeveloped.

17.12. Tele-Law 2.0

Why in News?

- The **Tele-Law 2.0 initiative** was launched by the Department of Justice, Ministry of Law & Justice.

What is Tele-Law?

- **Tele-Law means** the use of communications and information technology for the delivery of legal information and advice. This is an e-interaction between lawyers and people through the video-conferencing infrastructure available at the Common Services Center(CSCs).
- **The Tele-Law programme was launched** by the Ministry of Law and Justice in 2017 to address cases at the pre–litigation stage.
- The program is operating under the **DISHA Scheme** to advance the cause of access to justice.

Objective of Tele-Law

- **The concept of Tele-Law** is to facilitate delivery of legal advice through a panel of lawyers stationed at the front office of Legal Services Authorities and CSC.

- It is a service that uses **video conferencing facilities** and **telephone services** to connect lawyers to litigants who need legal advice.
- The program is a commitment to fulfill the Constitutional mandate of **Article 39 A** to ensure access to justice.

Tele-Law 2.0

- **This event integrates** legal advice service under **Tele-Law** with legal representation services under **Nyaya Bandhu (Pro Bono)** programme.
- This seamless amalgamation is set to establish a direct connection between those seeking legal aid and pro bono advocates, fostering a dynamic ecosystem that guarantees accessible justice for all citizens.

17.13. G. Padmanabhan Committee

Why in News?

- International Financial Services Centre Authority (IFSCA) forms a committee to **'Onshoring the Indian Innovation to GIFT IFSC'**.

About the Committee:

- It is **chaired by G. Padmanabhan**, former executive director, Reserve Bank of India, focusing on the nuances from regulatory, tax, legal and other perspectives.
    - To identify measures to encourage new Fintechs to have a global outlook to set up their commercial presence in GIFT IFSC.
- **Members:** It comprised representatives from leading Venture Capital funds, Startups, Fintechs, Law firms, Tax firms and other domain experts.

Objectives of the Committee:

- Understanding the reasons for shifting of Indian startups outside India;
- To avoid externalisation of startups in the future;
- To persuade startups, currently externalised, to redomicile back;
- To examine the provisions of the RBI directions pertaining to transfer of stressed loans by lending institutions to entities in IFSCA;

17.14.C-DOT's TRINETRA

Why in News?

- Center for Development of Telematics (C-DOT) inaugurated the **Enterprise Security Operation Centre (ESOC) at C-DOT campus, New Delhi** and launched **TRINETRA**, a cyber threat detection and resolution system.

About TRINETRA

- It is a **combination of multiple security systems** like Security Information and Event Management (SIEM), Security Orchestration and Automated Response (SOAR), Data Loss Prevention (DLP), User Entity and Behaviour Analytics (UEBA), Multi-Source Threat Intelligence and others.
- It provides **24X7 real-time** actionable cyber-security status and **detection and resolution of cyber-threats** (Virus, Malware, Ransomware, Spyware etc) by providing **end-to-end security solutions** to the organisations for detection, analysis and mitigation of cyber security threats.
- TRINETRA is capable of **protecting critical digital infrastructure** of various Government departments from ever-evolving cyber threat landscape.
- It performs security evaluation of IT assets of organisations **by protecting endpoints** including PC, Laptop, Servers and virtual machines (VMs) by detection, analyses and mitigation of vulnerabilities.
    - It is designed to generate **AI enabled automated responses** to cyber threats ensuring protection of sensitive data.

17.15. Nagarnar Steel Plant

Why in News?

- The Nagarnar Steel Plant has started the production of **Hot Rolled (HR) Coil**, its final product.

About the NMDC's Integrated Steel Plant at Nagarnar (NISP)

- It is located in the Nagarnar in **Bastar region of Chhattisgarh**.

- The Plant is set to produce high grade Hot Rolled (HR) steel, with a capacity of 3 million tonnes per annum (MTPA).
- Its competitive advantage also stems from its iron ore supply linkage with Bailadila mines, barely 100 kms from Nagarnar.
- It has the unique distinction of internationally being the only steel plant to be set up by a mining company.

Applications

- Products, specifically Hot Rolled, are required in the manufacturing of LPG cylinders, bridges, steel structures, ships, large diameter pipes, storage tanks, boilers, railway wagons and pressure vessels and in construction of tanks, railway cars, bicycle frames, engineering and military equipment, automobile & truck wheels, frames and body parts.

17.16. Kudremukh National Park

Why in News?

- Green activists in Dakshina Kannada have appealed to the Forest Department not to allow tourists and trekkers to the unexplored peaks of the Western Ghats within the Kudremukh National Park to conserve the eco-sensitive ghats.

