Current Affairs
(Consolidation)

March 2022 (Part – II)

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Polity and Governance

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Bill to Include Darlong Community of Tripura in ST List

Why in News?

Recently, **Lok Sabha** passed the Constitution (Scheduled Tribes) Order (Amendment) Bill, 2022.

➢ The bill **sought to include the Darlong community as a sub-tribe of the Kuki tribal community** in the list of **Scheduled Tribes (STs).**

➢ The bill has been passed by amending **Constitution (Scheduled Tribes) Order, 1950.**

➢ Earlier, it was found that the **National Commission of STs has been dysfunctional** for the last four years.

What is the Status of Darlong Community in Tripura?

➢ Darlong is a **tribal community of Tripura**, which has a population of 11,000.

➢ The **community has a high prevalence of education and cultural activities** and members of the community **serve in senior positions in the local administration.**

○ For example, **a tribal musicologist and Rosem (a tribal instrument) maestro Thanga Darlong** was awarded the prestigious **Padma Shri** a few years ago for his contributions to culture.

What is the Status of Tribal Population in Tripura?

➢ Tripura has **20 tribal communities**, people of which live in the **Tripura Tribal Areas Autonomous District Council** formed on **18th January 1982.**

➢ The tribal council **covers nearly 70% of the total area of Tripura** and houses roughly 30% of the state's population.

➢ A large majority of them **still depend on slash and burn cultivation** and traditional livelihood for sustenance.

➢ The **tribal communities of the state include** Tripura/Tripuri, **Riang**, Jamatia, Noatia, Uchai, Chakma, Mog, Lushai, Kuki, Halam, Munda, Kaur, Orang, **Santal,** Bhil, Bhutia, Chaimal, Garo, Khasia, and Lepcha.

○ The **Halam community has several small tribal clans** within it. Many of these are linguistically endangered groups like Bongcher, Karbongs etc.

What are the Recent Steps taken for the Betterment of the Tribal Population?

➢ Recently the government came up with a **plan to develop broadband and 4G connectivity in aspirational districts.**

Note:

○ Funds for it will be allocated under the **Scheduled Tribes component.**

➤ On the issue of healthcare of tribals, recently the **Indian Council of Medical Research (ICMR)** was allocated funds for research into the field.

What is the Status of Scheduled Tribes in India?

➤ **About:**

○ As per **Census-1931, Schedule tribes are termed as "backward tribes"** living in the **"Excluded" and "Partially Excluded" areas.** The **Government of India Act of 1935** called for the first time for representatives of "backward tribes" in provincial assemblies.

○ The Constitution **does not define the criteria for recognition of Scheduled Tribes** and hence the definition contained in 1931 Census was used in the initial years after independence.

○ However, **Article 366(25) of the Constitution only provides process to define Scheduled Tribes:** "Scheduled Tribes means such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this Constitution."

● **342(1):** The President may with respect to any State or Union Territory, and where it is a State, after consultation with the Governor, by a public notification, specify the tribes or tribal communities or part of or groups within tribes or tribal communities as Scheduled Tribe in relation to that State or Union Territory.

○ There are **over 705 tribes which have been notified.** The largest number of tribal communities are found in Odisha.

○ The **Fifth Schedule** lays out provision for Administration and Control of Scheduled Areas and Scheduled Tribes in states other than **Assam, Meghalaya, Tripura and Mizoram.**

○ The **Sixth Schedule deals with the administration of the tribal areas** in Assam, Meghalaya, Tripura and Mizoram.

➤ **Legal Provisions:**

○ **Protection of Civil Rights Act, 1955 against Untouchability.**

○ **Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989**

○ **Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996**

○ **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**

Criminal Procedure (Identification) Bill, 2022

Why in News?

Recently, the **Criminal Procedure (Identification) Bill, 2022** was introduced in **Lok Sabha.**

In the eye of storm | The Criminal Procedure (Identification) Bill, 2022 would allow the police and prison authorities to store and analyse physical and biological samples, including retina and iris scans of convicts

■ The Bill seeks to repeal The Identification of Prisoners Act, 1920, whose scope was limited to recording finger impressions and foot-print impressions of limited category of convicts

■ The new Bill expands the scope of "measurements" to include iris, signature, hand-writing, biological samples

■ The records can be stored for 75 years

■ It also proposes to record the details of persons detained under any preventive detention law. Opposition says this can be misused against political adversaries

■ If a person with no criminal back-ground is released without trial or acquitted by the court, all records of measurements so taken shall be destroyed

What are the Provisions of the Bill?

➤ **Collection of Samples:**

○ It would **allow the police and prison authorities to collect, store** and analyse physical and biological samples, including retina and iris scans.

● **Resistance to or refusal to allow the taking of measurements** under this Act shall be deemed to be an offence under **section 186 of the Indian Penal Code.**

○ It will also **seek to apply these provisions to persons** held under any **preventive detention** law.

○ It also **authorises for taking measurements of convicts and "other persons"** for identification and investigation in criminal matters.

● It **doesn't define the "other persons"** implying its ambit beyond convicts, arrested persons, or detainees.

➤ **Power to Record Measurement:**

○ **Police personnel up to the rank of Head Constable** have been authorised to record the measurements.

○ The **National Crime Records Bureau (NCRB)** will be the **repository of physical and biological samples**, signature and handwriting data that can be preserved for at least 75 years.

Note:

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- NCRB has also been **empowered to share the records with any other law enforcement agency.**

What is the Significance of the Bill?

➢ **Making Use of Modern Techniques:**
   - ○ The bill **makes provisions for the use of modern techniques to capture** and record appropriate body measurements.
     - The existing law — **the Identification of Prisoners Act — dated back to 1920** and **allowed taking only fingerprint and footprint impressions** of a limited category of convicted persons.

➢ **Help Investing Agencies:**
   - ○ The Bill **seeks to expand the "ambit of persons" whose measurements can be taken** as this will **help the investigating agencies to gather sufficient legally admissible evidence** and establish the crime of the accused person.

➢ **Make the Investigation of Crime More Efficient:**
   - ○ The bill **provides legal sanction for taking appropriate body measurements** of persons who are required to give such measurements and will **make the investigation of crime more efficient and expeditious** and will also help in increasing the conviction rate.

What are the issues with the Bill?

➢ It has been argued that the **Bill was beyond the legislative competence of Parliament** as it **violated fundamental rights of citizens** including the **right to privacy.**
   - ○ The **Bill proposes to collect samples even from protestors** engaged in political protests.

➢ It **violates Article 20 (3) of the Constitution.** The Bill **implied use of force in collection of biological information,** could also **lead to narco analysis and brain mapping.**
   - ○ **Article 20(3) says that** 'No person accused of an offence shall be compelled to be a witness against himself'.

➢ It also violates **human rights provisions** as laid out in the **United Nations** charter.

➢ Also, the **implied use of force in clause 6(1) to take measurements violates the rights of prisoners** laid down in a catena of **Supreme Court** judgements beginning with *A K Gopalan 1950, Kharag Singh 1964, Charles Sobhraj 1978, Sheela Barse 1983, Pramod Kumar Saxena 2008.*

What are the Related Initiatives taken by the Government?

➢ Crime and Criminal Tracking Network & Systems:
   - ○ It is a project for creating a comprehensive and integrated system for effective policing through **e-Governance.**

➢ The Home Ministry is **working on the integration of the fingerprint database of the Central Finger Print Bureau (CFPB)**, and the **NIST Fingerprint Image Software (NFIS).**
   - ○ NFIS is a **technology used by the United States Federal Bureau of Investigation (FBI),** to match fingerprints.

➢ The government is also working on **scaling up data collection.**
   - ○ While the **FBI has over 4 crore fingerprints in its database**, the CFPB currently has a database of just over 10 lakh fingerprints.

Animal Disease Free Zones

Why in News?

In order to boost exports of **value-added meat products,** the Government of India has called on stakeholders to work towards the **creation of region-specific animal disease-free zones in the country.**

What are Animal Disease-Free Zones?

➢ Animal Disease-free zone means a **clearly defined part of a territory containing an animal subpopulation** with a **distinct health status** with respect to a specific disease for which required **surveillance, control and biosecurity measures have been applied for the purpose of international trade.**

What is the Need for creating animal disease-free zones?

➢ **Importance of Animal Husbandry:** Animals are the life support system for our rural economy, they provide sustenance in difficult times and are a great source of nutrition, particularly proteins for the rural folk.
   - ○ Animal Husbandry comes under the mixed farming practices.

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- ○ **Mixed Farming** is an agricultural system in which a farmer conducts different agricultural practices together, such as cultivating cash crops and rearing livestock.
  - ○ The aim is to increase income through different sources and to complement land and labour demands across the year.
- ➤ **Agricultural Exports:** India is the largest exporter of frozen and bovine meat while achieving significant growth in the export of organic honey and fish produce.
- ➤ **Promoting International Trade:** According to the **World Organisation for Animal Health (OIE),** zoning is a risk management strategy for achieving the progressive control and eradication of animal diseases, and for providing guarantees for international trade.

What are related Initiatives Taken by the Government?

- ➤ **National Animal Disease Control Programme**
  - ○ It aims to control and eradicate **Foot & Mouth Disease (FMD) and Brucellosis** amongst the livestock in the country.
- ➤ **National Livestock Mission**
  - ○ It envisages **setting up animal farms for their rearing in order to produce good quality meat** and thereby quality value-added products.
- ➤ **Animal Husbandry Infrastructure Development Fund**
  - ○ This is the first major fund launched by the government that includes a diverse set of stakeholders such as **Farmer Producer Organizations (FPO),** private dairy players, individual entrepreneurs, and non-profits within its ambit.
- ➤ **Agricultural and Processed Food Products Export Development Authority** (APEDA)
  - ○ APEDA was established by the Government of India under the **Agricultural and Processed Food Products Export Development Authority Act, 1985.**
  - ○ It promotes **exports of agriculture and animal fresh and processed products by setting standards and specifications, s**uggesting and supporting improvement in packaging, marketing strategies, facilitating the development of products for export, setting export zones, and organising.

Voting Rights for Overseas Citizens

Why in News?

Recently, the Union Minister for Law and Justice in response to a question in the **Lok Sabha** stated that the government is exploring the possibility of **allowing online voting for Non-Resident Indians (NRI).**

What is the Background?

- ➤ In 2020, the **Election Commission of India (ECI)** in a proposal to the Law Ministry proposed to extend the facility of postal ballots to eligible NRIs for the various State Assembly elections to be held in 2021.
- ➤ The ECI then, had proposed amending the **Conduct of Election Rules, 1961,** in order to allow this facility.
- ➤ The postal ballots were to be sent to **NRIs electronically** after which they will send the ballots back, after choosing their candidate, via post.

What is the Current Voting Process for Overseas Voters in Indian elections?

- ➤ It was through the **Representation of the People (Amendment) Act, 2010**, eligible NRIs who had stayed abroad beyond six months were allowed to vote, but only in person at the polling station where they have been enrolled as an overseas elector.
  - ○ Prior to 2010, an Indian citizen who is an eligible voter and was residing abroad for more than six months, **would not have been able to vote in elections.** This was because the **NRI's name was deleted from electoral rolls** if he or she stayed outside the country for **more than six months at a stretch.**
- ➤ An **NRI can vote in the constituency** in his/her place of residence, as mentioned in the passport, is located.
- ➤ He/She can **only vote in person** and will have to produce her passport in original at the polling station for establishing identity.

How has the existing facility worked so far?

- ➤ **Low Proportion of Eligible Overseas:**
  - ○ From merely **11,846 overseas voters who registered in 2014**, the number went up to **close to a lakh in 2019.** However, only low proportion of such voters turned up to vote.

Note:

➢ **Provision to Visit the Polling Booth Discouraged Eligible Voters:**

  ○ The **provision of having to visit the polling booth in person has discouraged eligible voters** from exercising their mandate.

What Steps are taken by the Government for Overseas Voters?

➢ In the **winter session** of Parliament in 2017, the government **proposed to remove the restriction imposed by Section 20A of the Representation of the People Act.**

  ○ 20A of the Representation of the People Act **required them to be physically present to vote in their constituencies.**

  ○ The Bill **provided for overseas voters to be able to appoint a proxy to cast their votes** on their behalf, subject to conditions laid down in the **Conduct of Election Rules, 1961.**

  ○ The Bill was later passed in 2018, but lapsed with the dissolution of the **16th Lok Sabha.**

➢ The **ECI then approached the government to permit NRIs to vote via postal ballots.**

  ○ **Postal ballots** is similar to a system that is already used by service voters, (a member of the armed Forces of the Union; or a member of a force to which provisions of the **Army Act, 1950** are applicable) which is the **Electronically Transmitted Postal Ballot System or ETPBS.**

What is an Electronically Transmitted Postal Ballot System (ETPBS)?

➢ **About:**

  ○ **For Service Voters:**

    ● The **Conduct of Election Rules, 1961** was **amended in 2016** to allow service voters to use the **ETPBS.**

    ● Under this system, **postal ballots are sent electronically to registered service voters.**

    ● The service voter can **then download the ETPB** (along with a declaration form and covers), register their mandate on the ballot and send it to the returning officer of the constituency via ordinary mail.

    ● The **post will include an attested declaration form** (after being signed by the voter in the presence of an appointed senior officer who will attest it).

  ○ **For NRIs (Proposed):**

    ● In the case of NRI voters, those seeking to vote through ETPBS will **have to inform the returning officer at least five days after notification** of the election.

    ● The **returning officer will then send the ballot electronically via the ETPBS.**

    ● The NRI voter can **then register her/his mandate on the ballot printout** and send it back with an attested declaration in a process similar to the service voter.

➢ **Benefits:**

  ○ The postal ballot method has been **recognised by the International Institute for Democracy and Electoral Assistance** as a means to **allow overseas voters to exercise their right**, subject to certain conditions normally related to the time spent abroad or the work carried out abroad.

    ● **International Institute for Democracy and Electoral Assistance** is an intergovernmental organisation that works to support democratic processes and institutions.

Determination of Minority in India

Why in News?

Recently, the Union government has told the **Supreme Court (SC)** that state governments can now grant minority status to any religious or linguistic community, including Hindus.

➢ The SC had sought the Union government's response in a plea that sought **directions for framing of guidelines identifying minorities at the state level.**

➢ The **expression "minorities"** appears in some Articles of the Constitution, but is **not defined anywhere.**

What is the Case?

➢ The plea contended that **Hindus are in a 'minority' in six states and three Union Territories of India** but were allegedly not able to avail themselves of the benefits of schemes meant for minorities.

Note:

- Plea Showed as per **2011 census** Hindus have become a minority in **Lakshadweep (2.5%), Mizoram (2.75%), Nagaland (8.75%), Meghalaya (11.53%), J&K (28.44%), Arunachal Pradesh (29%), Manipur (31.39%), and Punjab (38.40%).**
- They should be given minority status in these states in accordance with the principle laid down by the **SC in its *2002 TMA Pai Foundation and 2005 Bal Patil Case ruling.***
  - **TMA Pai Case:**
    - The SC had said that for the purposes of Article 30 that deals with the rights of minorities to establish and administer educational institutions, **religious and linguistic minorities have to be considered state-wise.**
  - **Bal Patil Case:**
    - In 2005, the SC in its judgement in 'Bal Patil' referred to the TMA Pai ruling.
    - The legal position clarifies that henceforth **the unit for determining status of both linguistic and religious minorities would be 'state'.**
- The petition claimed that NCMEI (National Commission for Minority Education Institution) Act 2004 gives unbridled power to the Centre and is "manifestly arbitrary, irrational, and offending".
  - Section 2(f) of **NCMEI Act 2004** confers power to the Centre to identify and notify minority communities in India.

What is the Centre's Stand?

- The Centre said the petitioners' argument is not correct **since states can also "certify institutions as being minority institutions** as per the rules of the said state.
  - The Centre pointed out that **Maharashtra had notified Jews as a minority community in 2016 and Karnataka had notified Urdu, Telugu, Tamil, Malayalam, Marathi, Tulu, Lamani, Hindi, Konkani and Gujarati as minority languages.**
- **Parliament** and State legislatures have **concurrent powers** to enact law to provide for the protection of minorities and their interests.
- Matters such as **declaring the followers of Judaism, Bahaism, and Hinduism** who are minorities in Ladakh, Mizoram, Lakshadweep, Kashmir, Nagaland, Meghalaya, Arunachal Pradesh, Punjab and Manipur can establish

and **administer educational institutions of their choice in the said state and laying down guideline(s) for identification of minority at state level** may be considered by the concerned state governments.

- The *TMA Pai ruling* also "reveals that the SC has **nowhere eroded the power of the Central Government to notify a community as a 'minority'.**
  - The **Parliament was empowered under Article 246** of the Constitution read with E**ntry 20, "economic and social planning", of the Concurrent List to enact laws** to promote and protect the interests of minorities.
  - Parliament has the legislative competence and the Central government has the executive competence to notify a community as a minority **under Section 2(c) of the National Commission for Minorities Act of 1992.**

What are the Constitutional Provisions for Minority?

- **Article 29:**
  - It provides that **any section of the citizens residing in any part of India having a distinct language, script or culture of its own, shall have the righ**t to conserve the same.
  - It grants **protection to both religious minorities as well as linguistic minorities.**
  - However, the SC held that the scope of this article is not necessarily restricted to minorities only, as use of the word **'section of citizens'** in the Article includes minorities as well as the majority.
- **Article 30:**
  - All minorities shall have the right to establish and administer educational institutions of their choice.
  - The protection under Article 30 is confined only to minorities (religious or linguistic) and does not extend to any section of citizens (as under Article 29).
- **Article 350-B:**
  - The **7th Constitutional (Amendment) Act 1956** inserted this article which provides for a Special Officer for Linguistic Minorities appointed by the President of India.
  - It would be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under the Constitution.

Note:

Who are the minorities notified by the Government of India?

➤ Currently, only those communities notified under section 2(c) of the **NCM Act, 1992**, by the central government are regarded as minority.

➤ In 1992, with the enactment of the NCM Act, 1992, the MC became a statutory body and was renamed as the NCM.

➤ In 1993, the first Statutory National Commission was set up and five religious communities viz. **The Muslims, Christians, Sikhs, Buddhists and Zoroastrians (Parsis) were notified as minority communities.**

➤ **In 2014, Jains were also notified** as a minority community.

Supplementary Demand for Grants

Why in News?

Recently, the government has tabled a third batch of **Supplementary Demands for Grants** in **Lok Sabha.**

What is the Supplementary Demand for Grants?

➤ It is needed when the amount authorised by the **Parliament through the appropriation act** for a particular service for the current financial year is found to be insufficient for that year.

➤ This grant is **presented and passed by the Parliament before the end** of the **financial year**.

What are the Other Types of Grants?

➤ **Additional Grant:** It is granted when a **need has arisen during the current financial year for additional expenditure** upon some new service not contemplated in the budget for that year.

➤ **Excess Grant:** It is granted **when money has been spent on any service during a financial year in excess** of the amount granted for that service in the budget for that year. It is voted by the Lok Sabha after the financial year. Before the demands for excess grants are submitted to the Lok Sabha for voting, they must be approved by the **Public Accounts Committee of Parliament.**

➤ **Vote of Credit:** It is granted for **meeting an unexpected demand** upon the resources of India, when on account of the magnitude or the indefinite character of the service, the demand cannot be stated with the details ordinarily given in a budget.

○ Hence, it is like a blank cheque given to the Executive by the Lok Sabha.

➤ **Exceptional Grant:** It is granted **for a special purpose** and forms no part of the current service of any financial year.

➤ **Token Grant:** It is granted when **funds to meet the proposed expenditure on a new service** can be made available by reappropriation.

○ A demand for the grant of a token sum (of Re 1) is submitted to the vote of the Lok Sabha and if assented, funds are made available.

○ Reappropriation involves transfer of funds from one head to another. It does not involve any additional expenditure.

What are the Related Constitutional Provisions?

➤ **Article 115 pertains** to supplementary, additional or excess grants.

➤ **Article 116** of the Constitution pertains to **Votes on account, Votes of credit and exceptional grants.**

➤ Supplementary, additional, excess and exceptional grants and vote of credit are regulated by the same procedure which is applicable in the case of a regular **budget.**

Fundamental Rights of Foreigners

Why in News?

The Union government has **urged the Supreme Court to help lay down a law with a "long–lasting" implication** for the country on the subject of **Foreigners' Right to approach local courts** for relief after violating their visa conditions.

➤ The Government asked the scope of Foreigners right to approach the local court, when **Article 19** is not applicable to them.

Note:

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➤ Article 19 of the Constitution, which deals with right to free speech and expression, and also holding of meetings peaceably, is restricted to citizens unlike in the case of Article 21, which mandates that "no person shall be deprived of his life or personal liberty except according to procedure established by law" and is applicable to citizens and non-citizens alike.

What are the Fundamental Rights Available to Foreigners?	
Fundamental rights available only to citizens and not to foreigners	**Fundamental rights available to both citizens & foreigners (except enemy aliens)**
Article 15: Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth.	**Article 14**: Equality before law and equal protection of laws.
Article 16: Equality of opportunity in matters of public employment.	**Article 20:** Protection in respect of conviction for offences.
Article 19: Protection of six rights regarding freedom of (speech and expression, (ii) assembly (iii) association, (iv) movement (v) residence and profession.	**Article 21:** Protection of life and personal liberty.
Article 29: Protection of language, script and culture of minorities.	**Article 21A:** Right to elementary education.
Article 30: Right of minorities to establish and administer educational institutions.	**Article 22:** Protection against arrest and detention in certain cases.
	Article 23: Prohibition of traffic and human beings and forced labour.
	Article 24: Prohibition of employment of children in factories etc.
	Article 25: Freedom of conscience and free profession, practice and propagation of religion.
	Article 26: Freedom to manage religious affairs.