More Details:

- The Kudremukh National Park is located in the **Western Ghats** in the state of **Karnataka.**
- It is a part of the world's 38 '**hottest hotspots'** of biological diversity and is a **UNESCO World Heritage Site.**
- Kudremukh is the **name of a mountain range** and an **individual mountain peak** located in Chikmagaluru district, in Karnataka, India.
- The name Kuduremukha literally means "**horse-faced**" in Kannada and refers to a particular **picturesque view of a side of the mountain** that resembles a horse's face.
- The Kudremukha National Park is the **second-largest Wildlife Protected Area** belonging to a **tropical wet evergreen** type of forest in the Western Ghats.
- Three important **rivers**, the **Tunga**, the **Bhadra** and the **Nethravathi** are said to have their origin here.
- Kudremukha was **declared a National Park** in **1987.**

17.17.Mine Developer and Operator Mode

Why In News?

- **SECL's Pelma mine** will become the **first opencast mine in Chhattisgarh** under MDO (Mine Developer and Operator) mode.

About

- South Eastern Coalfields Limited (SECL) has signed an agreement with Pelma Collieries to operate the Pelma opencast mine located in the Raigarh area.
- Pelma Collieries will operate the mine for the **next 20 years**, under which Pelma Collieries will be responsible for all activities related to designing, financing, procurement, construction, operation and maintenance of the project.
    - High quality G-12 grade coal will be extracted from the mine.
    - **Ketki UG of Bishrampur area** has achieved the distinction of becoming the **first coal mine in India to produce coal on MDO mode.**
- SECL Raigarh area is a **strategically important coalfield** in terms of coal reserve, it is the **third largest coalfield in the country** with an estimated coal reserve of about 1900 million tonnes.
    - Rail corridor is also being developed in this area by SECL for speedy evacuation of coal.

About MDO Mode

- MDO mode is a novel concept of mine operation under which **Government and private enterprises will work together** to fulfil the country's energy needs.
- This will help in **expansion of coal production** of SECL and will play an important role in **achieving the 1 billion tonne production** target of Coal India.

17.18. Redwood

Why In News?

- The California redwood forests now face a more uncertain future, given climate change and wildfires.

About Redwood

- Redwood (Sequoia sempervirens), also called coast redwood and California redwood.
- California is home to the world's only native coast redwood forest, which extends more than 450 miles from central **California north to southern Oregon.**
- It is long lived, grows taller than any other tree species in the world.
- It is a coniferous tree .
- **IUCN Status :** Endangered.
- **Uses :** It is one of the most valuable timber species in the lumber industry, and the trees are extensively logged.

17.19. Banteng

Why in News?

- According to study ,Lumpy Skin Disease Virus (LSDV) was first detected in Cambodia in a banteng .

About Banteng(Bos javanicus)

- It is a type of wild cattle native to Southeast Asia.
- It prefers to roam the open and dry deciduous forests where grassy vegetation is found in abundance.
- It historically occurred from southern China and, probably, northeast India throughout mainland southeast Asia, through Peninsular Malaysia to the islands of Borneo, Java, and probably Bali .
    - The most significant known Banteng populations remaining are in Java, Cambodia and perhaps Thailand and Borneo (Sabah, Malaysia).
- The most important threats to banteng are hunting, and habitat degradation and loss.
- **IUCN Red List status : Endangered**

17.20.Kaziranga National Park

Why in News?

- The 118-year-old Kaziranga National Park and Tiger Reserve is about to get its first woman Field Director- **Indian Forest Service officer Sonali Ghosh**.

About the Kaziranga National Park and Tiger Reserve

- Regarded as one of the world's conservation success stories, the 1,355 sq. km tiger reserve is estimated to have **2,613 greater one-horned rhinos** (March 2022). It also boasts of a high tiger density.
- **Baroness Mary Victoria Leiter Curzon, the wife of the then Viceroy, Lord George Nathaniel Curzon,** is said to have played a key role in the birth of Kaziranga after she visited the area in 1904.
- It is one of the oldest wildlife conservancy reserves of India, first notified in 1905 and constituted as a Reserved Forest in 1908.
- It was **declared a Wildlife Sanctuary in 1950**, and notified as Kaziranga National Park in 1974 under the Wildlife (Protection) Act, of 1972.
- It was designated a **UNESCO World Heritage Site in 1985.**
- It is the largest undivided representative area of **Brahmaputra valley floodplain grassland**, a complex ecosystem of grassland, where various stages of biotic succession in the grassland ecosystem are explicit.
- The Park is the **abode of more than 70% of One Horned Rhinoceros in the world.**
- It is also recognized as an **Important Bird Area** by BirdLife International.

17.21. National Commission for Safai Karamcharis

Why In News?

- The Supreme Court has sought the government's response in a plea to fill four vacancies on the **National Commission for Safai Karamcharis.**

National Commission for Safai Karamcharis

- It is a **statutory body constituted in 1994** to ensure the rights of sanitation workers.
- In the discharge of its functions, the Commission have the powers to call for information with respect to any matter from any Government or local or other authority.
- It comprises **one Chairman** (in the rank and status of the Union Minister of State) and **four members,** including **a lady member** (in the rank and status of the Secretary to the Government of India) and the Secretary (in the rank of Joint Secretary to the Govt. of India) along with other supporting staff.

17.22. Smishing

Why in News?

- The Indian government recently warned against a new scam called 'Smishing'.

About Smishing -

- The term "smishing" is a combination of "SMS" (Short Message Service) and "phishing."

What is it?

- A type of phishing attack, smishing, often involves sending fraudulent text messages to individuals with the aim of tricking them into divulging sensitive personal information, such as passwords, credit card numbers, or other confidential data.
- When cybercriminals "phish," they send fraudulent emails that seek to trick the recipient into clicking on a malicious link.
- Smishing simply uses text messages instead of email.
- Smishing attacks often involve messages that appear to be from legitimate sources, such as banks, government agencies, or well-known companies.

How it works?

- Smishing messages typically contain urgent or enticing content to persuade recipients to take immediate action, such as clicking on a malicious link, calling a phone number, or providing sensitive information.
- Once the victim opens and clicks on the link or dials the phone number listed in the message, they're taken to a fraudulent website or a mobile phone line that's designed to resemble a legitimate source.
- The victim might be asked to enter sensitive information, such as login credentials, social security numbers, credit card information or personal identification numbers (PINs).
- Once the victim's sensitive information is divulged, the attacker might steal it to commit fraud for personal gain or to compromise the victim's device by installing malware on it.

17.23.ORON Aircraft

Why in News?

- Israel's Defence Ministry and the Israel Aerospace Industries (IAI) recently announced they completed two years of outfitting the ORON aircraft with advanced intelligence-gathering technology.

About ORON Aircraft

- It is an Intelligence, Surveillance & Reconnaissance (ISR) mission aircraft.
- It was developed by the Israeli Defence Ministry's Directorate of Defence Research and Development (DDR&D), the Israel Air Force and the Israel Defence Force (IDF) Intelligence unit's naval arm and Israel Aerospace Industries (IAI).

Features

- It is based on the **Gulfstream G550 executive jet platform**, which has been outfitted with a bevy of sensors and data collection equipment that allows it to rapidly locate targets in all weather conditions.
- The aircraft combines several capabilities, including **aerial imaging, control and radar, and maritime intelligence** gathering for the Navy.
- It will be equipped with layers of automatic data systems based on **advanced algorithms and AI**.
- It will enable the IDF to create **a real-time comprehensive intelligence picture**, including deployment of ground forces, near and far, in routine times and during warfare.

17.24. Chokuwa rice

Why in News?

- Chokuwa rice recently earned a GI (Geographical Indication) tag for its exquisiteness.

About Chokuwa rice:

- It is also known as Magic rice cultivated in Assam.
- It is a part of Assam culinary heritage, this unique rice has been a staple of the troops of the mighty Ahom dynasty.
- This unique and healthy rice is cultivated around the Brahmaputra River area.(In several parts of Assam like Tinsukia, Dhemaji and Dibrugarh etc.)
- It is basically semi-glutinous winter rice, known as Sali rice.
- The sticky and glutinous variety is categorized as Bora and Chokuwa based on their amylose concentration.
- The low amylase Chokuwa rice variants are used to make soft rice, which is known as Komal Chaul or soft rice.
- This whole grain can be consumed after soaking the rice in the cold or lukewarm water. This rice variety is widely consumed for its convenience of preparation and nutritional value.
- This unique rice variety is consumed with curd, sugar, jaggery, bananas to name a few.
- This rice is also used in making several Assamese delights like Pithe and other local dishes.

17.25. Let's Move Forward

Why in News?

- The Union Education and Skill Development & Entrepreneurship Minister launched a novel comic book titled **"Let's Move Forward."**

About

- **Bodies involved:** This comic book is a collaborative effort between the National Council of Educational Research and Training (NCERT) and UNESCO New Delhi.
- **Objective:** The comic book imparts life skills essential pertaining to the 11 thematic components of the School Health and Wellness Programme (SHWP) for fostering responsible and health-conscious behaviour among adolescents.
- **Areas covered:** These life skills encompass a comprehensive range of subjects, including emotional well-being, interpersonal relationships, gender equality, nutrition and health, substance abuse prevention, healthy lifestyles, reproductive health, internet safety, and more.
- **Strategy:** The comic book is accessible in multiple languages and will be distributed across various educational and health institutions nationwide.