	Article 27: Freedom from payment of taxes for promotion of any religion.
	Article 28: Freedom from attending religious instruction or worship in certain educational institutions.

Enhancing Digital Skills

Why in News?

According to a new report, about **27.3 million workers, representing 7% of the country's workforce, will** require **digital skills training** for their jobs over the next year.

➤ The report named **'Building Digital Skills for the Changing workforce'** has been prepared by **AlphaBeta and commissioned by Amazon Web Services, Inc (AWS)**, an Amazon.com company.

➤ The need for more advanced **cloud computing** skills, including **machine learning** and cloud architecture **design** have emerged as the **fifth and sixth most in demand digital skills** by employers in India by **2025.**

What are Digital Skills?

➤ Digital skills are broadly defined as the **skills needed to "use digital devices, communication applications, and networks to access and manage information,"** from basic online searching and emailing to specialist programming and development.

➤ Digital skill is not equal to education in the classic **STEM (Science, technology, engineering and mathematics)** disciplines.

Note:

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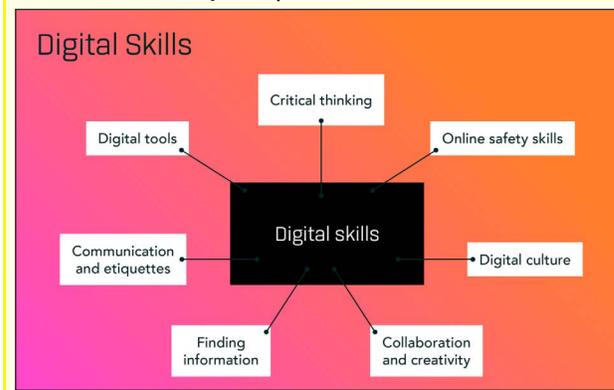
What are the issues related to Digital Skilling?

- **Insufficient Capacity:** Current infrastructure facilities available in the educational institutions throughout the country are **inadequate considering the huge demand for skilled labour** as there are not many trained and highly skilled trainers available.

- **Mobilisation:** The **outlook of people associated with skill development is still very traditional** and the enrolment of the students for vocational education and training has become an extremely challenging task.

- **Scalability:** Any model to be **successful needs a lot of support from different stakeholders.** Since there is **limited buy-in** from the corporate sector, the progress of such initiatives is slow.

- **Skills Mismatch:** There is **lack of industry-faculty interaction** because of which the skill sets provided by the educational and training institutes **do not end up suiting the employers' requirements.** As a result, though the **people may be skilled but they do not get employment.**

- **Barrier to Digital Skilling:** According to the report named **'Building Digital Skills for the Changing workforce', lack of time to pursue training** was the most commonly faced barrier to digital skilling.

  - Other reasons include **limited awareness of training options, low training quality and high training costs.**
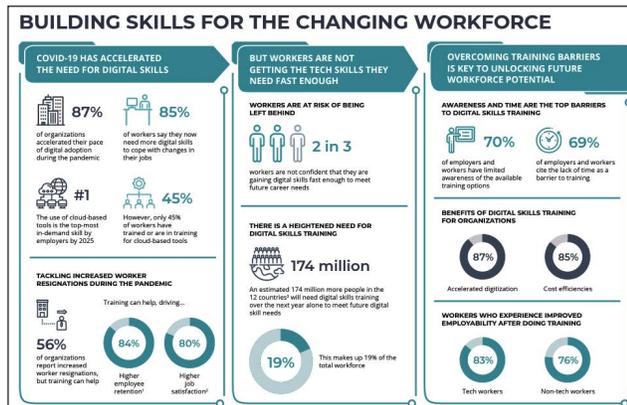
What are the Related Initiatives?

- **DigiSaksham initiative**
- **YuWaah Platform**
- **IndiaSkills 2021**
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**

- **Recognition of Prior Learning**
- **National Career Service Project**
- **Skills Acquisition and Knowledge Awareness for Livelihood (SANKALP)**
- **Young, Upcoming and Versatile Authors' (YUVA) scheme**
- **Kaushalacharya Awards**
- **Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)**
- **Atmanirbhar Skilled Employee Employer Mapping (ASEEM)**
- **Skill Certification**
- **National Skills Qualification Framework (NSQF)'**

National Commission for Scheduled Tribes

Why in News?

According to a parliamentary committee's recent report, the **National Commission for Scheduled Tribes** has been dysfunctional for the last four years and has not delivered a single report to **Parliament.**

What is the NCST?

- **Formation:** NCST was set up with effect from 19th February, 2004 by amending Article 338 and by **inserting a new article 338A in the Constitution** through the **89th Constitution Amendment Act, 2003.** Hence, it is a **constitutional body**.

- **Objective:** Article 338A inter-alia gives powers to the NCST to oversee the implementation of various safeguards provided to STs under the Constitution or under any other law for time being in force or under any other order to the Government and to evaluate the working of such safeguards.

- **Composition:** It consists of a **Chairperson, a Vice-Chairperson and 3 other Members** who are appointed by the President by warrant under his hand and seal.
  - At least one member should be a woman.
  - The Chairperson, the Vice-Chairperson and the other Members hold office for a term of 3 years.
  - The members are not eligible for appointment for more than two terms.

Note:

➢ The Chairperson has been given the **rank of Union Cabinet Ministers**, the Vice Chairperson has the rank of a Minister of State and other Members have the rank of a Secretary to the Government of India.

What are the Duties and Functions of the NCST?

➢ To **investigate and monitor all matters relating to the safeguards** provided for the STs under the Constitution or under any other law for the time being in force or under any order of the Government.

➢ To **inquire into specific complaints with respect to the deprivation of rights** and safeguards of the STs.

➢ To **participate and advise in the planning process of socio-economic development** of the STs and to evaluate the progress of their development.

➢ To present to the President, **annually and at such other times as the Commission may deem fit, reports** upon the working of those safeguards.

➢ To **discharge such other functions in relation to the protection, welfare and development and advancement of the Scheduled Tribes** as the President may be subject to the provisions of any law made by Parliament by rule specified.

What are the issues with the NCST?

➢ **Pending Reports:**
  ○ In the **financial year 2021-22**, it has met only four times. Its rate of pendency of resolution of complaints and cases that it receives is also close to 50%.

➢ **Manpower and Budgetary Shortage:**
  ○ The Committee expressed dismay over the near paralysis of the Commission's working with manpower and budgetary shortage.
  ○ The recruitment in the Commission was constrained **because of lack of applicants as the eligibility bar was set too high** and the rules being tweaked to enable many more candidates to apply.

What are the Recommendations of the Panel?

➢ The **vacancies should be immediately filled** as there should be no reason now for any further delay since the recruitment rules have been suitably revised.

➢ The **budgetary allocation for the Commission needs to be reviewed** so that its functioning is not made to suffer for lack of funds.

Protection of Children from Sexual Offences

Why in News?

Recently, a 2-judge bench of the Supreme Court has delivered a split verdict on the issue whether **Section 155(2) of the Code of Criminal Procedure** will apply to the investigation of an offence under **Section 23 of the Protection of Children from Sexual Offences Act, 2012 (POCSO).**

➢ As per **Section 155(2) CrPC**, a police officer cannot investigate a non-cognizable offence without the order of a Magistrate.

➢ **Section 23 of POCSO** relates to the **offence of disclosure of the identity of the victim of the sexual offence.**

➢ One of the judges opined that **disclosure of the identity of a child** who is a victim of sexual offences or who is in conflict with the law is in **fundamental breach of the right of the child to dignity, the right not to be embarrassed.**

What are the issues related to Child Sexual Abuse?

➢ **Multi-layered Problem:** Child sexual abuse is a **multi-layered problem which negatively impacts children's physical safety, mental health**, well-being and behavioural aspects.

➢ **Amplification Due to Digital Technologies:** Mobile and digital technologies has further amplified child abuse and exploitation. New forms of child abuse like online bullying, harassment and **Child Pornography** have also emerged.

➢ **Ineffective Legislaton:** Although Government of India has enacted the **Protection of Children against Sexual Offences Act 2012 (POCSO Act),** it has **failed to protect child from sexual abuse.** The reasons for this can be following:
  ○ **Low Conviction Rate:** The rate of conviction under the **POCSO act is only about 32%** if one takes the average of the past 5 years and the percentage of cases pending is 90%.
  ○ **Judicial Delay:** The Kathua Rape case took 16 months for the main accused to be convicted whereas the POCSO Act clearly mentions that the entire trial and conviction process has to be done in one year.

Note:

o **Unfriendly to Child:** Challenges related to **age-determination of the child.** Especially laws that focus on biological age and not mental age.

What are the Related Initiatives?

➤ **Child Abuse Prevention and Investigation Unit**
➤ **Beti Bachao, Beti Padhao**
➤ **Juvenile Justice Act/Care and Protection Act, 2000**
➤ **Child Marriage Prohibition Act (2006)**
➤ **Child Labour Prohibition and Regulation Act, 2016**

What are the Related Constitutional Provisions?

➤ The Constitution guarantees to every **child the right to live with dignity (Article 21)**, the **right to personal liberty (Article 21)**, the **right to privacy (Article 21),** the **right to equality (Article 14)** and/or the **right against discrimination (Article 15),** the **right against exploitation (Article 23 & 24).**

o **Right to free and compulsory elementary education** for all children in the 6-14 year age group (Article 21 A)

➤ **The Directive Principles of State Policy**, and in particular **Article 39(f)**, cast an **obligation on the State to ensure that children are given opportunities and facilities** to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment.

Principle of Reasonable Accommodation

Why in News?

Recently, in the context of **hijab controversy**, the **Karnataka High Court** ruled in favour of the State's circular that required students in **educational institutions** should only wear prescribed uniforms.

➤ The decision effectively upheld the **denial of entry to students wearing the hijab**.

➤ The court rejected an argument in support of permitting Muslim girls wearing head-scarves that was based on the **principle of 'reasonable accommodation'.**

What is the Principle of 'Reasonable Accommodation'?

➤ **About:** '**Reasonable accommodation'** is a principle that promotes equality, enables the grant of **positive rights** and prevents discrimination based on **disability, health condition or personal belief.**

o Its use is primarily in the **disability rights sector.**

o It **captures the positive obligation** of the State and private parties to **provide additional support to persons with disabilities** to facilitate their full and effective participation in society.

o For a person with disability, the constitutionally guaranteed **fundamental rights** to **equality (Article 14), the six freedoms (Article 19) and the right to life (Article 21)** will ring hollow if they are not given this additional support that helps make these rights real and meaningful for them.

➤ **Article 2 of UN Convention on the Rights of People with Disabilities (UNCRPD):** It is necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms.

EXAMPLES OF REASONABLE ACCOMMODATIONS: Modifying Work Sites, Accessible Facilities, Providing Readers and Interpreters, Flexi-Time, Flexi-Place, Modifying Work Schedules, Assistive Devices, Reassignment (only used as the 'accommodation of last resort')
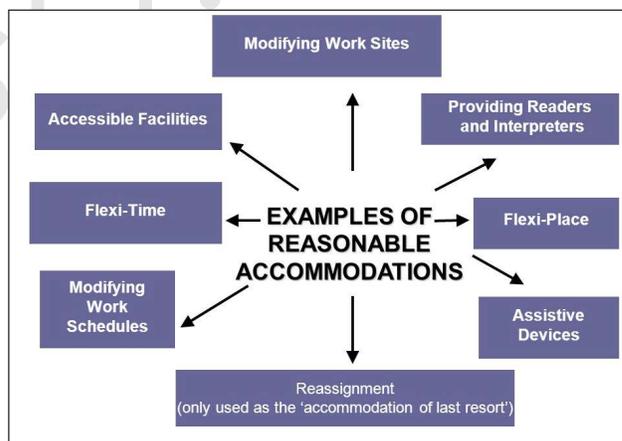
International Labour Organisation (ILO) Case Study

➤ In 2016, the **ILO** came out with a practical guide on **promoting diversity and inclusion through workplace adjustments.**

➤ The need for **workplace accommodation may arise in a variety of situations**, but four categories of workers were chosen for the guide:

○ Workers with disabilities,

○ Workers living with **HIV and AIDS,**

○ Pregnant workers and those with family responsibilities, and

○ Workers who hold a particular religion or belief.

➢ These categories of workers come across **different kinds of barriers at work.** These may result in either loss of employment or lack of access to employment.

➢ The provision of reasonable accommodation plays a major role in addressing these barriers and thus contributes to **greater workplace equality, diversity and inclusion.**

➢ A modified working environment, shortened or staggered working hours, additional support from supervisory staff and reduced work commitments are ways in which accommodation can be made.

What is the Legal position on this in India?

➢ In India, the **Rights of People with Disabilities Act, 2016,** defines '**reasonable accommodation**' **as "necessary and appropriate modification and adjustments**, without imposing a disproportionate or undue burden in a particular case, to ensure to persons with disabilities the enjoyment or exercise of rights equally with others".

○ The definition of 'discrimination' in **Section 2(h) includes 'denial of reasonable accommodation'.**

➢ *Jeeja Ghosh and Another v. Union of India and Others (2016):* The **Supreme Court**, held that Equality not only implies preventing discrimination but goes beyond in remedying discrimination against groups suffering systematic discrimination in society.

○ In concrete terms, it means embracing the notion of positive rights, affirmative action and reasonable accommodation."

➢ *Vikash Kumar v. UPSC (2021*): The court ruled that **benchmark disability**, that is a specified disability to the extent of 40%, is related only to special reservation for the disabled in employment, but it need not be a restriction for other kinds of accommodation.

○ It also said **failure to provide reasonable accommodation amounts to discrimination.**

Draft Bill for a New National Public Health Law

Why in News?

Officials from the Union Ministry of Health and Family Welfare and other Government departments have **started the process of finalising various provisions of the draft Bill for a new national public health law.**

➢ The proposed **National Public Health Act** has been in the works since 2017 and, once enacted, will replace the **125-year-old Epidemic Diseases Act, 1897.**

What is the Background?

➢ In 2017, the draft of the **Public Health (Prevention, Control and Management of Epidemics, Bio-terrorism and Disasters) Act, 2017** was released.

➢ In September, 2020, it was announced that the Government would **formulate a national public health law (**National Public Health Bill**).**

What are the Expected Provisions of the Draft Bill?

➢ **Four-tier Health Administration Architecture:**

○ The draft Bill proposes a **four-tier health administration architecture**, with "multisectoral" national, state, district and block-level public health authorities who will have **"well defined" powers and functions to deal with "public health emergencies".**

● It is proposed to be **headed by the Union Health Ministry**, and be chaired by **health ministers of states.**

● **District Collectors will lead the next tier**, and block units will be headed by Block Medical Officers or Medical Superintendents.

● These authorities **will have powers to take measures for the prevention of non-communicable diseases** and emerging infectious diseases.

➢ **Creation of Public Health Cadres:**

○ The proposed law also **provides for creation of public health cadres** at national and state levels.

➢ **Definition of Isolation, Quarantine and Lockdown:**

Note:

○ The draft Bill has defined various measures such as **isolation, quarantine and lockdown,** which have been extensively invoked by the Centre and states for Covid management.

- It defines a lockdown as **"restriction with certain conditions or complete prohibition** of running any form of transport"** on roads or **inland water.**

- The definition of a **lockdown covers "restrictions" on the movement or gathering of persons** in any place whether public or private.

  ■ It also includes **"prohibiting or restricting" the working of factories,** plants, mining or construction or offices or Educational institutions or market places.

➢ **Situation for Declaring Public Health Emergency:**

○ The draft lays down several situations in which **"public health emergency"** can be declared. They include

- **bioterrorism**

- appearance of a novel or previously controlled or eradicated infectious agent or biological toxin;

- a **natural disaster**

- a **chemical attack** or accidental release of chemicals

- a **nuclear attack or accident**.

What is the State of India's Healthcare System?

➢ **Increased Expenditure on Health:**

○ According to the recently released **National Health Accounts (NHA) report for 2017-18**, the government has increased the expenditure on health, making the decline of **Out-Of Pocket Expenditure (OOPE) to 48.8% in 2017-18 from 64.2% in 2013-14.**

- It shows that **total public spending on health** as a percentage of GDP has increased to a **historic high of 1.35% of GDP breaking through the 1%-1.2% mark of GDP.**

➢ **Share of Primary Health Care:** The share of primary healthcare in current Government health expenditure has increased from **51.1% in 2013-14 to 54.7% in 2017-18.**

○ Primary and secondary care accounts for more than **80% of the current Government health expenditure.**

➢ **Social Security Expenditure on Health:** The share of **social security expenditure on health,** which includes the social health insurance programme, Government financed **health insurance schemes,** and medical reimbursements made to Government employees, has increased.

What are the issues with Healthcare Infrastructure?

➢ **Issues of Healthcare Insurance:** In a recently released **report by NITI Aayog,** at least **30% of the population, or 40 crore individuals** (referred as the missing middle in this report) are devoid of any financial protection for health.

○ Additionally, the high **18% GST on insurance premiums** further discourages people from opting for health insurance.

➢ **Lack of Private Sector Involvement:** The **primary healthcare sector is not one that will result in profits** but provides more of basic level healthcare which is why the burden across the world for primary health care largely lies on the governments; it is more in the public domain rather than in the private domain.

➢ **Lack of Original Molecular Development:** India is the **pharmacy to the world** because the drug manufacturing in India is quite robust. However, **due to lack of financing, there is no or very little original molecular development** which is required as inputs into drug manufacturing.

○ This area **requires impetus from the government** so that India's production can be updated along frontier medicines too rather than only on generic medicines.

What are the Initiatives related to the Health Sector?

➢ **National Health Policy, 2017**

➢ **Ayushman Bharat Health Infrastructure Mission**

➢ **Ayushman Bharat Digital Mission**

➢ **PM Atmanirbhar Swasth Bharat Scheme**

➢ **Pradhan Mantri Swasthya Suraksha Yojana**

➢ **Jan Aushadhi Yojana**

Note:

Periodic Labour Force Survey

Why in News?

Recently, the latest **Periodic Labour Force Survey (PLFS)** released by the **National Statistical Office (NSO)** shows that the **unemployment rate** had shot up sharply during the **nationwide lockdown** in 2020 during the **first wave of the pandemic.**

➢ NSO is the central statistical agency of the Government-mandated under the **Statistical Services Act 1980** under the **Ministry of Statistics and Programme Implementation.**

What is the Unemployment rate?

➢ **Unemployment Rate:** The unemployment rate is defined as the **percentage of unemployed persons in the labour force.**

➢ **Labour Force:** The Labour force, according to **Current Weekly Status (CWS),** is the number of persons either employed or unemployed on an average in a week preceding the date of the survey.

➢ **CWS Approach:** The urban unemployment PLFS is based on the CWS approach.

  ❍ Under CWS, a person is considered **unemployed if he/she did not work even for one hour on any day during the week but sought or was available for work at least for one hour on any day during the period**

  ❍ Labour force participation rate in current weekly status in urban areas for people aged **15 years and above** was 46.8% in the April-June quarter of 2021.

What is the Periodic Labour Force Survey?

➢ Considering the importance of the availability of labour force data at more frequent time intervals, **the NSO** launched the Periodic Labour Force Survey (PLFS) in April 2017.

➢ **The objective of PLFS is primarily twofold:**

  ❍ To estimate the key employment and unemployment indicators (viz. **Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate)** in the short time interval of three months for the urban areas only in the **CWS.**

  ❍ To estimate employment and unemployment indicators in both usual Status and CWS in both rural and urban areas annually.

What are Recent Initiatives by the Government to fight Unemployment?

➢ **Support for Marginalised Individuals for Livelihood and Enterprise (SMILE)**

➢ **PM-DAKSH (Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi)**

➢ **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**

➢ **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**

➢ **Start Up India Scheme**

Types of Unemployment in India

➢ **Disguised Unemployment:** It is a phenomenon wherein **more people are employed than actually needed.**

  ❍ It is primarily traced in the agricultural and unorganised sectors of India.

➢ **Seasonal Unemployment:** It is unemployment that occurs **during certain seasons** of the year.

  ❍ Agricultural labourers in India rarely have worked throughout the year.

➢ **Structural Unemployment:** It is a category of unemployment arising from the **mismatch between the jobs available in the market and the skills** of the available workers in the market.

  ❍ Many people in India do not get jobs due to a lack of requisite skills and due to poor education levels, it becomes difficult to train them.

➢ **Cyclical Unemployment:** It is a **result of the business cycle**, where unemployment rises during recessions and declines with economic growth.

  ❍ Cyclical unemployment figures in India are negligible. It is a phenomenon that is mostly found in capitalist economies.

➢ **Technological Unemployment:** It is the loss of jobs due to **changes in technology**.

  ❍ In 2016, World Bank data predicted that the proportion of jobs threatened by automation in India is 69% year-on-year.

➢ **Frictional Unemployment:** Frictional Unemployment also called **Search Unemployment**, refers to the **time lag between the jobs when an individual is searching for a new job** or is switching between the jobs.

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○ In other words, an employee requires time for searching for a new job or shifting from the existing to a new job, this inevitable time delay causes frictional unemployment.

○ It is often considered voluntary unemployment because it is not caused due to the shortage of jobs, but in fact, the workers themselves quit their jobs in search of better opportunities.

➤ **Vulnerable Employment:** This means, people, working informally, **without proper job contracts and thus sans any legal protection.**

○ These persons are deemed 'unemployed' since records of their work are never maintained.

○ It is one of the main types of unemployment in India.

Bail Provision Under UAPA

Why in News?

Recently, a Delhi court granted bail to a former Congress (Political Party) councillor in an **Unlawful Activities (Prevention) Act 1967 (UAPA)** case filed in connection with the 2020 anti-**Citizenship (Amendment) Act, 2019**, (CAA) protests.

What is the Citizenship (Amendment) Act, 2019 ?

➤ The CAA provides citizenship to six undocumented non-Muslim communities **(Hindus, Sikhs, Buddhists, Jains, Parsis and Christians)** from Pakistan, Afghanistan and Bangladesh who **entered India on or before 31st December, 2014.**

➤ It exempts the members of the six communities from any criminal case under the **Foreigners Act, 1946** and **the Passport Act, 1920.**

○ The two Acts specify punishment for entering the country illegally and staying here on expired visas and permits.

What was the Current Ruling?

➤ The **court granted bail** to the accused despite the prosecution arguing that there were limitations contained in **Section 43D(5) of the UAPA**, a provision which makes grant of bail virtually impossible, as it leaves little room for judicial reasoning.

○ The Defence argued that Section 43D UAPA only **puts restrictions but is not an absolute bar to the grant of bail.**

What are the Bail Related Provisions and Issues in UAPA?

➤ The major problem with the UAPA lies in its **Section 43(D)(5), which prevents the release of any accused person on bail** if, police have filed the chargesheet that there are reasonable grounds for believing that the accusation against such person is prima facie true.

○ The effect of Section 43(D)(5) is that **once the police elect to charge an individual under the UAPA, it becomes extremely difficult for bail to be granted**. Bail is a safeguard and guarantee of the constitutional right to liberty.

➤ This provision leaves very **little room for judicial reasoning, and makes the grant of bail virtually impossible under UAPA**.

○ In the case of *Zahoor Ahmed Shah Watali*, the **Supreme Court** in 2019 confirmed that **courts must accept the state's case without examining its merits.**

○ However, **courts have since read this provision differently, emphasizing the right to a speedy trial** and raising the bar for the state to book an individual under UAPA.

What is Unlawful Activities (Prevention) Act 1967?

➤ The UAPA was enacted in 1967, and later **strengthened to be modelled as an anti-terror law by the government in 2008 and 2012.**

➤ In August 2019, Parliament cleared the **Unlawful Activities (Prevention) Amendment Bill, 2019** to designate individuals as terrorists on certain grounds provided in the Act.

➤ In order to **deal with the terrorism related crime**s, it deviates from ordinary legal procedures and creates an exceptional regime where constitutional safeguards of the accused are curtailed.

➤ Between 2016 and 2019, the period for which UAPA figures have been published by the **National Crime Records Bureau (NCRB),** a total of 4,231 **First Information Report (FIR)** were filed under various sections of the UAPA, of which 112 cases have resulted in convictions.

Note:

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○ This frequent application of UAPA indicates that it is often misused and abused like other anti-terror laws in the past in India such as **POTA (Prevention of Terrorism Act) 2002** and **TADA (Terrorist and Disruptive Activities (Prevention) Act) 1987.**

What are other Associated Issues of the UAPA?

➤ **Vague Definition of Terrorist Act:** The definition of **a "terrorist act"** under the UAPA substantially **differs from the definition promoted by** the **United Nations (UN)** Special Rapporteur on the Protection of Human Rights and Fundamental Freedoms while Countering Terrorism.

   ○ According to Special Rapporteur to call an offence a "terrorist act", three elements must be cumulatively present:

      ● The means used must be deadly.

      ● The intent behind the act must be to cause fear amongst the population or to compel a government or international organisation to do or refrain from doing something.

      ● The aim must be to further an ideological goal.

   ○ **UAPA**, on the other hand, **offers an overbroad and ambiguous definition** of a "terrorist act" which includes the death of, or injuries to, any person, damage to any property, etc.

➤ **Pendency of Trails**: Given the state of justice delivery system in India, the rate of **pendency at the level of trial is at an average of 95.5%.**

   ○ This means that trials are completed every year in less than 5% cases, signifying the reasons for long years of undertrial imprisonment.

➤ **State Overreach:** It also includes any act that is **"likely to threaten" or "likely to strike terror in people",** giving unbridled power to the government to brand any ordinary citizen or activist a terrorist without the actual commission of these acts.

   ○ Thus, the state gives itself more powers vis-a-vis individual liberty guaranteed under **Article 21 of the constitution.**

➤ **Undermining Federalism**: Some experts feel that it is **against the federal structure since it neglects the authority of state police** in terrorism cases, given that 'Police' is a state subject under 7th schedule of Indian Constitution.

PM-DAKSH Scheme

Why in News

Recently, the **Ministry of Social Justice & Empowerment** has informed the Lok Sabha that the amount of funds earmarked under **PM-DAKSH (Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi) Yojana** during 2020-21 and 2021-22 are Rs.44.79 crores and Rs.79.48 crores respectively.

➤ Earlier, the Ministry launched **'PM-DAKSH' Portal and 'PM-DAKSH' Mobile App** to make the skill development schemes accessible to the target groups -**SC (Scheduled Caste), OBC (Other Backward Classes), Economically Backward Classes(EBC), Denotified tribes, Sanitation workers**.

What are the Key Points?

➤ **About:**

   ○ It is being implemented **from the year 2020-21.**

   ○ Under this**, eligible target groups are provided with the skill development training programmes** on Short Term Training Program; Up-Skilling/Reskilling; Entrepreneurship Development Programme, and Long Term Training Programme.

      ● These **training programmes are being implemented through the government training institutes**, sector skill councils that have been constituted by the Ministry of Skill Development and Entrepreneurship, and other credible institutions.

➤ **Eligibility:**

   ○ Marginalised persons of **SC , OBC , EBC, Denotified tribes, Sanitation workers** including waste pickers, **manual scavengers**, **transgenders** and other similar categories.

➤ **Implementation:**

   ○ **It is implemented by the three Corporations under the Ministry:**

      ● **National Scheduled Castes Finance and Development Corporation** (NSFDC),

      ● **National Backward Classes Finance & Development Corporation** (NBCFDC),

      ● **National Safai Karamcharis Finance and Development Corporation** (NSKFDC).

Note:

➢ **Status of Skill Development Training of Target Groups:**
   ○ Skill development training has been imparted to **2,73,152 people of the target groups in the last 5 years.**
   ○ A target, during the year 2021-22, has been set to provide the skill development training to approx 50,000 people of the target groups through these three corporations.

What is the Significance of the Scheme?

➢ **Minimal Economic Assets:**
   ○ Most of the persons of the tar**get groups have minimal economic assets;** therefore, provision of **training and enhancing their competencies is essential** for economic empowerment/ upliftment of these marginalised target groups.

➢ **Helps Category of Rural Artisans:**
   ○ Many of the persons of the **target groups belong to the category of rural artisans who have become marginalised** owing to the coming of better technologies in the market.

➢ **Empowers Women:**
   ○ Women due to their overall domestic compulsions, **cannot be involved in wage employment** which normally involves long working hours and sometimes migration to other cities, **there is a need to empower the women amongst the target groups**.

What are the Initiatives Related to Skill Development?
➢ **Pradhan Mantri Kaushal Vikas Yojana 3.0**: It was **launched by the Ministry of Skill Development and Entrepreneurship (MSDE)** in 2021 in a bid to empower India's youth with employable skills by making over 300 skill courses available to them.
➢ **National Career Service Project:** Launched in 2015 to offer **free online career skills training to job-seekers registered with it.** It is an initiative of the Ministry of Labour & Employment.
➢ **Skills Acquisition and Knowledge Awareness for Livelihood (SANKALP):** Its focus is on **district-level skilling ecosystem through convergence and coordination.** It is a Centrally Sponsored Scheme which is collaborated with the **World Bank.**
➢ **Kaushalacharya Awards:** Launched to **recognize the contribution made by skill trainers** and to motivate more trainers to join the Skill India Mission.

➢ **Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS):** The scheme is to provide industry apprenticeship opportunities to the general graduates exiting in April 2019 through the **National Apprenticeship Promotion Scheme (NAPS)**. It was launched by the Ministry of Education.
➢ **Atmanirbhar Skilled Employee Employer Mapping (ASEEM):** Launched by MSDE in 2020, it is a portal to help skilled people find sustainable livelihood opportunities.

Draft National Tourism Policy

Why in News

Recently, the Government has prepared the **Draft National Tourism Policy** focusing on **Green, and digital tourism** and has been sent to the industry partners, state governments, other allied ministries for feedback, before it is sent for approval.

➢ Earlier, the Ministry of Tourism has formulated **three draft strategies** with roadmaps for promoting Medical and Wellness Tourism, for development of Rural Tourism and for promotion of MICE Industry in India.

What are the Key Points of the Draft Policy?

➢ **Industry Status to Sector:**
   ○ To promote investment in the tourism sector, the document mentions granting of industry status to the sector, along with formally **granting infrastructure status to hotel**s.

➢ **Five Key Areas:**
   ○ Five key areas would be given significant focus in the next 10 years — **green tourism, digital tourism, destination management, skilling the hospitality sector and supporting tourism-related to Micro, Small and Medium Enterprises (MSMEs).**

➢ **Relief Measures and Taxation Breaks:**
   ○ The industry, which has been the worst sufferer over the last two years of the **pandemic**, had sent multiple representations to the government representatives for relief measures as well as taxation breaks.

➢ **Offers Framework Conditions:**
   ○ The draft policy **doesn't deal with specific operational issues, but offers framework conditions to help the sector**, especially in the wake of the pandemic.

Note:

○ Th**e overall mission and vision is being laid out to improve the experience** of tourists, foreign as well as local..

What is the Scenario of Tourism in India?

➢ **About:**

○ **India attracted a lot of travellers in the past** due to its fabled wealth. Visit of **Hieun-tsang**, a devout Chinese Buddhist is an example of this.

○ **Pilgrim Travel got a boost** when Emperors like Ashoka and Harsha started building rest houses for pilgrims.

○ Arthashastra' pointing out **the importance of the travel infrastructure for the state, which played an important role** in the past.

○ Post-Independence, Tourism continuously **remained part of the Five Year Plans(FYP).**

● Different forms of Tourism like **Business Tourism, Health Tourism, and Wildlife Tourism etc. were introduced** in India after seventh FYP.

➢ **Status:**

○ India's Tourism is ranked at 10th position in terms of its contribution to World **GDP (Gross Domestic Product)** in the World Travel and Tourism Council's report in 2019.

● During 2019, contribution of travel & tourism to GDP was 6.8% of the total economy, ~ Rs. 13,68,100 crore (USD 194.30 billion).

○ India as of now in 2021 has 40 sites listed under **'World Heritage List'**, 6th most highest (32 cultural, 7 natural and 1 mixed site) in the world.

● **Dholavira** and **Ramappa Temple (Telangana)** are the latest ones.

○ In FY20, the tourism sector in India accounted for **39 million jobs, which was 8.0% of the total employment in the country**. By 2029, it is expected to account for about 53 million jobs.

➢ **Significance:**

○ **Service Sector:**

● It gives **a push to the service sector.** A large number of businesses engaged in the service sector such as airlines, hotel, surface transportation, etc. grows with the growth of the tourism industry.

○ **Foreign Exchange:**

● Foreign Travellers help India in getting **Foreign Exchange**.

● The foreign exchange earnings from 2016 to 2019 grew at a CAGR of 7% but dipped in 2020 due to the **COVID-19 pandemic.**

○ **Preservation of National Heritage:**

● Tourism helps in **preservation of National Heritage and Environment** by bringing in focus the importance of sites and the need to preserve them.

○ **Renewal of Cultural Pride:**

● Tourist spots being appreciated globally **instils a sense of pride among Indian residents.**

○ **Infrastructural Development:**

● Now-a-days, it is ensured that **Travelers do not face any problem; multiple use infrastructures are getting developed** at several tourist places.

○ **Recognition:**

● It helps in **bringing India on the global map of tourism,** earning appreciation, recognition and initiates cultural exchange.

○ **Promotes Cultural Diplomacy:**

● Tourism as **a form of soft power, helps in promoting cultural diplomacy,** people to people connect and thereby promotes friendship and cooperation between India and other countries.

➢ **Challenges:**

○ **Lacking in Infrastructure:**

● Tourists in India **still face many infrastructure related problems** like inadequate roads, water, sewer, hotels and telecommunications etc.

○ **Safety and security:**

● Safety and security of tourists, especially of the foreign tourists, is a m**ajor hurdle to tourism development.** Attacks on foreign nationals raise questions about India's ability to welcome tourists from far away countries.

○ **Lack of skilled manpower:**

● Lack of skilled manpower is another challenge to the Tourism Industry in India.

○ **Absence of basic amenities:**

● Absence of basic amenities like drinking water, well maintained toilets, first aid, cafeteria etc. at tourist places.

Note:

○ **Seasonality:**
  ● Seasonality in Tourism, with the busy season being limited to six months from October to March and heavy rush in November and December.

➢ **Related Initiatives:**
  ○ **Swadesh Darshan Scheme:** Under it, the Ministry of Tourism provides Central Financial Assistance (CFA) to State Governments/Union Territory Administrations for infrastructure development of 13 identified theme based circuits.

  ○ **National Mission on Pilgrimage Rejuvenation and Spiritual, Heritage Augmentation Drive:**
    ● PRASAD Scheme was launched by the Ministry of Tourism in the year 2014-15 with the objective of holistic development of identified pilgrimage destinations.

  ○ **Iconic Tourist Sites:**
    ● Buddhist Sites at **Bodhgaya, Ajanta & Ellora** have been identified to be developed as **Iconic Tourist Sites** (aimed at enhancing India's soft power).

  ○ **Buddhist Conclave:**
    ● Buddhist Conclave is organised every alternate year with the objective of promoting India as a Buddhist Destination and major markets around the globe.

  ○ **Dekho Apna Desh' Initiative:**
    ● It was launched by the Ministry of Tourism in 2020 to encourage the citizens to travel widely within the country thus enabling the development of Domestic Tourism tourist facilities and infrastructure.

Issues with PMFBY

Why in News?

Maharashtra is the latest state to threaten to withdraw from the **Pradhan Mantri Fasal Bhima Yogna (PMFBY)** if the changes suggested by it were not taken into consideration.

➢ **Gujarat, Bihar, West Bengal, Andhra Pradesh, Telangana and Jharkhand** have opted out of the scheme because of **low claim ratio and financial constraints.**

What is PMFBY?
➢ It is a central-state scheme, introduced in the **2016-17 kharif season.**
➢ It aims **to cushion farmers against crop loss.**
➢ The central and state governments pay more than 95% of the premium amount while **the farmer bears 1.5-5 % of the premium.**
➢ As extensive usage of technology is used to settle the claims of farmers within a stipulated time period, **farmers are required to fill loss reports online which are validated by insurance companies before the compensation amount is paid** directly in their accounts.
➢ Prior to 2020, **the scheme was mandatory for farmers who availed institutional finance,** but that was changed and made voluntary for all farmers.

What are the Issues in PMFBY?

➢ **Financial Constraints of States: The financial constraints of the state governments and low claim ratio during normal seasons are the major reasons** for non-implementation of the Scheme by these States.
  ○ States are **unable to deal with a situation** where insurance companies compensate farmers less than the premium they have collected from them and the Centre.
  ○ The State governments **failed to release funds on time** leading to delays in releasing insurance compensation.
  ○ This defeats the very purpose of the scheme which is to provide timely financial assistance to the farming community.

➢ **Claim Settlement Issues:** Many **farmers are dissatisfied with both the level of compensation** and delays in settlement.
  ○ The role and power of Insurance companies is significant. In many cases, **it didn't investigate losses** due to a localised calamity and, therefore, did not pay the claims.

➢ **Implementation Issues:** Insurance companies **have shown no interest in bidding** for clusters that are prone to crop loss.
  ○ Further, it is in the nature of the insurance business for entities to make money when crop failures are low and vice-versa.

Note:

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- ➢ **Identification Issues:** Currently th**e PMFBY scheme doesn't distinguish between large and small farmers** and thus raises the issue of identification. Small farmers are the most vulnerable class.

What changes has the Maharashtra government proposed?

- ➢ **Share in Premium:**
  - ○ Maharashtra has proposed a share in **premium collected from insurance companies during a non-payout or normal year.**
- ➢ **Beed Model:**
  - ○ It called for the **Beed model**, which was first experimented during kharif 2020,
  - ○ under this model, **insurance companies provide cover to an extent of 110 % of the premium collected.**
  - ○ In case the compensation amount exceeds this**, the state government will bridge the amount**.
  - ○ In case the compensation amount is less than the premium collected**, the company will refund 80 %** of the funds to the state government and keep 20 % for its administrative expenses.
    - • The model was **implemented by the government-run Agricultural Insurance Company.**
- ➢ **Accountability for Insurance Companies:**
  - ○ The state has also sought **more accountability from insurance companies.**
  - ○ Farm leaders have asked for **necessary infrastructure to be set up while implementing the scheme,** and the usage of technology to help eradicate human interference.

NPPA's Role in Fixing Drug Prices

Why in News

National Pharmaceutical Pricing Authority (NPPA) may allow **a price hike of over 10% in the drugs and devices listed under the National List of Essential Medicines (NLEM).**

- ➢ The escalation which is expected to have an impact on nearly 800 drugs and devices is propelled by the rise in the **Wholesale Price Index (WPI).**

What is NPPA and its Mandates?

- ➢ **About:**
  - ○ NPPA was **constituted by the Government of India in 1997 as an attached office of the Department of Pharmaceuticals (DoP), Ministry of Chemicals & Fertilizers** as an independent Regulator for pricing of drugs and to ensure availability and accessibility of medicines at affordable prices.
  - ○ It was made to fix/revise prices of controlled bulk drugs and formulations and to enforce price and availability of the medicines in the country, **under the Drugs (Prices Control) Order, 1995-2013 (DPCO).**
    - • A **bulk drug — also called Active Pharmaceutical Ingredient (API)** — is the chemical molecule in a medicine that lends the product the claimed therapeutic effect.
- ➢ **Mandates:**
  - ○ To implement and enforce the provisions of the Drugs (Prices Control) Order in accordance with the powers delegated to it.
  - ○ To deal with all legal matters arising out of the decisions of the NPPA.
  - ○ To monitor the availability of drugs, identify shortages and to take remedial steps.
  - ○ To collect/maintain data on production, exports and imports, market share of individual companies, profitability of companies etc., for bulk drugs and formulations and undertake and/ or sponsor relevant studies in respect of pricing of drugs/ pharmaceuticals.

How does the Pricing Mechanism work?

- ➢ All **medicines under the NLEM are under price regulation.** The NLEM lists drugs used to treat fever, infection, heart disease, hypertension, anaemia etc and includes commonly used medicines like paracetamol, azithromycin etc.
  - ○ The Health Ministry prepares a list of drugs eligible for price regulation, following which the **Department of Pharmaceuticals incorporates them into Schedule 1 of DPCO.**
  - ○ The Standing Committee on Affordable Medicines and Health Products (SCAMHP) will advise the drug price regulator the National Pharmaceutical Pricing Authority (NPPA) on vetting the list. The NPPA then fixes the prices of drugs in this Schedule.

Note:

➤ As per the Drugs (Prices) Control Order 2013, **scheduled drugs, about 15% of the pharma market, are allowed an increase by the government as per the WPI (Wholesale Price Index)** while the **rest 85% are allowed an automatic increase of 10% every year.**

    ○ The **annual change in prices of scheduled drugs is controlled and rarely crosses 5%.**

    ○ Under the **Drugs and Cosmetics Act 1940,** the **drugs are classified in schedules** and regulations are laid down for their storage, display, sale, dispensing, leveling, prescribing etc.

➤ The **pharma lobby is now asking for at least a 10% increase for scheduled drugs too** rather than going by the WPI.

    ○ As over the past few years, input costs have flared up. One of the reasons is that 60%-70% of the country's medicine needs are dependent on China.

Institutional Deliveries in India

Why in News?

It has been a decade-and-a-half since India started **incentivising institutional deliveries** to ensure safe childbirths. But **health indicators** for mothers and infants have not improved as much as the number of such deliveries.

> **What is Institutional Delivery?**
> ➤ It means **giving birth to a child in a medical institution** under the overall supervision of trained and competent health personnel.
> ➤ It also **signifies an availability of amenities** to handle the situation and save the life of the mother and child.

What are the Recent Trends of Institutional Delivery in India?

➤ The share of India's **institutional deliveries increased to 88.6% in 2019-2021** (**National Family Health Survey 5 (NFHS-5)** from 40.8 % in 2005-06 (NFHS 3).

➤ The **nine targeted states** Bihar, Uttar Pradesh, Uttarakhand, Madhya Pradesh, Rajasthan, Jharkhand, Odisha, Chhattisgarh and Assam recorded a similar uptick during the period, ranging from 50-64 % points.