School Health and Wellness Programme (SHWP)

- **Background:** The SHWP was initiated under the Ayushman Bharat campaign in 2018 by Prime Minister Narendra Modi.
- **Objective:** Its primary objective is to impart health education, prevent diseases, and enhance access to health services through wellness centres within educational institutions.
- **Agencies involved:** It is an initiative undertaken by the Ministry of Education and the Ministry of Health and Family Welfare.

17.26. Piripkura Tribe

Why in News?

- Brazil found the last survivors of an Amazon tribe. **Tamandua** is one of the last three known survivors of the **Piripkura people.**

About the Piripkura Tribe

- The Piripkura tribe is a small and isolated indigenous community.
- They are distinguished by their severe isolation and minimal contact with the outside world.
- For years, they have purposefully avoided contact with mainstream civilization and have kept their ancient way of life.
- Their land is located within the Amazon rainforest, an area rich in biodiversity and critical to the region's ecological equilibrium.
- The Piripkura tribe is thought to be made up of only three people.
- Due to their isolation and the challenges concerned , it is difficult to estimate the total of their population.
- They come across different types of dangers to their survival, such as illicit logging, mining, and land encroachment.

17.27. Exercise Malabar

Why in News?

The 31st edition of the Malabar multilateral exercise comprising India, Australia, Japan and the U.S. will be held.

Key details:

- Exercise Malabar is an **annual exercise.**
- Malabar exercise is a **navy-led exercise** that will witness the participation of the navies from all four countries.
- The exercise **started in 1992** along the **Malabar Coast** as a **bilateral exercise** between **India** and the **United States**.
- It was **expanded in 2007** with the participation of **Japan** and **Australia**.
- **Japan** became a **permanent partner** in **2015**.
- The **aim** of the exercise includes increasing **interoperability** between the naval forces.
- The exercise is also designed to **deepen the partnership** for the **Indo-Pacific,** for shared aspiration, for a **free, open and resilient Indo-Pacific**.
- The **Indian Navy** will be represented by its multi-role stealth frigate, **INS Sahyadri** and indigenous destroyer **INS Kolkata.**

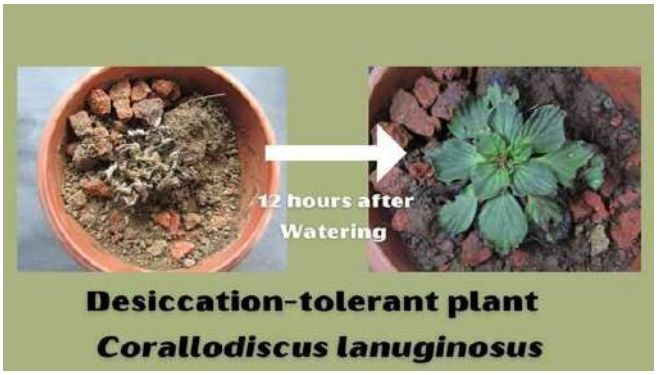
17.28.Desiccation-tolerant vascular plant

Why In News?

- New study discovers 62 desiccation-tolerant vascular plant species in India's Western Ghats, with potential applications in agriculture & conservation.

About Desiccation-tolerant vascular plant

- They are able to withstand extreme dehydration, losing up to 95% of their water content, and they revive themselves once water is available again.
    - This unique ability allows them to survive in harsh, arid environments that would be uninhabitable for most other plants.
- DT plant varieties are found in both flowering and non-flowering species and in both **temperate and tropical climates.**
- The global population of these species ranges between 300 and 1,500,
- They are spread mainly in rock outcrops and partially shaded tree trunks inside the forests.



Utility

- They have been studied for their possible applications in agriculture, particularly in areas with limited water resources.
- The genes of these plants could be used to create a high-temperature tolerant variety of crops to improve climate resilience and ensure food security for the masses.

17.29. Arash /Dorra Gas Field

Why In News?

- Saudi Arabia, Kuwait rejected Iran claims to disputed gas fields .

About Arash /Dorra

- The offshore field, known as Arash in Iran and Dorra in Kuwait and Saudi Arabia
    - It has long been a focal point of contention between the three countries.
- The row over the field stretches back to the 1960s, when Iran and Kuwait each awarded an offshore concession, one to the Anglo-Iranian Oil Company, the forerunner to BP, and one to Royal Dutch Shell.
    - The two concessions overlapped in the northern part of the field, whose recoverable reserves are estimated at some 220 billion cubic metres (nearly eight trillion cubic feet).
- **Developments:**
    - In 2022 **,Kuwait and Saudi Arabia signed an agreement** to jointly develop the field, despite objections from Iran which branded the deal as "illegal".
    - **Iran and Kuwait have held unsuccessful talks** for many years over their disputed maritime border area, which is rich in natural gas.
    - Recent attempts to revive negotiations have failed, and Iran's oil minister said Tehran may pursue work at the field even without an agreement.