○ Madhya Pradesh led the way with a 64.5 % point growth.

○ These states account for nearly half of India's population, over **60%** of maternal deaths, **70%** of infant deaths and **12%** of global maternal deaths.

➤ **Maternal mortality ratio (MMR)**, **infant mortality rate** and **neonatal mortality rate (NMR)**, have not improved at the same pace as institutional births.

○ Th**e nine focus states continue to have the highest MMR,** a majority of which are well beyond India's national average of 103.

➤ **Healthcare delivery and service utilisation are very different in two groups** of India's states — those performing better than the national average and those lagging behind.

○ The country as a whole may be able to meet the United Nations-mandated **Sustainable Development Goal of reducing MMR to 70 by 2030,** but the lagging states will continue to perform poorly unless given an impetus.

When are the Government Initiatives to Support Institutional Delivery in India?

➤ **Janani Suraksha Yojana**: Institutional deliveries were first incentivised by the central government in 2005 with **Janani Suraksha Yojana (JSY)**, under which a **direct cash transfer** is promised if a woman delivered a baby at a medical facility, rather than at home.

○ **JSY** is a 100% **centrally sponsored scheme** which is being implemented with the objective of reducing maternal and **infant mortality** by promoting institutional delivery among pregnant women.

➤ **Janani Shishu Suraksha Karyakram (JSSK):** The Government of India launched Janani Shishu Suraksha Karyakram (JSSK) in **June, 2011.**

○ It is an initiative t**o provide completely free and cashless services to pregnant women** including normal deliveries and caesarean operations and sick newborn (up to 30 days after birth) in Government health institutions in both rural & urban areas.

○ In 2013, the cost of treating "complications during ante-natal and postnatal period and sick infants up to one year of age" was also brought within the ambit of the scheme.

Note:

➤ **Pradhan Mantri Surakshit Matritva Abhiyan (PMSMA)**: It was launched in **June 2016,** to focus on conducting special **AnteNatal Check-ups (ANC)** checkup on **9th of every month** with the help of Medical officers to detect and treat cases of anaemia.

➤ **Pradhan Mantri Matru Vandana Yojana (PMMVY)**: It is a **maternity benefit programme** being implemented in all districts of the country with effect from **1st January, 2017.**

➤ **LaQshya Programme**: **LaQshya (Labour room Quality Improvement Initiative)** intended **to improve the quality of care in the labour room and maternity operation theatres** in public health facilities.

➤ **Poshan Abhiyaan**: The goal of **Poshan Abhiyaan** is to achieve **improvement in the nutritional status of Children (0-6 years) and Pregnant Women and Lactating Mother**s in a time-bound manner.

➤ **State Government Schemes**: Similar incentive-driven schemes at a state-level that promote institutional births include **Shramik Seva Prasuti Sahayata Yojana** in Madhya Pradesh, **Janani Suvidha Yojana** in Haryana, **Ayushmati Scheme** in West Bengal, **Chiranjeevi Yojana** in Assam and Gujarat and **Mamta Friendly Hospital Scheme** in Delhi.

Export Preparedness Index 2021: NITI Aayog

Why in News

Gujarat has been named India's top State in terms of export preparedness for the **second year** in a row as per the **Export Preparedness Index (EPI) 2021** released by the **NITI Aayog**.

➤ **Maharashtra, Karnataka, Tamil Nadu were ranked second, third and fourth** in the index, as coastal States with higher industrial activity and access to sea ports account for a majority of India's exports.

What is the Export Preparedness Index(EPI)?

➤ **Aim:** To identify challenges and opportunities, enhance the effectiveness of government policies and encourage a facilitative regulatory framework for export.

➤ The index entails **four pillars, eleven sub pillars and sixty indicators** and covers across 28 states and 8 UTs.

➤ **Four Pillars:**
  ○ **Policy**: A comprehensive trade policy providing a strategic direction for exports and imports.
  ○ **Business Ecosystem:** An efficient business ecosystem helping states attract investments and create an enabling infrastructure for individuals to initiate start-ups.
  ○ **Export Ecosystem:** Assess the business environment, which is specific to exports.
  ○ **Export Performance:** This is the only output-based parameter and **examines the reach of export footprints** of States and Union Territories.

➤ **Eleven Sub-pillars:**
  ○ The index also took into **consideration 11 sub-pillars** - export promotion policy; institutional framework; business environment; infrastructure; transport connectivity; access to finance; export infrastructure; trade support; R&D infrastructure; export diversification; and growth orientation.

➤ **Features of Index:** The EPI is **a data-driven effort to identify the core areas crucial for export promotion at the sub-national level** (states and union territories).
  ○ It explores and highlights India's export potential by examining the different contributions made by each state and union territories

➤ **Performance of Indian States/UTs**:

Himalayan			Coastal		
State	**Score**	**Rank**	**State**	**Score**	**Rank**
Uttarakhand	40.79	1	Gujarat	78.86	1
Himachal Pradesh	40.43	2	Maharashtra	77.14	2
Tripura	27.46	3	Karnataka	61.72	3
Sikkim	27.41	4	Tamil Nadu	56.84	4
Manipur	15.78	5	Andhra Pradesh	50.39	5

Landlocked			UT/City States		
State	**Score**	**Rank**	**State**	**Score**	**Rank**
Haryana	53.20	1	Delhi	43.66	1
Uttar Pradesh	51.09	2	Goa	41.95	2
Madhya Pradesh	51.03	3	Jammu and Kashmir	30.06	3
Punjab	50.99	4	Chandigarh	28.41	4
Telangana	47.92	5	Puducherry	22.19	5

What is the Significance of Export Preparedness Index(EPI) ?

➤ **Examines the Export Performance of States and UTs**: It aims to examine the export performance and the export readiness of the states and union territories.
  ○ The idea behind the index is **to create a benchmark to rank these states and UTs to help them individually promote a conducive export environment** in the region.

Note:

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➢ **Helps in Identifying Obstacles to Export:** The index is an **essential tool for policymakers and exporters** to identify the drivers and obstacles, and examine the same to strategize a viable export map for the state.

➢ **A guide to State Government:** The Index would be a helpful guide for the state governments to benchmark regional performance with respect to export promotion and thus deliver key policy insights on how to improve and enhance the exports.

➢ **Instil Competition Among States:** Its primary goal is to **instil competition among all Indian states** ('Coastal', 'Landlocked', 'Himalayan', and 'UTs/City-States') to bring about favourable export-promotion policies, ease the regulatory framework to prompt subnational export promotion, create the necessary infrastructure for exports, and assist in identifying strategic recommendations for improving export competitiveness.

What are the Challenges to Indian Exports?

➢ The EPI identifies **three major challenges** to India's export promotion efforts.

○ Intra- and inter-regional differences in export infrastructure;

○ Weak trade support and growth orientation across States;

○ Lack of R&D infrastructure to promote complex and unique exports.

What EPI Says About Indian Export?

➢ **Export Drives Indian Economy:**

○ **Gross Domestic Product** (GDP)= Consumption + Investment + Government Expenditure + **(Exports – Imports)**.

○ Thus, **export is an essential component to increase the GDP values.**

○ Export is an inalienable component of India's economic growth as **exports have been contributing roughly 20% on average to the GDP of India for the past decade**

➢ **Recovery From Covid-19:** The **Covid-19 pandemic** upended the existing economic structures and exposed the fragility of global trade and economy.

○ After two years of the Covid-19 pandemic, **the recovery from adverse effects on economies is still far from achieved.**

○ However, **India has shown great resilience in exports and achieved record high growth**. India has been showing positive statistics in exports since the beginning of FY 2021-22 and in December 2021 India achieved the highest ever export of 37 billion USD, a **37% jump over December 2020.**

Its merchandise exports increased from **$10.17 billion** in April 2020 to **$30.74 billion** in April 2021 increasing 197.03%.
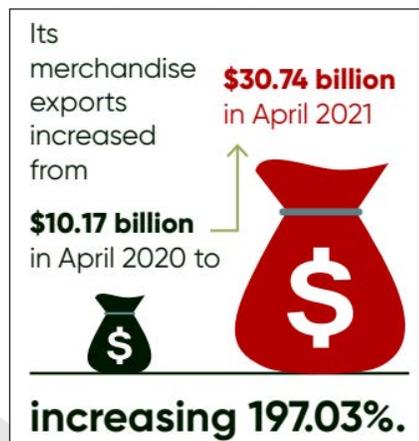
➢ **Suggestion to Increase Export:**

○ **Export Infrastructure and Market Concentration:** For better export performance, it is necessary to invest in developing reliable and efficient export infrastructure, which will help in cost reduction and improve efficiency in the supply of exports

○ **Need for export diversification:** It plays an important role in achieving stability and growth in the export sector.

○ **Emphasis on key strategies** like a development of export infrastructure, strengthening industry-academia linkages and creating state-level engagements for economic diplomacy to address the challenges in exports.

○ **The private sector** can also play an important role in export promotion.

Article 355 & Breakdown of Constitutional Machinery

Why in News?

Citing post-poll violence in **Birbhum district, West Bengal,** many political leaders have urged the president to invoke **Article 355 of the Constitution** to ensure that the state government functions in accordance with the provisions of the Constitution.

➢ The petitioner has asked for imposition of **Article 355** on account of **breakdown of constitutional machinery.**

What is Article 355?

➢ Article 355 refers to the provision in the Constitution that states that "It shall be the duty of the **Union to protect every State against external aggression and internal disturbance** and to **ensure that the government of every State is carried on in accordance with the provisions of this Constitution".**

➢ The Article 355 is part of **emergency provisions** contained in **Part XVIII of the Constitution of India, from Article 352 to 360.**

What is the Relation Between Article 356 and Article 355?

➢ It is this duty in the performance of which the centre takes over the government of a state under **Article 356** in case of **failure or breakdown of constitutional machinery in a state.**

➢ This is popularly known as **'President's Rule'.**

➢ **Grounds of imposition:** the president's ruler can be proclaimed under Article 356 on two grounds:

  ❍ **Article 356** empowers the **President to issue a proclamation** if he is satisfied that a situation has arisen in which the government of **a state cannot be carried on in accordance with the provisions of the constitution.**

  ❍ **Article 365** says that whenever a **state fails to comply with or to give effect to any direction from the centre**, it will be lawful for the President to hold that a situation has arisen in which the government of the state cannot be carried on in accordance with the provisions of the constitution.

➢ **Parliamentary approval and duration:** A proclamation imposing the president's rule must be approved by both the **houses of parliament within two months** from the date of its issue.

➢ **Consequences of the President's rule:** The President acquires the following extraordinary powers when the President's rule is imposed in a state:

  ❍ He can take up the f**unctions of the state government and powers vested in the governor** or any other executive authority in the state.

  ❍ He can declare that the **powers of the state legislature are to be exercised by the parliament.**

❍ He can take all other necessary steps including the **suspension of the constitutional provisions relating to any body or authority in the state.**

➢ **Scope of judicial review:** The **38ᵗʰ Amendment act of 1975** made the satisfaction of the President in invoking **Article 356 final and conclusive** which would not be challenged in any court on any ground.

  ❍ But, this provision was subsequently deleted by the **44ᵗʰ Amendment Act of 1978** implying that the satisfaction of the President is not beyond **judicial review.**

What are Emergency Provisions?

➢ These provisions **enable the Central government to meet any abnormal situation effectively.**

➢ **Emergency Provisions** in Indian Constitution are **taken from Government of India Act 1935.**

  ❍ However, suspension of Fundamental Rights during emergency is taken from **Weimer (German) Constitution.**

➢ The rationality behind the incorporation is to safeguard the **sovereignty, unity, integrity and security of the country**, the democratic political system and the Constitution.

➢ **The Constitution stipulates three types of emergencies:**

  ❍ National Emergency

  ❍ Constitutional Emergency

  ❍ **Financial Emergency**

What Is a National Emergency?

➢ National emergency can be **declared on the basis of war, external aggression or armed rebellion**. The Constitution employs the expression **'proclamation of emergency' to denote an emergency of this type.**

➢ Grounds of declaration:

  ❍ Under **Article 352**, the president can declare a national emergency when the security of India or a part of it is threatened by war or external aggression or armed rebellion.

  ❍ The President **can declare a national emergency even before the actual occurrence** of war or armed rebellion or external aggression

  ❍ When a national emergency is declared on the **grounds of 'war' or 'external aggression', it is known as 'External Emergency'**.

Note:

○ On the other hand, when it is declared on the **grounds of 'armed rebellion',** it is known as 'Internal Emergency'.

- This term 'armed rebellion' is inserted from the **44th amendment**. Before this term it was known as internal disturbance.

What is a Financial Emergency?

➢ **Grounds of declaration**: **Article 360** empowers the president to proclaim a Financial Emergency if he is satisfied that a **situation has arisen due to which the financial stability or credit of India or any part of its territory is threatened.**

What is the impact of Emergencies on Fundamental Rights?

➢ Articles **358 and 359** describe the effect of a National Emergency on the **Fundamental Rights.** These two provisions are explained below:

➢ **Suspension of Fundamental rights under Article 19:** According to Article 358, when a proclamation of **National Emergency is made, the six fundamental rights under Article 19 are automatically suspended.**

➢ **Suspension of other Fundamental Rights**: Under **Article 359,** the President is authorised to suspend, by order, the right to move any court for the enforcement of Fundamental Rights during a National Emergency.

➢ However it should be noted that Fundamental Rights are **not affected during President's Rule and Financial Emergency.**

Municipal Corporation (Amendment) Bill 2022

Why in News

The **Municipal Corporation (Amendment) Bill 2022** is likely to be tabled in the Parliament.

CENTRE TO DECIDE NO. OF SEATS

➢ Proposed legislation, likely to be introduced during current Parl session, **seeks to cap no. of seats in combined MCD at 250**

➢ Centre empowered to decide this exact number as well as number of reserved seats

➢ Key element is the proposed **reliance on e-governance** to improve quality of services

❝ Delhi govt was troubling the civic bodies by blocking their funds. Now after unification, MCD will be able to get funds —**Manoj Tiwari**, BJP MP, NE Delhi

BJP's delaying tactics. It knows it'll lose MCD polls —**AAP**

➢ It aims to **merge the Capital's three municipal corporations — South, North and East —** ten years after the trifurcation of the civic body.

What is the background and Need for Reunification?

➢ **Background:**

○ In 2011, the government proposed the **trifurcation of the MCD for better efficiency**.

○ The ministry of home affairs then cleared the proposal in November 2011, following which the Delhi government convened a special assembly session and passed the **Delhi Municipal Corporation (Amendment) Bill in December 2011.**

○ The final notification for the trifurcation was issued in January 2012, carving out **North, South, and East Delhi** municipal bodies with **104 awards given to the first two, and 64 to the latter.**

➢ **Need:**

○ **Face Multiple Problems:**

- Trifurcated MCDs faced **multiple problems** over the years, such as non-payment of salaries of safai karamcharis (sweepers), uneven distribution of property tax between three civic bodies, inefficient management and growing losses, etc.

○ **Uneven Division:**

- The trifurcation was **uneven in terms of the territorial divisions and revenue-generating potential of each corporation**.

- As a result, there was a huge gap in the resources available to the three corporations, vis-a-vis their obligations.

○ **Widened Gaps:**

- The gap has widened over a period of time, increasing the financial difficulties of the three municipal corporations, leaving them **incapacitated to make timely payment of salaries and retirement benefits** to their employees and thereby creating serious impediments in maintaining civic services in Delhi.

What is a Municipal Corporation?

➢ **About:**

○ In India, the Municipal Corporation is the **urban local government that is responsible for the development of any Metropolitan City having a population of more than one million people.**

- Mahanagar Palika, Nagar Palika, Nagar Nigam, City Corporation, and so on are some of the other names for it.

○ The Municipal Corporations are **established in the states by the acts of the state legislatures**, whereas in t**he Union Territories through the acts of the Parliament.**

○ Municipal governments **rely heavily on property tax revenue** to fund their operations.

○ The first municipal corporation in India was created in **Madras in 1688, followed by municipal corporations in Bombay and Calcutta in 1726.**

➢ **Need for creation of Municipal Corporation:**

○ The **growing population and urbanisation in India's cities** necessitated the establishment of a local governing body capable of collecting property taxes and fixed grants from the state government in order to provide essential community services such as **health care, education, housing, and transportation.**

➢ **Constitutional Provisions:**

○ In the Constitution of India, no provision was made for the establishment of local self-government, except the incorporation of Article 40 in the **Directive Principles of State Policy.**

○ **The 74ᵗʰ Amendment Act, 1992** has inserted **a new Part IX-A into the Constitution** which deals with the administration of Municipalities and Nagar Palikas.

○ It consists of **Article 243P to 243ZG**. It also added a new **twelfth schedule** to the Constitution. The 12ᵗʰ schedule consists of 18 items.

➢ **Composition:**

○ Each municipal region is divided **into geographical constituencies known as wards** based on the population of that particular city.

○ Each ward **elects a representative, who is chosen by the residents** of that ward. Members of the wards committee are **elected for a five-year term on the basis of adult franchise**.

○ A **councillor or corporator is a chosen representative** of a certain ward.

○ The **population of a city determines the number of wards** in a municipal area. **Scheduled castes, scheduled tribes**, disadvantaged classes, and women have seats reserved.

Note:

Economic Scenario

Highlights

- *Reserve Bank Innovation Hub*
- *Wings India 2022*
- *Surge in Oil and Natural Gas Prices*

Reserve Bank Innovation Hub

Why in News?

Recently, the **Reserve Bank of India (RBI)** governor inaugurated the **Reserve Bank Innovation Hub (RBIH) in Bengaluru.**

What is the RBIH?

➢ **About:**
  ❍ It has been set up as a **Section 8 company under the Companies Act, 2013** with an initial **capital contribution of Rs. 100 crore.**
  ❍ It is is **a wholly owned subsidiary of the RBI.**
➢ **Objective:**
  ❍ RBIH aims to **create an ecosystem that focuses on promoting access to financial services and products** for the low-income population in the country.
    • This is in line with the objective behind establishment of RBIH i.e., **to bring world-class innovation to the financial sector in India**, coupled with the underlying theme of financial inclusion.
  ❍ The Hub is **expected to build an ecosystem for development of prototypes, patents and proofs of concept** and promote cross-thinking, spanning regulatory domains and national boundaries.
  ❍ It had plans to **identify and mentor start-ups** having maximum potential.
  ❍ It is also **expected to collaborate with various government Ministries, Departments and academia** to identify problem statements in different domains and explore potential solutions.

  ❍ RBI Innovation hub hosted **Swanari TechSprint** to create sustainable solutions for women-owned enterprises.
    • TechSprint is aimed at advancing digital financial inclusion for women in India.

What are the other Initiatives for Financial Inclusion?

➢ **Pradhan Mantri Jan Dhan Yojana (PMJDY)**
➢ **Atal Pension Yojana (APY)**
➢ **Pradhan Mantri Vaya Vandana Yojana (PMVVY)**
➢ **Stand Up India Scheme**
➢ **Pradhan Mantri Mudra Yojana (PMMY)**

Wings India 2022

Why in the News?

The **Ministry of Civil Aviation, Airports Authority of India (AAI) and Federation of Indian Chambers of Commerce and Industry (FICCI) is jointly organising Wings India 2022** from 24th – 27th March 2022, **Begumpet Airport, Hyderabad, India.**

➢ It is **Asia's largest event** on Civil Aviation (Commercial, General and Business Aviation).

What is the Objective of Wings India 2022?

➢ It is in synergy with India's **commitment to transform the country into World's top aviation hub.**
➢ It seeks to provide a **congenial forum** catering to the rapidly changing dynamics of the sector, focusing on new business acquisition, investments, policy formation and regional connectivity.
➢ It will provide a **much-desired fillip to the aviation and restructured focused forums** shall be instrumental

in attaining the objective of connecting the Buyers, Sellers, Investors, and other stakeholders at a common vantage forum 'Wings India 2022'.

What are highlights of the Indian Civil Aviation Market?

➢ **Aviation Sector:** India's Civil Aviation is among the **fastest-growing aviation markets globally** and will be a major growth engine to make India a **USD 5 trillion economy by 2024.**

➢ **Passenger Traffic:** 3rd largest aviation market by domestic air passenger traffic which stood at 274.05 million in FY20. It grew at a **Compound Annual Growth Rate (CAGR)** of 12.91% during FY16-FY20.

➢ **Airports:** 75 airports opened in 75 years of Civil Aviation in India while under the aegis of **Ude Desh Ka Aam Naagrik (UDAN),** within a span of 3 years, work has been initiated to provide scheduled connectivity to 76 unserved / 20 underserved airports, 31 heliports and 10 water aerodromes.

➢ **Fleet Strength:** 713 aircraft of scheduled Indian carriers operating year around; private scheduled airlines plan to add over **900 aircrafts in the next 5 years**

➢ **Commitment to Greener Airspace:** Comprehensive regulatory policies and strategies adopted to reduce aviation carbon footprints

➢ **Ensuring Hassle-free Travel:** Incorporated systematic approaches to **redress passenger grievances, and improve operational efficiencies** across the system

What are Opportunities Under Indian Aviation Market?

➢ **FDI:** 100% **Foreign Direct Investment (FDI)** allowed under **Automatic route** for Ground Handling Services and Maintenance Repair and Overhaul Services (MRO) and for both green and brownfield projects.

➢ **Scope of Growth:** The Indian civil Aviation MRO market, at present, stands at around USD 900 million and is anticipated to grow to **USD 4.33 billion by 2025** increasing at a CAGR of about 14- 15%.

  ○ The **nation's airplane fleet** is projected to quadruple in size to approximately **2500 airplanes by 2038.**

➢ **Connecting New Airports:** The government aims to develop **100 airports by 2024** (under the **UDAN Scheme)** and create world-class civil aviation infrastructure to be at par with global standards.

What is UDAN (Ude Desh Ka Aam Naagrik) Scheme?

➢ It is the **world's first Regional Connectivity Scheme** to **Connect un-served & Under-served airports** at **affordable prices contributing** to boost regional tourism and economic growth of the country.

➢ With commencing of the desired operations, the Indian aviation sector will boom without accounting for the spillover traffic on commercial routes operating in the **tier-1 and tier-2 cities**.

➢ The UDAN scheme has been developed over the years by the government to support the economy.

  ○ **UDAN 2.0** focused on priority areas and helicopter operations.

  ○ **UDAN 3.0** is based on Inclusion of seaplane routes.

  ○ **UDAN 4.0** to further enhance the connectivity to remote & regional areas of the country.

➢ With the advent of COVID-19, Lifeline UDAN was conceptualised to aid India in its fight against the pandemic.

➢ The scheme is benefiting the economy as a whole and promoting national integration.

What is the Airports Authority of India?

➢ Airports Authority of India (AAI) was **constituted by an Act of Parliament and came into being on 1st April 1995** by merging erstwhile **National Airports Authority and International Airports Authority of India.**

➢ The merger brought into existence a single Organisation entrusted with the responsibility of creating, upgrading, maintaining and managing civil aviation infrastructure both on the ground and air space in the country.

What is the Federation of Indian Chambers of Commerce and Industry?

➢ FICCI is the **largest & oldest apex organisation** of Indian business & industry is the rallying point for free enterprises in India. It was **established in 1927.**

➢ With a nationwide membership of over **1500 corporates and over 500 chambers of commerce** and business associations, FICCI speaks directly and indirectly for over 2,50,000 business units.

➢ FICCI organises a large number of events including Exhibitions, Conferences, Seminars, Business meets etc. for promoting business.

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Surge in Oil and Natural Gas Prices

Why in News?

Recently, the U.S. announced the **banning the import of Russian oil, liquefied natural gas, and coal to the country**.

➢ The move is aimed at **depriving Russia of the economic resources** needed to continue its **war in Ukraine.**

➢ In the run up to the U.S. announcement, **international oil prices surged to a 14-year high** with **Brent crude** futures hitting **USD139.13 intraday.**

What are the Reasons for Targeting Russia's Energy Exports?

➢ **Largest Oil Producer:**
  ❍ Russia is the **world's third-largest oil producer,** trailing **only Saudi Arabia and the United States.**
    ● In January 2022, **Russia's total oil production was 11.3 million barrels per day (mb/d),** of which 10 mb/d was crude oil, according to the Paris-based intergovernmental **International Energy Agency (IEA).**

➢ **World's Largest Exporter of Crude and Oil Products:**
  ❍ Russia is the **world's largest exporter of crude and oil products,** having shipped 7.8 mb/d in December 2021, and the **second largest supplier of crude to the world** with only Saudi Arabia exporting more crude than it.

➢ **Major Exporter of Natural Gas:**
  ❍ Russia is also a **major exporter of natural gas** and supplied almost a third, or 32%, of the gas consumed in Europe (and the U.K.) in 2021.
    ● The revenue it made from the sales of oil and gas in 2021 accounted for **36% of Russia's total revenue of 25.29 trillion rubles last year.**

What will be the impact of the Move on Russia and on Global Crude Prices?

➢ Given that Russia exported substantially more than **7 million barrels per day of crude and oil products** in 2021 the U.S. ban would **impact about one-tenth of Russia's oil exports.**

  ❍ Also not all of its allies and partners around the world were currently in a position to join in its import ban.

  ❍ Among its allies, the U.K. announced that it would phase out the import of Russian oil and oil products by the end of 2022.

➢ Still, **without the rest of Europe and China joining the import ban on Russian oil and gas,** the impact would **not be as severe on Russia's economy.**

  ❍ China, which is the **world's largest importer of crude oil,** is Russia's single-biggest buyer.

  ❍ OECD **Europe (or European members of the Organisation for Economic Co-operation and Development)** collectively accounted for **60% of Russia's oil exports.**

➢ An already tight oil market had been **pushed over the edge with the loss of Russian supply** of about 1.5 mb/d (Millions of Barrels per Day) of its benchmark **Urals crude** and about 1 mb/d of refined products.

  ❍ **Urals** is the most common **export grade of crude oil from Russia** and an important benchmark for the medium sour crude market in Europe.

How can it impact India?

➢ India is the **world's third-largest oil consumer** at **5.5 million barrels a day,** behind the US and China.

  ❍ The oil demand is growing at **3-4% a year in the country.**

➢ By this estimate, in a decade, **India could be consuming about 7 million barrels a day.**

➢ **India imports 85% of its oil** from about 40 countries, the bulk coming from the Middle East and the US.

➢ From Russia, **India imports 2% of its supplies,** including oil which it converts to petroleum products after refining. So, it's not Russian oil but oil in general and its rising prices that have India worried.

■■■

Note:

International Relations

Highlights

- EAM Visit to Sri Lanka
- BRICS Media Forum
- India Maldives Security Partnership
- India-UAE CEPA
- India and Oman: Programme of Cooperation
- The Bucharest Nine
- Saudi Arabia-Iran Relations
- India Japan Summit 2022
- Finlandization
- Fifth BIMSTEC Summit

EAM Visit to Sri Lanka

Why in News?

Recently, **India's External Affairs Minister visited Sri Lanka.** The visit finalised an MoU that provided **India to set up hybrid power projects in three Islands (Nainativu, Delft or Neduntheevu, and Analaitivu) off Jaffna.**

➢ In this Project, India will effectively **replace the Chinese venture.**

➢ It is the **third Indian energy project** coming up in Sri Lanka's north and east.

➢ Earlier, I**ndia extended a USD1-billion short-term concessional loan to Sri Lanka** to help the island nation cope with one of the **worst economic crisis** in decades.

What are the Highlights of the Visit?

➢ **Fending Off Chinese Threat:** In January 2021, Sri Lanka's Cabinet decided to award renewable energy projects in Nainativu, Delft or Neduntheevu, and Analaitivu islands to Chinese company Sinosoar-Etechwin, following an **Asia Development Bank-** backed competitive bid.

○ India was quick to express concern to the Sri Lankan side over the Chinese project coming up in the **Palk Bay,** barely 50 km off Tamil Nadu.

○ Thus, India offered to execute the same project with a grant rather than a loan.

➢ **MRCC:** Further, India and Sri Lanka have also agreed to set up a **Maritime Rescue Coordination Center (MRCC),** signaling greater defence sector collaboration between the neighbours.

○ MRCCs are **part of an international network under the UN's International Maritime Organisation** to monitor the sea lanes with the objective of swift response to emergencies, such as vessels in distress, rescue and evacuation of people, and prevention of and containing environmental disasters such as oil spills.

○ The agreement **appears to be part of India's SAGAR (Security and Growth for all in the Region) initiative** in the Indian Ocean, which has also seen India, Sri Lanka and Maldives give a new push to their 2011 **Colombo Security Conclave** that now includes Mauritius.

➢ **Fisheries Harbours:** India will also help develop fisheries harbours in Point Pedro, Pesalai, and Gurunagar in the Northern Province, and Balapitiya, south of capital Colombo.

➢ **Capacity Building:** India also assured supporting education, extending a grant for Sri Lanka's Unique Digital Identity project, and collaborating in diplomatic training.

➢ **Resolution of Tamil Question:** On developments in regard to **Sri Lanka's long-pending Tamil question,** India has welcomed the recent talks between

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President Gotabaya Rajapaksa and the Tamil National Alliance (TNA) representing war-affected Tamils of the north and east.

What are Recent Issues in India-Sri Lanka Relations?

➢ **Killing of Fishermen:** Killing of Indian fishermen by the Sri Lankan Navy is a lingering issue between these two nations.
  ○ In 2019 and 2020, a total of 284 Indian **fishermen were arrested** and a total of 53 Indian boats were confiscated by the Sri Lankan authorities.
➢ **Influence of China:** China's rapidly growing economic footprint (and political clout as a corollary) in Sri Lanka is straining India-Sri Lanka relations.
  ○ China is already the largest investor in Sri Lanka, accounting for **23.6%** of the total **Foreign Direct Investment (FDI)** during 2010-2019 as against **10.4% from India.**
  ○ China is also one of the largest export destinations for Sri Lankan goods and holds over 10% of its external debt.
➢ **13th Amendment of the Sri Lankan Constitution:**
  ○ It envisages devolution of necessary powers to the provincial councils to address the just demand of the Tamil people for equality, justice, peace, and respect within a united Sri Lanka. India supports its implementation.

BRICS Media Forum

Why in News?

Recently, the **BRICS countries (Brazil, Russia, India, China and South Africa)** launched a **three-month-long training programme for journalists.**

➢ The programme was an **initiative of the BRICS Media Forum.**

What is BRICS Media Forum?

➢ The Forum was established in **2015 by media organisations from five countries,** including **The Hindu (India) ,** Brazil's CMA Group, Russia's Sputnik, China's **Xinhua and South Africa's Independent Media.**

➢ The forum aims to establish an efficient coordination mechanism among BRICS media, **advance innovation-driven media development** and **gather stronger momentum for the development of BRICS countries** through exchange and pragmatic cooperation under the mechanism.

What is the History of BRICS?

➢ **Origin of Idea:** The acronym **"BRICS" was initially formulated in 2001 by economist Jim O'Neill,** of **Goldman Sachs**, in a report on growth prospects for the economies of **Brazil, Russia, India and China** – which together represented a significant share of the world's production and population.
➢ **Formalised Setup**: The grouping was formalised during the **first meeting of BRIC Foreign Ministers in 2006.**
  ○ The first BRIC Summit took place in 2009 in the **Russian Federation and focused on issues such as reform of the global financial architecture.**
  ○ South Africa was invited to **join BRIC in December 2010**, after which the group adopted the **acronym BRICS.**
  ○ South Africa subsequently attended the **Third BRICS Summit in Sanya, China,** in March 2011.
➢ **Key Initiatives:** During the **Sixth BRICS Summit in Fortaleza (Brazil) in 2014,** the leaders signed the Agreement establishing the **New Development Bank** (NDB headquarters - Shanghai, China).

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○ They also signed the BRICS **Contingent Reserve Arrangement** to provide short-term liquidity support to the members.

What is the Significance of BRICS?

➢ **Big Five Nations:** The importance of BRICS can be reflected in the fact that it represents:

○ 42% of the world's population.

○ 30% of the land area.

○ 24% of global **Gross Domestic Product.**

○ 16% of international trade.

➢ **Bridge Between North and South:** The grouping has gone through a reasonably productive journey. It strove to serve as a bridge between the Global North and Global South.

➢ **Common Global Perspective:** The BRICs called for the reform of multilateral institutions in order that they reflect the structural changes in the world economy and the increasingly central role that emerging markets now play.

➢ **Development Cooperation:** It developed a common perspective on a wide range of global and regional issues; established the New Development Bank (NDB); created a financial stability net in the form of Contingency Reserve Arrangement; and is on the verge of setting up a Vaccine Research and Development Virtual Centre.

What is the Importance of BRICS for India?

➢ **Geo-Politics:** Present geopolitics has made it difficult for India to carve a middle path for **balancing its strategic interests between the U.S and the Russia-China axis.**

○ Therefore, the BRICS platform provides an opportunity for India to **balance the Russia-China axis.**

➢ **Global Economic Order:** BRICS countries shared a common objective of reforming the international financial and monetary system, with a strong desire to build a more just, and balanced international order

○ To this end, the BRICS community **plays an important role in the G20,** in shaping global economic policies and promoting financial stability.

➢ **Terrorism:** BRICS also provides a platform for India to galvanize its efforts against terrorism.

➢ **Global Grouping:** India is actively pursuing its membership for the **United Nation Security Council (UNSC)** and **Nuclear Supplier Group (NSG).**

○ China forms the major roadblock in pursuing such goals.

○ Therefore, BRICS provides an opportunity to actively engage with China and resolve the mutual disputes. It also helps in garnering support of other partner countries.

India Maldives Security Partnership

Why in News?

Recently, the **National College for Policing and Law Enforcement (NCPLE)** was inaugurated by India's External Affairs Minister **during his two day visit to Maldives.**

➢ NCPLE is **one of India's largest funded projects in the island nation** - in the **Maldives' Addu City.**

What are the Highlights of the Visit?

➢ **National College for Policing and Law Enforcement (NCPLE):** One of the objectives of this training academy is to **address the challenges of violent extremism and prevent radicalisation.**

○ It will **enhance cooperation between the two countries in tackling these issues.**

○ On the domestic level in the Maldives, the training academy would **help strengthen law enforcement abilities and counter drug trafficking**, a major concern in the country.

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➢ **MoU for Training:** A memorandum of understanding was signed by the **Maldives Police Service and India's Sardar Vallabhbhai Patel National Police Academy** to enhance cooperation in training and capacity building.

  ❍ India has **increased the number of training slots for the Maldives** at the police academy to eight.

➢ **Support for Infrastructure: India's Exim Bank is providing more than USD40 million** to create police infrastructure facilities across the Maldives, including 61 police stations, divisional headquarters, detention centres and barracks.

➢ **Other Projects:** Signing of an **USD80-million contract for the Addu reclamation and shore protection project.**

  ❍ A **drug detoxification and rehabilitation centre in Addu built** with Indian assistance. The centre is **one of 20 high impact community development projects** being implemented by India in areas such as healthcare, education, fisheries, tourism, sports and culture.

What is the Current State of India-Maldives Relations?

➢ **Geo-Strategic Importance:**

  ❍ **Maldives, a Toll Gate in Indian Ocean:**

   ● Located at the southern and northern parts of this island chain lies the two important **Sea Lanes of Communication (SLOCs).**

   ● These SLOCs are **critical for maritime trade flow between the Gulf of Aden and Gulf of Hormuz** in West Asia and the **Strait of Malacca** in Southeast Asia.

   ● Nearly **50% of India's external trade** and **80% of its energy imports** transit these SLOCs in the Arabian Sea.

  ❍ **Part of Important Groupings:** Besides, Maldives is a member of the **South Asian Association for Regional Cooperation (SAARC)** and the **South Asia Subregional Economic Cooperation (SASEC).**

➢ **Cooperation Between India & Maldives:**

  ❍ **Security Cooperation:** Through the decades, India has rushed emergency assistance to the Maldives, whenever sought.

   ● In 1988, when **armed mercenaries attempted a coup against President Maumoon Abdul Gayoom**, India sent paratroopers and Navy vessels and restored the legitimate leadership under **Operation Cactus.**

● India and Maldive conduct the joint military **exercise 'Ekuverin'.**

● Under the **Colombo Security Conclave**, which is a **maritime security grouping of India, Sri Lanka, Maldives and Mauritius** which is to forge closer cooperation on maritime and security matters among these Indian Ocean countries.

   ■ **Mauritius was included** as a new member of the conclave during the fifth meeting of national security advisers of the Colombo Security Conclave.

  ❍ **Disaster Management:** The 2004 tsunami and the drinking water crisis in Male a decade later were other occasions when India rushed assistance.

   ● The Maldives has been one of the **biggest beneficiaries of the Covid-19 assistance** and **vaccines delivered** by India among India's all neighbouring countries.

   ■ The Maldives was the first beneficiary of **India's Vaccine Maitri initiative.**

   ● When the world supply chains were blocked because of the pandemic, India **continued to provide crucial commodities to the Maldives under Mission SAGAR.**

  ❍ **People To People Contact:** Maldivian students **attend educational institutions in India** and patients fly here for superspeciality healthcare, aided by a liberal visa-free regime extended by India.

  ❍ **Economic Cooperation:** Tourism is the mainstay of Maldivian economy. The **country is now a major tourist destination for some Indians** and a job destination for others.

   ● In August 2021, Afcons, an Indian company, signed a contract for the largest-ever infrastructure project in Maldives which is the **Greater Male Connectivity Project (GMCP).**

What are the Current Challenges in India-Maldives Relation?

➢ **Political Instability:** India's major concern has been the impact of political instability in the neighbourhood on its security and development.

Note:

○ The February 2015 arrest of Maldives' opposition leader Mohamed Nasheed on terrorism charges and the consequent political crisis have posed a real diplomatic test for India's neighbourhood policy.

➤ **Radicalisation:** In the past decade or so, the number of Maldivians drawn towards terrorist groups like the **Islamic State (IS) and Pakistan-based madrassas** and jihadist groups has been increasing.

○ This gives rise to the possibility of Pakistan based terror groups using remote Maldivian islands as a launch pad for terror attacks against India and Indian interests.

➤ **China Angle: China's strategic footprint in India's neighbourhood** has increased. The Maldives has emerged as an important 'pearl' in China's **"String of Pearls"** construct in South Asia.

○ Given the uncertain dynamics of Sino-Indian relations, China's strategic presence in the Maldives remains a concern.

○ Also, the **Maldives have started using the China card to bargain with India.**

India-UAE CEPA

Why in News?

Recently, the **Comprehensive Economic Partnership Agreement (CEPA)** between **India and the United Arab Emirates (UAE) got finalised.**
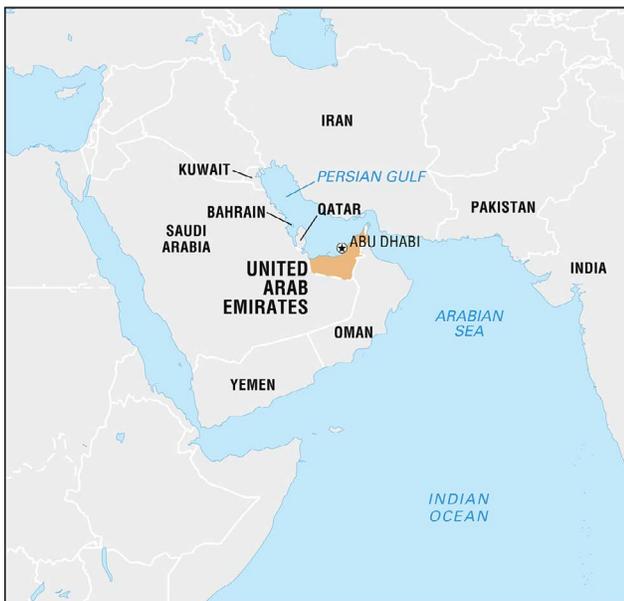
➤ India-UAE CEPA was signed on **18th February 2022,** during the **India-UAE Virtual Summit.** The Agreement is expected to enter into force **on 1st May 2022.**

➤ **CEPA** provides for an institutional mechanism to encourage and improve trade between the two countries.

What are the Salient features of India-UAE CEPA?

➤ **The Agreement is a comprehensive agreement, which will cover:**

○ Trade-in Goods.

○ Rules of Origin.

○ Trade-in Services.

○ Technical Barriers to Trade (TBT).

○ **Sanitary and Phytosanitary (SPS) measures.**

○ Dispute Settlement.

○ Movement of Natural Persons.

○ Telecom.

○ Customs Procedures.

○ Pharmaceutical products.

○ Government Procurement.

○ **Intellectual Property Rights** (IPR), Investment, Digital Trade and Cooperation in other Areas.

What will be the Benefits of India-UAE CEPA?

➤ **Trade-in Goods:** India will **benefit from preferential market access** provided by the UAE, especially for **all labour-intensive sectors.**

○ Such as Gems and Jewellery, Textiles, leather, footwear, sports goods, plastics, furniture, agricultural and wood products, engineering products, medical devices, and Automobiles.

➤ **Trade-in Services: Both India and UAE** have offered each other market access to the **broad service sectors.**

○ Such as 'business services', 'communication services', 'construction and related engineering services, 'distribution services', 'educational services', 'environmental services', 'financial services, 'health-related and social services, 'tourism and travel-related services', 'recreational cultural and sporting services' and 'transport services'.

➤ **Trade-in Pharmaceuticals**: Both sides have also agreed to a separate Annex on Pharmaceuticals to facilitate access to Indian pharmaceuticals products, especially **automatic registration and marketing authorisation in 90 days** for products meeting specified criteria.

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What is the Background of India-UAE CEPA?

➢ **About**: India and the UAE **enjoy excellent bilateral relations,** which are **deep-rooted and historical, sustained and nurtured by close cultural and civilizational affinities**, frequent high-level political interactions, and vibrant people to people linkages.

   ○ The India-UAE comprehensive strategic partnership was initiated **during the visit of the Prime Minister of India to UAE in 2015.**

➢ **Status of Trade:** India and the UAE have been each other's leading trading partners.

   ○ **Trade:** From USD 180 million per annum in the 1970s, India-UAE bilateral trade has steadily increased to USD 60 billion in FY 2019-20 making the UAE, **India's third-largest trading partner.**

   ○ **Exports:** The UAE is also the **second-largest export destination of India.**

   ○ Investments: The UAE is also the eighth largest investor in India with an estimated investment of USD 18 billion.

     ● Moreover, India and the UAE have recently entered into a **Memorandum of Understanding (MoU)** whereby the UAE has committed USD 75 billion towards infrastructure development in India.

➢ **Economic Importance of UAE:** The UAE is an **important source of India's energy** supply and a key partner of India in the development of strategic petroleum reserves, upstream, and downstream petroleum sectors.

➢ **Significance:** The India-UAE CEPA will **further cement the already deep, close and strategic relations** between the two countries and will create new employment opportunities, raise living standards, and improve the general welfare of the peoples of the two countries.

What is CEPA?

➢ It is a kind of free trade pact that **covers negotiation on the trade in services and investment, and other areas of economic partnership.**

➢ It may even consider negotiation in areas such as **trade facilitation and customs cooperation, competition, and IPR.**

➢ Partnership agreements or cooperation agreements are more comprehensive than **Free Trade Agreements.**

➢ CEPA also looks into the regulatory aspect of trade and encompasses an agreement covering the regulatory issues.

➢ India has signed CEPAs with **South Korea and Japan.**

What are other Types of Trade Agreements?

➢ **Free Trade Agreement (FTA):**

   ○ It is an agreement in which **two or more countries agree to provide preferential trade terms, tariff concession etc.** to the partner country.

   ○ India has negotiated FTA with many countries e.g. Sri Lanka and various trading blocs as well e.g. **Association of Southeast Asians Nations (ASEAN).**

     ● **Regional Comprehensive Economic Partnership (RCEP)** is a Free Trade Agreement (FTA) between the ten member states of the ASEAN and the six countries (Australia, China, Japan, South Korea, India and New Zealand) with which ASEAN has existing FTAs.

➢ **Preferential Trade Agreement (PTA):**

   ○ In this type of agreement, **two or more partners give preferential right of entry to certain products**. This is done by reducing duties on an agreed number of tariff lines.

   ○ Tariffs may even be reduced to zero for some products even in a PTA. **India signed a PTA with Afghanistan.**

➢ **Comprehensive Economic Cooperation Agreement (CECA):**

   ○ CECA generally **covers negotiation on trade tariff and TRQ (Tariff Rate Quotas) rates only**. It is not as comprehensive as CEPA. India has signed CECA with Malaysia.

➢ **Bilateral Investment Treaty (BIT):**

   ○ It is a bilateral agreement in which **two countries sit together and decide the conditions for private investments** by citizens and firms of the two countries.

➢ **Trade and Investment Framework Agreement (TIFA):**

   ○ It is a trade pact between two or more countries which **establishes a framework for expanding trade and resolving outstanding disputes** between countries.

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India and Oman: Programme of Cooperation

Why in News

Recently, India and Oman signed a **Programme of Cooperation (POC)** in the fields of Science and Technology for the period 2022 – 2025.

➢ The POC for Cooperation in the fields of Science and Technology was signed in pursuance of the **Agreement for Cooperation in Science and Technology (S&T) concluded on 5th October, 1996** between Oman and India.

What are the Areas of POC?

➢ Medicinal Plants and processing.
➢ Real-time **Air Quality Monitoring.**
➢ Development of an electronic platform for knowledge sharing in the field of Genetic Resources.
➢ Technical expertise for Small and Medium-sized Enterprises (SMEs)in the field of sustainability (Eco-Innovate) Accelerator.
➢ Plastic **Bio-fuel, and Bio-diesel** Research (Example: Low-temperature Bio-diesel production.
➢ Extraction of high-value products from produced water with oil).
➢ Software development for Graduate Programs – Linking Industry with Academia.

➢ **Blockchain** and **FinTech** solutions.
➢ Training programmes – **Big-data**, coding & testing, STEM teaching and other areas of S&T.

What does the POC Document Seek?

➢ B**oth countries will support joint scientific projects based on mutual interest,** developed jointly by the Indian and Omani institutions.
➢ They will **encourage exchange** of scientists, researchers, experts, and specialists for the implementation of selected joint projects aimed at developing applicable technology.
➢ This will **lead to the dissemination of research results and establishing contacts with industry** for the follow-up of research and development work.
  ❍ The countries will also **hold at least one workshop each year** – alternatively in India and in Oman during 2022 – 2025 period in mutually acceptable areas.

What are the Key Points of India-Oman Relationship?

➢ **Background:**
  ❍ The two countries across th**e Arabian Sea are linked by geography, history and culture and enjoy warm and cordial relation**s, which are attributed to historical maritime trade linkages.
  ❍ The Sultanate of Oman is a strategic partner of India in the Gulf and an important interlocutor at the **Gulf Cooperation Council (GCC), Arab League and Indian Ocean Rim Association (IORA)** fora.
  ❍ **Gandhi Peace Prize 2019** was conferred on Late HM Sultan Qaboos in recognition of his leadership in strengthening the ties between India & Oman and his efforts to promote peace in the **Gulf region.**
➢ **Defence Relations:**
  ❍ **Joint Military Cooperation Committee:**
    ● The JMCC is the **highest forum of engagement between India and Oman** in the field of defence.
    ● The JMCC is **expected to meet annually, but could not be organised since 2018** when the meeting of the 9th JMCC was held in Oman.
  ❍ **Military Exercises:**
    ● **Army exercise:** Al Najah
    ● **Air Force exercise: Eastern Bridge**
    ● **Naval Exercise:** Naseem Al Bahr

Note:

➢ **Economic & Commercial Relations:**

○ Institutional mechanisms like Joint Commission Meeting (JCM) and Joint Business Council (JBC) oversee economic cooperation between India and Oman.

○ India is among Oman's top trading partners.

● For Oman, India was the 3ʳᵈ largest (after UAE and China) source for its imports and 3ʳᵈ largest market (after UAE and Saudi Arabia) for its non-oil exports in 2019.

○ Major **Indian financial institutions have a presence in Oman.** Indian companies have invested in Oman in sectors like iron and steel, cement, fertilisers, textile etc.

○ **India-Oman Joint Investment Fund (OIJIF),** a JV between State Bank of India and State General Reserve Fund (SGRF) of Oman, a special purpose vehicle to invest in India, has been operational.

➢ **Indian Community in Oman:**

○ There are about 6.2 lakh Indians in Oman, of which about 4.8 lakh are workers and professionals. There are Indian families living in Oman for more than 150-200 years.

○ There are many Indian schools offering CBSE syllabus catering to the educational needs of about 45,000 Indian children.

What is Oman's Strategic Significance for India?

➢ Oman is at the gateway of **Strait of Hormuz** through which India imports one-fifth of its oil imports.

➢ Defence cooperation has emerged as a key pillar for the robust India-Oman strategic partnership. Defence exchanges are guided by a **Framework MOU which was recently renewed in 2021.**

➢ Oman is the **only country in the Gulf region with which all three services of the Indian armed forces conduct regular bilateral exercises** and staff talks, enabling close cooperation and trust at the professional level.

➢ Oman also actively participates in the **Indian Ocean Naval Symposium (IONS).**

➢ In a strategic move to expand its footprint in the Indian Ocean region, **India has secured access to the key Port of Duqm in Oman** for military use and logistical support. This is part of **India's maritime strategy** to counter Chinese influence and activities in the region.

○ The Port of Duqm is **situated on the southeastern seaboard of Oman**, overlooking the Arabian Sea and the Indian Ocean.

○ It is strategically located, in close proximity to the **Chabahar port** in Iran. With the **Assumption Island** being developed in Seychelles and Agalega in Mauritius, Duqm fits into India's proactive maritime security roadmap.

The Bucharest Nine

Why in News?

Recently, the **Bucharest Nine (B 9)** rejected the **Russian claim about the eastward "expansion" of North-Atlantic Treaty Alliance organisation (NATO).**

➢ They underlined that NATO is not an organisation that **"expanded" to the east"**, rather, these countries as the independent **European states** that decided on our own to go west.

What is Bucharest Nine ?

➢ The B 9 is a **group of nine NATO countries** in Eastern Europe that **became part of the US-led military alliance** after the end of the **Cold War.**

➢ The B 9 or Bucharest Format, **often abbreviated as the B9, was founded on November 4, 2015.**

➢ It takes its name from **Bucharest, the capital of Romania.**

➢ B9, it is also regarded as the **"voice of the Eastern Flank"** in the NATO alliance.

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- The group was created on the **initiative of Klaus Iohannis, who has been President of Romania** and **Andrzej Duda, who became President of Poland** in August 2015, at the High-Level Meeting of the States from Central and Eastern Europe in Bucharest.

- The members of **B9 are Romania and Poland, Hungary, Bulgaria, the Czech Republic, Slovakia, and the three Baltic republics of Estonia, Latvia, and Lithuania.**

- B9 offers a platform for deepening the dialogue and consultation among the participant allied states across the members of NATO.
   - All nine countries were once closely associated with the now dissolved Soviet Union, **but later chose the path of democracy.**

- All members of the B9 are part of the **European Union (EU) and NATO.**

- The B9 countries have been critical of Russia's aggression against Ukraine since 2014, when the war in the **Donbas started and Russia annexed the Crimean peninsula.**

What is the Three Seas Initiative?

- B9 should not be confused with **Three Seas Initiative (3SI).**

Countries Participating in the Three Seas Initiative

- The **3SI** is a **regional effort in Europe to expand cross-border energy, transportation, and digital infrastructure** and boost economic development in the area between the **Adriatic Sea, Baltic Sea, and Black Sea.**

- **Twelve countries** (Austria, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, and Slovenia), all of which are members of the EU, participate in the 3SI.

Saudi Arabia-Iran Relations

Why in News?

Recently, Saudi Arabia has **mass executed 81 people,** including seven **Yemenis and one Syrian national** for crimes related to **terrorism and other capital crimes.** This has prompted the **Iranian government to suspend talks with the country.**

- Both countries have had tense diplomatic relations since a long time ago.

- Regional rivals Iran and Saudi Arabia, which **severed diplomatic ties in 2016, launched direct talks hosted by Iraq in 2021 as UN (United Nations)-led efforts** to end a war in Yemen stalled. They have held **four rounds of talks** in Iraq.

What is Background of Saudi Arabia-Iran Conflict?

- **Religious Factionalism:** Relations between Saudi Arabia and Iran have been sour in part because of religious differences, which go back centuries. They each follow one of the two main branches of Islam.
   - Iran is largely Shia Muslim, while Saudi Arabia sees itself as the leading Sunni Muslim power.

- **Leader of Islamic World:** Historically, Saudi Arabia, a monarchy and home to the birthplace of Islam, saw itself as the leader of the Muslim world.

Note:

○ However this was challenged in **1979 by the Islamic revolution** in Iran which created a new type of state in the region - a kind of revolutionary theocracy - that had an explicit goal of exporting this model beyond its own borders.

➤ **Regional Cold War:** Saudi Arabia and Iran - two powerful neighbors - are locked in a fierce struggle for regional dominance.

    ○ Uprisings across the Arab world (after the **Arab Spring in 2011**) caused political instability throughout the region.

    ○ Iran and Saudi Arabia exploited these upheavals to expand their influence, notably in Syria, Bahrain and Yemen, further heightening mutual suspicions.

    ○ Moreover, external powers like the US and Israel have a major role in exacerbating conflict between Saudi Arabia and Iran.

➤ **Proxy Wars:** Iran and Saudi Arabia are not directly fighting but they are engaged in a variety of proxy wars (conflicts where they support rival sides and militias) around the region.

    ○ For Example, **Houthi rebels in Yemen**. These groups can acquire greater capabilities which can cause further instability in the region. Saudi Arabia accuses Iran of supporting them.

➤ **2016 Flash Point:** Many Iranian protesters attacked Saudi diplomatic missions in the Iran following Saudi Arabia's execution of the Shiite Muslim cleric **Sheikh Nimr al-Nimr.**

What can be the Possible Impact of Normalization of Relations?

➤ **Resolution of Israel-Palestine Conflict:** Warming of relations betwen Iran and Saudi Arabia may have a postive impact in dealing with **Israel and the Palestinian issue.**

➤ **Stabilization of Oil Market:** Iran and Saudi Arabia share a common interest for **stable oil prices** given the importance of the market to their economies.

    ○ Normalization of relations would ensure steady oil revenues for all producing countries and more predictability to economic planners in both Saudi Arabia and Iran.

India Japan Summit 2022

Why in News?

Recently, the Japanese Prime Minister was on an official visit to India for the **14th India-Japan Annual Summit** between the two Countries.

➤ The Summit took place at a time when the two countries were celebrating the **70th anniversary of the establishment of diplomatic relations** and **India** was celebrating its **75th anniversary of Independence.**

➤ Earlier, the Indian PM virtually inaugurated a Japanese **'Zen Garden - Kaizen Academy'** at the Ahmedabad Management Association (AMA) in Gujarat.

What are the Key Points of the Summit?

➤ **Investment by Japan:**

    ○ Japan will invest Rs 3.2 lakh crores in the next five years in India.

    ○ 7 JICA (Japan International Cooperation Agency) loans for projects in connectivity, water supply and sewerage, horticulture, healthcare, and biodiversity conservation in various States.

      ● An MoU has been signed to introduce **Johkasou technology** in India by Japanese companies for decentralised wastewater treatment. It is used in areas where sewage infrastructure has not yet been developed.

➤ **Sustainable Development Initiative for the North Eastern Region of India:**

    ○ It has been launched with an eye on India's infrastructure development in the Northeast, and includes both ongoing projects and possible future cooperation in connectivity, healthcare, new and renewable energy, as well as an initiative for **strengthening bamboo value chain.**

Note:

- **India-Japan Digital Partnership:**
  - On **cyber security**, the leaders discussed "India-Japan Digital Partnership" with a view to enhancing the digital economy through promotion of joint projects i**n the area of IoT (internet of Things), AI (Artificial Intelligence) and other emerging technologies.**
  - Japan is looking forward to attracting more highly skilled Indian IT professionals to contribute to the Japanese ICT sector.

- **Clean Energy Partnership:**
  - It was launched for cooperation in areas such as electric vehicles, storage systems including batteries, electric vehicle charging infrastructure, development of solar energy; hydrogen; ammonia; etc.
  - The objective is to encourage manufacturing in India, **creation of resilient and trustworthy supply chains in these areas** as well as fostering collaboration in R&D (Research and Development).
  - It will be implemented through the existing mechanism of **Energy Dialogue.**

- **Mumbai-Ahmedabad High Speed Rail (MAHSR):**
  - India appreciated **Japan's cooperation on the MAHSR and various Metro projects in India** and looked forward to the planned preparatory survey for the Patna Metro.

- **People to People Engagement:**
  - The Indian PM confirmed India's participation in the Expo 2025 Osaka, Kansai, Japan, as an opportunity to further strengthen and broaden trade, investment and people-to-people links between the two countries.

- **On Indo-Pacific:**
  - The two leaders expressed their commitment to promoting **peace, security and prosperity in the Indo-Pacific region.**

- **QUAD:**
  - The two PMs affirmed **the importance of bilateral and plurilateral partnerships among like-minded countries in the regio**n including the **QUAD grouping** between India-Australia-Japan and the United States.
  - The Japanese Prime Minister **invited PM Modi for the QUAD Summit Meeting in Tokyo.**

- **Terrorism:**
  - The two leaders reiterated **"condemnation of terrorist attacks in India, including 26/11 Mumbai and Pathankot attacks, and called upon Pakistan to take resolute and irreversible action against terrorist networks** operating out of its territory and comply fully with international commitments, including to **FATF (Financial Action Task Force)**.

- **Comprehensive Nuclear-Test-Ban Treaty:**
  - The Japanese PM stressed the **importance of early entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT).**
    - The Treaty intends to ban all nuclear explosions - everywhere, by everyone. It will enter into force after all 44 States listed in Annex 2 to the Treaty will ratify it.
    - **India has not yet signed** the Treaty.

- **On Situation in Other Countries:**
  - **Ukraine:** Talked about the **serious invasion of Russia into Ukraine and sought** a peaceful solution on the basis of international law.
  - **China:** India **informed Japan about the situation in Ladakh, about the attempts of amassing troops** and India's talks with China over border-related issues.
    - The Japanese PM also briefed India about his perspective of the **East** and **South China sea.**
  - **Afghanistan:**
    - On Afghanistan, the PMs expressed their intention **to collaborate closely to realize peace and stability in Afghanistan,** and stressed the importance of addressing the humanitarian crisis, promoting human rights and ensuring establishment of a truly representative and inclusive political system.
    - They also r**eferred to the UNSC Resolution** that unequivocally demands that "Afghan territory not be used for sheltering, training, planning or financing terrorist acts".
  - **North Korea:** The PMs condemned **North Korea's** destabilising ballistic missile launches in violation of United Nations Security Council resolutions (UNSCRs).
  - **Myanmar**: They called on Myanmar to urgently implement **ASEAN's Five-Point Consensus.**

Note:

What are other Recent Developments between India and Japan?

➤ Recently, **India, Japan and Australia** have formally launched the Supply Chain Resilience Initiative (SCRI) in a move to counter China's dominance of the supply chain in the Indo-Pacific region.

➤ In **2020**, India and Japan **signed a logistics agreement** that will allow armed forces of both sides to coordinate closely in services and supplies. The agreement is known as the **Acquisition and Cross-Servicing Agreement (ACSA).**

➤ In 2014, India and Japan upgraded their relationship to '**Special Strategic and Global Partnership'.**

➤ The India-Japan **Comprehensive Economic Partnership Agreement (CEPA)** that came into force in **August 2011** covers trade in goods, services, movement of natural persons, investments, Intellectual Property Rights, custom procedures and other trade related issues.

  ○ Japan is India's 12th largest trading partner, and trade volumes between the two stand at just a fifth of the value of India-China bilateral trade.

➤ **Defence Exercises:** India and Japan defence forces organize a series of bilateral exercises namely, **JIMEX** (naval), **SHINYUU Maitri** (Air Force), and **Dharma Guardian** (Army). Both countries also participate in **Malabar exercise** (Naval Exercise) with the USA and Australia.

➤ Both India and Japan are members of G-20 and G-4.

➤ They are also member countries of the **International Thermonuclear Experimental Reactor (ITER).**

Finlandization

Why in News?

Recently, the French President suggested **Finlandization** might be a realistic outcome for Ukraine if and when the Russia- Ukraine war ends.

What is Finlandization?

➤ It refers to the **policy of strict neutrality between Moscow (Russia) and the West that Finland followed** during the decades of the Cold War.

➤ The **principle of neutrality** was rooted in the Agreement of Friendship, Cooperation, and Mutual Assistance (or **YYA Treaty,** from the Finnish "Ystävyys-, yhteistyö- ja avunantosopimus") that **Finland signed with the USSR in April 1948.**

➤ **Article 1** of the treaty reads: "In the eventuality of Finland, or the Soviet Union through Finnish territory, becoming the object of an armed attack by Germany or any state allied with the latter (meaning, essentially, the United States), **Finland will, true to its obligations as an independent state, fight to repel the attack.**

➤ Finland will in such cases **use all its available forces for defending its territorial integrity** by land, sea, and air, and will do so within the frontiers of Finland **in accordance with obligations defined in the present agreement** and, if necessary, with the assistance of or jointly with, the Soviet Union.

  ○ In such cases, the Soviet Union will give Finland the help that it requires, subject to mutual agreement between the contracting parties.

What did Finland do after its War with Russia was over?

➤ The 1948 treaty formed the basis of Finland-Russia relations until 1992, when **Finland signed a new agreement with post-Soviet Russia.**

➤ It lay at the heart of Finland's foreign policy doctrine especially 1946 to 1982 and is known in international relations studies as the **"Paasikivi-Kekkonen line".**

Note:

- From the perspective of Finland — whose capital Helsinki is situated just across the **Gulf of Finland** from St Petersburg (Leningrad) — **the treaty protected it from being attacked or incorporated into the USSR** like the Baltic and eastern European states.

- It a**llowed the country to pursue the path of democracy and capitalism** while staying out of the conflict between the great powers.

- Finland **did not participate in the Marshall Plan. It t**ook neutral positions on matters on which the **Soviet Union and the West disagreed**. It stayed aloof from **North Atlantic Treaty Organisation (NATO)** and European military powers, and used this positioning to ward off pressure from Moscow to become part of the Soviet bloc or the **Warsaw Pact.**

  o **Marshall Plan** was a U.S.-sponsored program designed to rehabilitate the economies of 17 western and southern European countries in order to create stable conditions in which democratic institutions could survive in the aftermath of **World War II.**

Fifth BIMSTEC Summit

Why in News?

Recently, the **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** grouping's **fifth summit took place in Colombo, Sri Lanka** (Host for the Fifth Summit)**.**
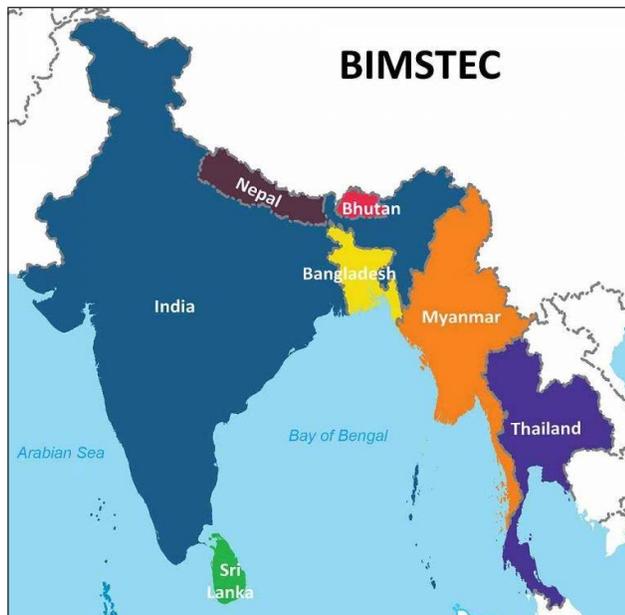
What are the Key Highlights of the Summit?

- **BIMSTEC Charter:** The signing of the **BIMSTEC Charter** was the main outcome of this summit.

  o Under this Charter, the members were expected to meet **once every two years**.

  o With the Charter, the **BIMSTEC now has an international personality.** It has an **emblem, it has a flag.**

  o It has a formally **listed purpose and principles** that it is going to adhere to.

  o In line with the development of the organisation into a formal structure, **the leaders of the member-countries have agreed to divide the working of the grouping into seven segments**, with **India providing leadership to the security pillar.**

Pillars of BIMSTEC

Bangladesh	: Trade, Investment and Development
Bhutan	: Environment & Climate Change
India	: Security Sub-sectors: Counter-Terrorism and Trasnational Crime, Disaster Management, Energy
Myanmar	: Agriculture and Food Security Sub-sectors: Agriculture, Fisheries & Livestock
Nepal	: People-to-People Contact Sub-sectors: Culture, Tourism, People-to-People Contact (forums of think tanks, media etc.)
Sri Lanka	: Science, Technology & Innovation (Sri Lanka) Sub-sectors: Technology, Health, Human Resource Development
Thailand	: Connectivity

- **Master Plan for Transport Connectivity:** The summit saw the declaration of the Master Plan for Transport Connectivity that would provide a f**ramework for regional and domestic connectivity.**

- **Other Agreements:** Member countries also signed a treaty on mutual legal assistance on criminal matters.

○ A Memorandum of Association (MoA) on the **establishment of BIMSTEC Technology Transfer Facility (TTF) in Colombo, Sri Lanka.**

○ India will provide the (BIMSTEC) secretariat **USD 1 million US dollars to increase its operational budget.**

What is BIMSTEC?

➢ The **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** is a regional organisation comprising seven Member States: five deriving from South Asia, including **Bangladesh, Bhutan, India, Nepal, Sri Lanka and two from Southeast Asia, including Myanmar and Thailand.**

➢ This sub-regional organisation came into being on **6 June 1997 through the Bangkok Declaration.**

➢ With **21.7% of the world's population** and a combined **Gross Domestic Product (GDP) of USD 3.8 trillion**, BIMSTEC has emerged as an **influential engine of economic growth**.

➢ The BIMSTEC Secretariat is in **Dhaka.**

➢ **Institutional Mechanisms:**
  ○ BIMSTEC Summit
  ○ **Ministerial Meeting**
  ○ Senior Officials' Meeting

○ BIMSTEC Working Group
○ Business Forum & Economic Forum

Is BIMSTEC an Alternate of SAARC?

➢ The PM of India had invited **South Asian Association for Regional Cooperation (SAARC)** countries for his swearing in ceremony in 2014, **including Pakistan on the lines of his Neighbourhood first policy.**

  ○ The Prime Minister had also participated in the **18th SAARC summit** at Kathmandu in November 2014.

  ○ However, **post Uri attack** (on an Indian military base) in October 2016, India gave a renewed push for the BIMSTEC that had existed for almost two decades but been largely ignored.

➢ Alongside the **BRICS summit in Goa**, PM hosted an **outreach summit with BIMSTEC leaders.**

➢ BIMSTEC countries had supported **India's call for a boycott of the SAARC summit scheduled in Islamabad in November 2016.**

➢ As a result, the SAARC summit was **postponed for an indefinite period.**

➢ Thus, with work on several key initiatives **under SAARC stymied because of the breakdown of the relationship with Pakistan,** India began focusing on other regional groupings such as BIMSTEC and **Indian Ocean Rim Association (IORA).**

■■■

Note:

Social Issues

Highlights

- *World Tuberculosis Day 2022*
- *State of World Population 2022 Report*

World Tuberculosis Day 2022

Why in News

World Tuberculosis (TB) Day is observed on 24th March to spread awareness about the disastrous health, social, and economic consequences of TB and to take efforts to end the TB epidemic globally.

➢ Earlier in 2021, Centenary celebration was observed for the Bacille Calmette-Guérin (BCG) vaccine, which is presently the sole vaccine available for the prevention of TB.

Why is World TB Day Observed and What is its Significance?

➢ On this day in 1882, Dr. Robert Koch announced the discovery of a Mycobacterium tuberculosis that causes TB and his discovery opened the way towards diagnosing and curing this disease.

➢ Even today the TB is one of the world's deadliest infectious killers. As per WHO (World Health Organisation), every day, over 4100 people lose their lives to TB and about 28,000 people fall ill with this disease. Deaths from tuberculosis have risen in 2020 for the first time in more than a decade.

  ❍ According to the WHO, in 2020, around 9,900,000 people fell ill with TB and died, around 1,500,000. Since the 2000 year, 66,000,000 lives have been saved by efforts taken globally to end TB.

  ❍ India accounts for around 26% of the total TB cases across the world.

➢ Therefore, World TB Day is observed to educate people around the world about the disease TB and its impact.

What is the Theme for World TB Day 2022?

➢ The theme is "Invest to End TB. Save Lives."

➢ The theme emphasises the critical need to invest resources to accelerate the fight against tuberculosis and meet the commitments made by leaders around the world to end tuberculosis.

What are the Initiatives to Combat TB?

➢ Global Efforts:

  ❍ The WHO has launched a joint initiative "Find. Treat. All. #EndTB" with the Global Fund and Stop TB Partnership.

  ❍ WHO also releases the Global Tuberculosis Report.

➢ India's Efforts:

  ❍ National Strategic Plan (NSP) for Tuberculosis Elimination (2017-2025), The Nikshay Ecosystem (National TB information system), Nikshay Poshan Yojana (NPY- financial support), TB Harega Desh Jeetega Campaign.

  ❍ Currently, two vaccines VPM (Vaccine Projekt Management) 1002 and MIP (Mycobacterium Indicus Pranii) have been developed and identified for TB, and are under Phase-3 clinical trial.

What is Tuberculosis (TB)?

➢ About:

  ❍ TB is caused by a bacterium called Mycobacterium tuberculosis, belonging to the Mycobacteriaceae family consisting of about 200 members.

    ● Some of Mycobacteria cause diseases like TB and Leprosy in humans and others infect a wide range of animals.

  ❍ In humans, TB most commonly affects the lungs (pulmonary TB), but it can also affect other organs (extra-pulmonary TB).

  ❍ TB is a very ancient disease and has been documented to have existed in Egypt as early as 3000 BC. TB is a treatable and curable disease.

Note:

drishti

> **Transmission:**
> ○ TB is spread from person to person **through the air.** When people with lung TB cough, sneeze or spit, they propel the TB germs into the air.
> **Symptoms:**
> ○ Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.

State of World Population 2022 Report

Why in News?

Recently, the **United Nations Population Fund's (UNFPA)** flagship State of World Population Report 2022 titled **"Seeing the Unseen: The case for action in the neglected crisis of unintended pregnancy"** was launched.

What are the Key Findings of the Report?

> **Rising Unintended Pregnancies:**
> ○ Between 2015 and 2019, there were roughly **121 million unintended pregnancies** globally each year.
> **Lack of Safe, Modern Methods of Contraception:**
> ○ Globally, an **estimated 257 million women** who want to avoid pregnancy are **not using safe, modern methods of contraception.**
> **Rising Rape-Related Pregnancies:**
> ○ Nearly a quarter of all women are not able to say no to sex.
>   • **Contraceptive use is 53% lower among women** who have experienced intimate partner violence.
>   • **Rape-related pregnancies are equally or more likely to occur** than pregnancies from consensual sex.
> **Rising Abortion:**
> ○ Over **60% of unintended pregnancies**, and almost 30% of all pregnancies, end in abortion.
>   • 45% of all abortions performed globally are unsafe.
>   • In developing countries, **unsafe abortions** cost an estimated USD 553 million per year in treatment costs alone.

> **Impact of Humanitarian Emergencies:**
> ○ In humanitarian emergencies, such as the **ongoing war in Ukraine**, many women lose access to contraception and / or experience sexual violence.
>   • Some studies have shown that **over 20% of refugee women and girls** will face sexual violence.
> ○ In the first 12 months of the **Covid-19 pandemic,** the estimated disruption in contraceptive supplies and services lasted an average of 3.6 months, leading to as many as **1.4 million unintended pregnancies.**

What are the Contributing Factors of Unintended Pregnancies?

> Lack of sexual and reproductive health care and information
> Contraceptive options that don't suit women's bodies or circumstances
> Harmful norms and stigma surrounding women controlling their own fertility and bodies
> Sexual violence and reproductive coercion
> Judgmental attitudes or shaming in health services
> Poverty and stalled economic development
> **Gender inequality**

What are the Issues with the Unintended Pregnancies?

> **Health Risks:**
> ○ Unintended pregnancies can pose **certain health risks and may be associated with adverse outcomes** for both mother and baby.
>   • Women with an unplanned pregnancy, for example, are less likely to receive prenatal care and may have a higher risk for postpartum depression and mental health problems later in life.
> **Higher Rates of Preterm Birth:**
> ○ Unintended pregnancies have been **associated with higher rates of preterm birth and low birthweight**, although some studies note the difficulty of separating confounding demographic factors from pregnancy intention.
> **Impact Future of Children:**
> ○ Children born as a result of an **unplanned pregnancy may be more likely to fare worse in school**

achievement, social and emotional development, and later success in the labor market compared to children born as a result of a planned pregnancy.

- Unintended pregnancy may also be an important risk factor in predicting and understanding **child maltreatment.**

○ An unplanned pregnancy can **also disrupt educational goals and severely affect future earning potential** and family financial well-being—costs which extend to state budgets.

What are the Suggestions?

➢ Decision-makers and health systems **need to prioritize the prevention of unintended pregnancies by improving the accessibility, acceptability, quality and variety** of contraception and greatly expanding quality sexual and reproductive health care and information.

➢ Policy makers, community leaders and all individuals **should empower women and girls to make affirmative decisions** about sex, contraception and motherhood.

➢ Foster societies that recognize the full worth of women and girls.

○ If they do, women and girls will be able to contribute fully to society, and will have the tools, information and power to make this fundamental choice—to have children, or not—for themselves.

What is the United Nations Population Fund?

➢ **About:**

○ It is a subsidiary organ of the **UN General Assembly** and works as a sexual and reproductive health agency.

○ The **UN Economic and Social Council (ECOSOC)** establishes its mandate.

➢ **Establishment:**

○ It was **established as a trust fund in 1967** and began operations in 1969.

○ In 1987, it was officially renamed the **United Nations Population Fund** but the original abbreviation, 'UNFPA' for the United Nations Fund for Population Activities was retained.

➢ **Objective:**

○ UNFPA works directly to tackle **Sustainable Development Goals** on health (SDG3), education (SDG4) and gender equality (SDG5).

➢ **Funding:**

○ UNFPA is **not supported by the UN budget**, instead, it is entirely supported by voluntary contributions of donor governments, intergovernmental organizations, the private sector, foundations and individuals.

➢ **Report:**

○ State of World Population Report.

■■■

Note:

Science & Technology

Highlights

- *Wright Mons Mountain: Pluto*
- *GSAT 7B & India's Other Military Satellites*
- *NASA's Artemis Program*
- *Recombination of Viruses*
- *ExoMars 2022 Mission*

- *Deep Ocean Mission*
- *Defence Space Command Agency of Australia*
- *PACER Scheme*
- *NETRA Project & Space Junk*

Wright Mons Mountain: Pluto

Why in News?

Recently, new findings about Pluto have been reported by the **National Aeronautics and Space Administration's** (NASA) **New Horizons probe**.

➢ The probe reported that **icy lava flows** have recently (no more than a billion years ago) covered substantial tracts of its surface.

➢ The findings drew particular attention to a **mountainous feature named Wright Mons**.

➢ The **only spacecraft to visit Pluto is NASA's New Horizons,** which passed close by in July 2015.

What is Wright Mons?

➢ A **mountainous feature named Wright Mons** was found on Pluto, which rises 4-5km above its surroundings. It is about 150km across its base and has a central depression (a hole) 40-50km wide, with a floor at least as low as the surrounding terrain.

○ Wright Mons, was informally **named by the New Horizons team in honour of the Wright brothers.**

➢ Scientists claim that **Wright Mons is a volcano**, and cite the lack of impact craters as evidence that it is not likely to be older than 1-2 billion years.

○ An impact crater is formed when an object like an asteroid or meteorite crashes into the surface of a larger solid object like a planet or a moon.

➢ Its **volume exceeds 20 thousand cubic kilometres**. Although considerably **less than the volume of Mars's biggest volcanoes,** this is similar to the **total volume of Hawaii's Mauna Loa,** and much greater than the volume of its above sea-level portion.

➢ The **slopes of Wright Mons and much of its surroundings are seen to be crowded with hummocks** up to 1km high and mostly 6-12km across.

➢ Scientists conclude that **these hummocks are made primarily of water-ice,** rather than nitrogen- or methane-ice that covers some other young regions on Pluto.

○ They argue that this is **consistent with the material strength necessary to form and preserve these domes**, but they do recognise small patches of much weaker nitrogen-ice, mainly in the central depression.

➢ The hummocks were likely created by some sort of ice volcanism, known by the technical term "**cryovolcanism**" – erupting icy water rather than molten rock.

➢ Pluto's bulk density shows that it **must have rock in its interior,** but its **outer regions are a mixture of ices (water, methane, nitrogen and probably ammonia and carbon monoxide, too, all of which are less than a third as dense as rock)** in the same way that the crust of the Earth and other rocky planets is a mixture of several silicate minerals.

➢ Many **other areas of Pluto have been around long enough to accumulate large numbers of impact craters** – no recent icy lava flows have covered them.

Note:

What are some Key Facts about Pluto?

➢ Pluto was categorised as a **dwarf planet.** In 2006, Pluto was categorised with three other objects in the solar system that are about the same small size as Pluto: Ceres, Makemake and Eris.

❍ Pluto was embraced as the solar system's ninth planet upon **discovery by Clyde Tombaugh in 1930.**

❍ The crucial part of the definition of planet adopted by the **International Astronomical Union (IAU)** in 2006 is that a planet should have **"cleared the neighbourhood of its own orbit".**
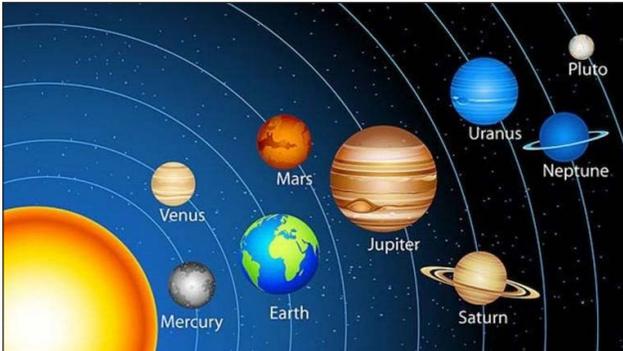
❍ Pluto clearly does not comply with this definition – **it has rivals of comparable mass in addition to being overshadowed by the vastly more massive Neptune.**

❍ These **objects, along with Pluto, are much smaller than the "other" planets.**

➢ Pluto – which is **smaller than Earth's Moon** – has a heart-shaped glacier that's the size of Texas and Oklahoma. It has blue skies, spinning moons, mountains as high as the Rockies, and **it snows – but the snow is red.**

➢ Pluto is about 1,400 miles wide. That's about **half the width of the United States, or 2/3 the width of Earth's moon.**

➢ Pluto orbits the Sun about 3.6 billion miles away on average, abou**t 40 times as far as Earth,** in a region called the **Kuiper Belt.**

➢ A **year on Pluto is 248 Earth years.** A day on Pluto lasts 153 hours, or about 6 Earth days.

➢ Pluto has a **thin atmosphere of nitrogen, methane and carbon monoxide**. The atmosphere has a blue tint and distinct layers of haze.

➢ Pluto has **5 moons.** The **largest, Charon**, is so big that Pluto and Charon orbit each other like a double planet.

➢ Pluto's surface is far **too cold, -228 to -238 ⁰C**, to sustain life as we know it.

GSAT 7B & India's Other Military Satellites

Why in News?

Recently, the **Ministry of Defense** has given the **Acceptance of Necessity** for the **GSAT-7B satellite**. This satellite will be a **dedicated satellite for the Indian Army.**

➢ The satellite would help the **Indian Army enhance its surveillance in border areas.**

➢ Currently, India has only two dedicated military satellites — the **GSAT-7 (Rukmini) and GSAT-7A (Angry Bird)** — used by the **Indian Navy and Air Force respectively.**

What will be the role of the GSAT 7B satellite?

➢ Till date, the Indian Army has been dependent on **GSAT-7A and other satellites,** but with this new state-of-the-art technology, the Army will have **new eyes in the sky.**

➢ The military-grade satellite will be a **force multiplier in providing fail-safe communication support.**

➢ The GSAT 7B will primarily fulfil the **communication needs of the Army.**

➢ While many features of this satellite are still a **closely guarded secret**, it is expected that the **state of the art, multi-band, military-grade satellite** shall be a shot in the arm for the communication and **surveillance needs of the Army.**

➢ Such a satellite would be of **utmost importance for the Indian Army** as it currently faces a double threat of **China and Pakistan lurking at its borders.**

➢ The use of such a satellite would also mean that the **Army's vast array of radio communication equipment** could come under a single platform.

What is the role of GSAT 7 Satellite?

➢ GSAT 7 series satellites are advanced satellites developed by the **Indian Space Research Organisation (ISRO)** to meet the communication needs of the defence services.

➢ The **GSAT 7 (Rukmini)** provides a gamut of services for military communication needs, which includes low bit voice rate to **high bit rate data facilities, including multi-band communications.**

❍ It is **India's first military satellite**.

Note:

➢ The GSAT 7 satellite was launched in **August 2013 from an Ariane 5 ECA rocket from Kourou in French Guiana.**

➢ It is a **2,650 kg satellite** which has a footprint of nearly **2,000 nautical miles in the Indian Ocean region.**

   ○ This satellite is mainly used by the Indian Navy for its communication needs.

➢ The satellite carries payloads in **Ultra-High Frequency (UHF), C-band and Ku-band, and helps the Navy** to have a secure, real time communication link between its land establishments, surface ships, submarines and aircraft.

   ○ UHF, C-band and Ku-band are different **Satellite frequency bands.**
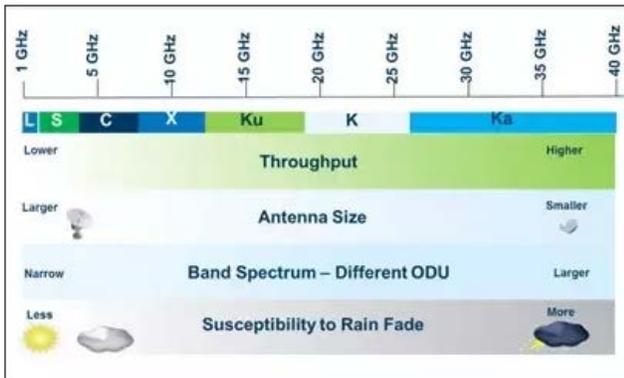
➢ The satellite was injected into a **Geosynchronous Transfer Orbit (GTO)** of 249 km perigee (nearest point to earth), **35,929 km apogee (farthest point to earth) and an inclination of 3.5 degree with respect to the equator.**

What is the role of the GbSAT 7A satellite?

➢ The GSAT 7A was launched in 2018 **from the Satish Dhawan Space Centre in Sriharikota (Andhra Pradesh).**

➢ The satellite helps in boosting the connectivity between the ground radar stations, airbases and the **airborne early warning and control aircraft (AEW&C) of the IAF.**

➢ It also helps in satellite controlled operations of **unmanned aerial vehicles (UAVs)** which gives a great deal of reliability to the operations as compared to ground controlled operations.

➢ This satellite has **10 channels in Ku band with switchable frequency for mobile users,** one fixed Gregorian or parabolic antenna, and four steerable antennas.

➢ A GSAT 7C satellite is on the cards for the IAF, and a proposal to this effect was cleared by the DAC in 2021.

What other kinds of military satellites does India have?

➢ An **Electromagnetic Intelligence Gathering Satellite (EMISAT)**, developed by ISRO, was launched in April 2020 through a **Polar Satellite Launch Vehicle (PSLV-C45).**

   ○ It has an **Electronic Intelligence (ELINT) package called Kautilya**, which allows the interception of ground-based radar and also carries out electronic surveillance across India.

   ○ This satellite circles the **globe pole-to-pole,** and is helpful in gathering information from radars of countries that have borders with India.

➢ India also has a **RISAT 2BR1 synthetic aperture radar imaging satellite,** which was launched in December 2019 from Sriharikota.

NASA's Artemis Program

Why in News?

Recently, the **National Aeronautics and Space Administration (NASA)** rolled out its **Artemis I moon mission** to the launchpad for testing at the **Kennedy Space Centre in Florida, United States.**

THE GIST

Artemis I is an uncrewed space mission where the spacecraft will launch on SLS — the most powerful rocket in the world — and travel 2,80,000 miles from the earth for over four to six weeks.

NASA will a gateway in the lunar orbit to aid exploration by robots and astronauts. It is touted as a critical component of NASA's sustainable lunar operations and will serve as a multi-purpose outpost orbiting the moon.

The learnings from the Artemis programme will be utilised to send the first astronauts to Mars.

What is Artemis Mission?

➢ NASA's Artemis mission is touted as the **next generation of lunar exploration,** and is named after the **twin sister of Apollo from Greek mythology.**

Note:

○ Artemis is also the goddess of the moon.

○ It is the **first in a series of increasingly complex missions** that will enable **human exploration to the Moon and Mars**.

➢ With the Artemis programme, **NASA aims to land humans on the moon by 2024,** and it also plans to land the **first woman and first person of colour on the moon.**

➢ NASA will establish an **Artemis Base Camp** on the surface and a **gateway (the lunar outpost around the Moon)** in lunar orbit to aid exploration by robots and astronauts.

○ The gateway is a critical component of **NASA's sustainable lunar operations and will serve as a multi-purpose outpost orbiting the moon.**

➢ **Other space** agencies are also involved in the Artemis programme.

○ **Canadian Space Agency** has committed to providing **advanced robotics** for the gateway,

○ **The European Space Agency** will provide the International **Habitat and the ESPRIT module**, which will deliver additional communications capabilities among other things.

○ The **Japan Aerospace Exploration Agency** plans to contribute **habitation components and logistics resupply.**

What are Key Points of Artemis I Mission?

➢ **Artemis I, formerly Exploration Mission-1,** will be the first integrated flight test of NASA's **Deep Space Exploration Systems:**

○ **Orion spacecraft:** Orion spacecraft is going to remain in space without docking to a space station, longer than any ship for astronauts has ever done before.

○ **Space Launch System (SLS) rocket:** It is the most powerful rocket in the world — and travels 2,80,000 miles from the earth for over four to six weeks during the course of the mission.

○ **Newly upgraded Exploration Ground Systems** at Kennedy Space Centre in Cape Canaveral, Florida.

➢ It is an **uncrewed space mission** where the spacecraft will launch on an SLS rocket.

➢ The primary operating goal of the mission is to assure a safe crew module entry, descent, splashdown, and recovery.

➢ **SLS and Orion under Artemis I** will be launched from the Kennedy Space Centre in Florida, U.S. in the summer of 2022.

➢ The mission will end with the Orion spacecraft's ability to return safely to the earth.

ARTEMIS I

The First Uncrewed Integrated Flight Test of NASA's Orion Spacecraft and Space Launch System Rocket

CUBESATS DEPLOY
ICPS deploys 10 CubeSats total

MISSION DURATIONS:
Total: 26–42 days
Outbound Transit: 8–14 days
DRO Stay: 6–19 days
Return Transit: 9–19 days

1 **LAUNCH**
SLS and Orion lift off from pad 39B at Kennedy Space Center.

2 **JETTISON ROCKET BOOSTERS, FAIRINGS, AND LAUNCH ABORT SYSTEM**

3 **CORE STAGE MAIN ENGINE CUT OFF**
With separation.

4 **PERIGEE RAISE MANEUVER**

5 **EARTH ORBIT**
Systems check with solar panel adjustments.

6 **TRANS LUNAR INJECTION (TLI) BURN**
Maneuver lasts for approximately 20 minutes.

7 **INTERIM CRYOGENIC PROPULSION STAGE (ICPS) SEPARATION AND DISPOSAL**
ICPS commits Orion to moon at TLI.

8 **OUTBOUND TRAJECTORY CORRECTION (OTC) BURNS**
As necessary adjust trajectory for lunar flyby to Distant Retrograde Orbit (DRO).

9 **OUTBOUND POWERED FLYBY (OPF)**
60 nmi from the Moon; targets DRO insertion.

10 **LUNAR ORBIT INSERTION**
Enter Distant Retrograde Orbit.

11 **DISTANT RETROGRADE ORBIT**
Perform half or one and a half revolutions in the orbit period 38,000 nmi from the surface of the Moon.

12 **DRO DEPARTURE**
Leave DRO and start return to Earth.

13 **RETURN POWERED FLYBY (RPF)**
RPF burn prep and return coast to Earth initiated.

14 **RETURN TRANSIT**
Return Trajectory Correction (RTC) burns as necessary to aim for Earth's atmosphere.

15 **CREW MODULE SEPARATION FROM SERVICE MODULE**

16 **ENTRY INTERFACE (EI)**
Enter Earth's atmosphere.

17 **SPLASHDOWN**
Pacific Ocean landing within view of the U.S. Navy recovery ship.

Note:

What are the future missions in the Artemis programme?

➢ The second flight under the programme will **have crew on board and will test Orion's critical systems with humans onboard.**

➢ Eventually, the learnings from the **Artemis programme will be utilised to send the first astronauts to Mars.**

➢ NASA plans on using the lunar orbit to gain the necessary experience to extend human exploration of space farther into the solar system.

What is the History of Moon Exploration?

➢ In 1959, the **Soviet Union's uncrewed Luna 1 and 2** became the first rover to visit the Moon.

➢ The US began trying to put people in space as early as **1961.**

➢ Eight years later, on 20th July, 1969, **Neil Armstrong along with Edwin "Buzz" Aldrin became the first human to step on the Moon** as part of the Apollo 11 mission.

    ○ Before the USA sent the **Apollo 11 mission to the Moon,** it sent three classes of robotic missions between **1961 and 1968.**

➢ After July 1969, **12 American astronauts walked on the surface of the Moon until 1972.**

➢ In the 1990s, the USA resumed **lunar exploration with robotic missions Clementine and Lunar Prospector.**

➢ In 2009, it began a new series of robotic lunar missions with the launch of the **Lunar Reconnaissance Orbiter (LRO) and the Lunar Crater Observation and Sensing Satellite (LCROSS).**

➢ In 2011, NASA began the ARTEMIS.

➢ In 2012, the **Gravity Recovery and Interior Laboratory (GRAIL)** spacecraft studied the Moon's gravity.

➢ Apart from the USA, the European Space Agency, Japan, China, and India have sent missions to explore the Moon.

➢ China landed two rovers on the surface, which includes the **first-ever landing on the Moon's far side in 2019.**

What are ISRO's Moon Exploration Efforts?

➢ **Chandrayaan 1:**

    ○ The **Chandrayaan project** began in 2007 with an agreement between **India's space agency ISRO and Russia's ROSCOSMOS for mutual cooperation.**

    ○ However, the mission was postponed in January 2013 and rescheduled to 2016 as Russia was unable to develop the lander on time.

    ○ **Findings:** Confirmed presence of lunar water.

      • Evidence of lunar caves formed by an ancient lunar lava flow.

      • Past tectonic activity was found on the lunar surface.

      • The faults and fractures discovered could be features of past interior **tectonic activity** coupled with **meteorite** impacts.

➢ **Chandrayaan-2** is India's second mission to the moon and comprises a **fully indigenous Orbiter, Lander (Vikram) and Rover (Pragyan).**

    ○ The Rover Pragyan is housed inside **Vikram lander.**

➢ The **Indian Space Research Organisation (ISRO)** recently announced India's third lunar mission **Chandrayaan-3**, which will comprise a lander and a rover.

Recombination of Viruses

Why in News?

The recent study published in **Nature Microbiology** revealed a few things about the **mutation in viruses, increased fitness and recombination of viruses.**

What are Key Points of the Research?

➢ According to it, **RNA viruses** have a **higher rate of mutations** compared with **DNA viruses**.

    ○ However, unlike other RNA viruses, **coronaviruses have fewer mutations**.

➢ This is because coronaviruses have a genetic **"proofreading mechanism"** that corrects some of the errors made during replication.

➢ This is applicable to **SARS-CoV-2 viruses too.**

➢ As a result, SARS-CoV-2 viruses have more accurate mutations or attained more fitness than that of other **single-stranded RNA viruses.**

➢ **Increased fitness** of the virus means **increased infectiousness of the virus** and the ability of the mutations to **allow the virus to escape from immunity.**

➢ Such mutations that provide increased fitness to the virus increase in numbers and **become the dominant strain or variant.**

Note:

DNA VIRUSES VERSUS RNA VIRUSES

DNA VIRUSES	RNA VIRUSES
DNA viruses refer to viruses whose genetic information is stored in the form of DNA	RNA viruses refer to viruses whose genetic information is stored in the form of RNA
Contain DNA as their genetic material	Contain RNA as their genetic material
Most are double-stranded	Most are single-stranded
Replicated inside the nucleus of the host cell	First transcribed and then replicated in the cytoplasm
Viral DNA is first transcribed into RNA, and then mRNA is translated into viral proteins	Can bypass transcription during protein synthesis since they already contain RNA in the genome
Stable due to the lower mutation rate	Unstable due to the higher mutation rate
Shows an accurate replication	Shows an error-prone replication
Contain a large genome	Contain a small genome
Newly-synthesized viral DNA is packed into a pre-formed capsid called procapsid	Newly-synthesized viral RNA is not packed in a procaspid
Include Class I, II, and VII of the Baltimore classification of viruses	Include Class III, IV, V, and VI of the Baltimore classification of viruses
Ex: Adenoviruses, Herpesviruses, Poxviruses, Parvoviruses, and Hepadnaviruses	Ex: Reoviruses, Picornaviruses, Togaviruses, Rhabdoviruses, and Retroviruses
Smallpox, herpes, and chickenpox are diseases of DNA viruses	Aids, Ebola hemorrhagic fever, SARS, common cold, etc. are some diseases of RNA viruses

➢ Further, when a person is simultaneously infected with two different SARS-CoV-2 variants or strains or sub-lineages, chunks of genetic material from one variant can get mixed with the other. **This is called recombination.**
- ❍ For example**,** recombination of Delta and Omicron variants.

What is Mutation?

➢ Mutation is an **alteration in the genetic material (the genome) of a cell** of a living organism or of a virus that is more or less permanent and that can be transmitted to the cell's or the virus's descendants.

➢ The genomes of organisms are all composed of **Deoxyribonucleic Acid (DNA), whereas viral genomes can be of DNA or Ribo Nucleic Acid (RNA).**

ExoMars 2022 Mission

Why in News?

The **European Space Agency's ExoMars 2022 mission** won't launch in September, 2022 as planned after the agency suspended all cooperation with Russia's space program Roscosmos.

➢ Earlier, the Russian space agency Roscosmos held that it will not cooperate with Germany on joint experiments in the Russian segment of the **International Space Station (ISS).**

What is the ExoMars 2022 Mission?

➢ **About:**
  - ❍ **It is a two-stage mission:**
    - ● **First Part:**
      - ▪ Its first mission launched **atop a Proton-M rocket in 2016** and c**onsisted of the European Trace Gas Orbiter** and test lander called Schiaparelli.
      - ▪ The orbiter was successful while the test lander failed during its descent to Mars.
    - ● **Second Part:**
      - ▪ It comprises **a rover and surface platform:**
      - ▪ This **second part of the mission** was originally planned for July 2020. But it was postponed until this September due to technical issues.

Note:

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○ **ESA** and **National Aeronautics and Space Administration (NASA)** were the original ExoMars collaborators, but NASA dropped out in 2012 due to budgeting problems.

○ **Russia took NASA's place** in the project in 2013.

➢ **Objective:**

○ The primary aim of the mission is to **check if there has ever been life on Mars** and also understand the history of water on the planet.

● The European rover will **drill to the sub-surface of Mars** to collect samples from about 2 m of depth.

○ The main goal is to **land ESA's rover at a site** which has high-potential for finding well-preserved organic material, particularly from the history of the planet.

How is the Mission Dependent on Russia?

➢ The mission **uses a number of Russian-made components** — including the rockets.

○ The 2016 launch used a **Russian-made Proton-M rocket**, the same type planned for the launch in September, 2022.

➢ Many components of the mission's rover are also Russian-made.

○ The components include **radioisotope heaters** that are used to keep the rover warm at night on the surface of Mars.

What about the Other Mars Missions?

➢ **NASA's Perseverance Rover**

➢ **UAE's Hope Mars Mission** (UAE's first-ever interplanetary mission)

➢ India's **Mars Orbiter Mission (MOM)** or Mangalyaan:

○ It was launched from the Satish Dhawan Space Centre in Andhra Pradesh by the **Indian Space Research Organisation** in November 2013.

○ It was launched on board a PSLV C25 rocket with the aim of studying Martian surface and mineral composition as well as scan its atmosphere for methane (an indicator of life on Mars).

➢ **Tianwen-1: China's Mars Mission**

What do we know about Mars?

➢ **Size and Distance:**

○ It is the f**ourth planet from the Sun** and the second-smallest planet in the Solar System.

○ Mars is about **half the size of Earth.**

➢ **Similarity to the Earth (Orbit and Rotation):**

○ As Mars orbits the Sun, it c**ompletes one rotation every 24.6 hours**, which is very similar to one day on Earth (23.9 hours).

○ Mars' axis of rotation is tilted 25 degrees with respect to the plane of its orbit around the Sun. This is similar to Earth, which has an axial tilt of 23.4 degrees.

○ Mars has distinct seasons like Earth, but they last longer than seasons on Earth.

● Martian days are called sols—short for 'solar day'.

➢ **Other Features:**

○ The reason Mars **looks reddish is due to oxidation or rusting of iron in the rocks**, and dust of Mars. Hence it is also called the Red Planet.

○ It has the **largest volcano in the solar system** i.e. Olympus Mons.

○ It has **two small moons, Phobos and Deimos.**

Deep Ocean Mission

Why in News?

Recently, the Ministry of Earth Sciences has launched the **Deep Ocean Mission (DOM).**

➢ DOM is a **mission mode project** to support the **Blue Economy Initiatives** of the Government of India.

➢ Earlier, the Ministry of Earth Sciences had also rolled out the draft **Blue Economy Policy.**

➢ **Blue Economy** is the sustainable use of ocean resources for economic growth, improved livelihoods and jobs, and **ocean ecosystem health.**

Unexplored depths

Deep-sea mining is the process of retrieving mineral deposits from the area of the ocean below 200 m. While the seafloor is a treasure trove of minerals, the impact of mining activities could affect deep-sea biodiversity and ecosystems

Metals are generally found in the sediment surrounding hydrothermal vents, which are mineral-rich rocks

A pipe is lowered to the seafloor which transfers nodules up to the mining ship. Another pipe from the ship to the seafloor returns the tailings to the area of the mining site

Ferromanganese nodules on the oceanbed, metal-rich crusts on seamounts and sulfide deposits near vents are some deposits that have been identified for exploitation

Vents Depth: 1,000-4,000 m | Abyssal plain/Oceanbed Depth: 4,000-6,000 m | Seamount: Depth: 800-2,500 m

Note:

What are the Major Components of DOM?

➢ **Development of Manned Submersible Vehicle:**

○ A manned submersible will be developed to carry three people to a depth of 6,000 metres in the ocean with a suite of scientific sensors and tools.

○ NIOT & **ISRO** is jointly developing a **Manned Submersible Vehicle.**

○ **National Institute of Ocean Technology (NIOT)**, an autonomous institute under the Ministry of Earth Sciences.

➢ **Development of Technologies for Deep Sea Mining:**

○ An **Integrated Mining System** will be also developed for mining polymetallic nodules at those depths in the central Indian Ocean.

● **Polymetallic nodules** are rocks scattered on the seabed containing iron, manganese, nickel and cobalt.

○ The exploration studies of minerals will pave the way for commercial exploitation in the near future, as and when commercial exploitation code is evolved by the **International Seabed Authority,** a **United Nations (UN) organisation.**

➢ **Development of Ocean Climate Change Advisory Services:**

○ It entails developing a suite of observations and models to understand and provide future projections of important climate variables on seasonal to decadal time scales.

➢ **Technological Innovations for Exploration and Conservation of Deep-sea Biodiversity:**

○ Bio-prospecting of deep-sea flora and fauna including microbes and studies on sustainable utilisation of deep-sea bio-resources will be the main focus.

➢ **Deep Ocean Survey and Exploration:**

○ It will explore and identify potential sites of multimetal **Hydrothermal Sulphides** mineralization along the Indian Ocean mid-oceanic ridges.

➢ **Energy and Freshwater from the Ocean:**

○ Studies and detailed engineering design for offshore **Ocean Thermal Energy Conversion (OTEC)** powered **desalination plants** are envisaged in this proof of concept proposal.

○ OTEC is a technology that uses ocean temperature differences from the surface to depths lower than 1,000 metres, to extract energy.

➢ **Advanced Marine Station for Ocean Biology:**

○ It is aimed at the development of human capacity and enterprise in ocean biology and engineering.

○ It will translate research into industrial application and product development through on-site business incubator facilities.

What is the Significance of DOM?

➢ **Leveraging Ocean Resources:** Oceans, which cover **70% of the globe,** remain a key part of our life. About 95% of the **Deep Ocean remains unexplored.**

○ Three sides of India are surrounded by the oceans and around **30% of the country's population lives in coastal areas**, the ocean is a major economic factor supporting fisheries and aquaculture, tourism, livelihoods and blue trade.

○ Considering the importance of the oceans on sustainability, the UN has declared the decade, 2021-2030 as the **Decade of Ocean Science for Sustainable Development.**

➢ **Long Coastline:** India has a unique maritime position. Its **7517 km long coastline** is home to nine coastal states and 1382 islands.

○ The Government of India's Vision of New India by 2030 announced in February 2019 highlighted the **Blue Economy as one of the ten core dimensions of growth.**

➢ **Technology Expertise:** The technology and expertise needed in such missions are now available in only five countries - the US, Russia, France, Japan and China.

○ India will now be the sixth country to have it.

What are other Blue Economy Initiatives:

➢ **India-Norway Task Force on Blue Economy for Sustainable Development :**

○ It was inaugurated jointly by both the countries in 2020 to **develop and follow up joint initiatives between the two countries.**

➢ **Sagarmala Project:**

○ The **Sagarmala project** is the strategic initiative for **port-led development** through the extensive use of IT-enabled services for the modernization of ports.

Note:

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- **O-SMART:**
  - India has an umbrella scheme by the name of **O-SMART** which aims at r**egulated use of oceans, marine resources** for sustainable development.
- **Integrated Coastal Zone Management:**
  - It focuses on the conservation of coastal and marine resources, improving livelihood opportunities for coastal communities etc.
- **National Fisheries Policy:**
  - India has a **National Fisheries policy** for promoting the '**Blue Growth Initiative'** which focuses on sustainable utilisation of fisheries wealth from marine and other aquatic resources.

Defence Space Command Agency of Australia

Why in News?

Recently, **Australia has announced a new Defence Space Command Agency to counter the growing influence of Russia and China in space.**

- It will help Australia in developing and advocating space-specific priorities within the government, industry, allies and even international partners.

What will be the Function of the Defence Space Command Agency?

- The agency will provide training to people to become space specialists, help conduct strategic space planning, and be able to be a part of any developments regarding the refinement of space policy.
- Australia will be setting scientific and space priorities with the agency in place and will be working towards creating an efficient space architecture.
- All the operations of the agency – including design, construction, maintenance – will be within the purview of the standards and limitations of the Defence Ministry of Australia.

What are the Space Command Structures around the World?

- Spacecom - US Space Force.
- **Defence Space Agency (DSA) - India**
- Joint Space Command (France)

- Iranian Space Command (Islamic Revolutionary Guard Corps Aerospace Force)
- Russian Space Forces (Russian Aerospace Forces)
- United Kingdom Space Command (Royal Air Force)

What is the Concept of Militarization and Weaponization of Outer Space?

- The concept for space weaponization came up in the early 1980s through the "**Strategic Defence Initiative" (SDI)** also known as the "**Star Wars" programme of the United States**.
  - The idea was to put a large number of satellites into orbit that would detect the launch of enemy missiles and then shoot them down.
- **Militarisation Vs Weaponization of Outer Space:**
  - Weaponization refers to the **placement in orbit** of space-based devices that have destructive capacity.
  - Militarisation of outer space refers to the **use of space in support of ground, sea and air-based military operations**.

What is the Issue of Militarisation and Weaponization of Space?

- **Global commons under threat:** The Global Commons for Outer Space is under threat in the present times. Increasing militarization of outer space has started the race of weaponizing outer space.
  - For example, **Anti-SAT missiles** can destroy satellites in outer space.
- **Threat to Global Communication System:** Anti-satellite missiles can destroy the communication satellites which would bring down the communication system.
  - Uplink and downlink jamming of satellites would also negatively impact the communication.
- **Future Security Concerns:** There has been an increase in the number of nations with interest in Space, leading to power rivalries, and the consequent failure to make common ground on Space security to prevent its militarization and weaponization.
- **Earth is Our Only Home:** The ensuing arms race for weaponization of outer space would create an environment of uncertainty, suspicion, miscalculations, competition and aggressive deployment between nations, which may lead to war.

Note:

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○ Space wars can be so disastrous that it may destroy our only home in the Known Universe - **Earth.**

What is the Status of Outer Space Weaponization for India?

➢ India conducted a successful **anti-satellite test in March 2019**. The test placed India in the company of China, Russia, and the United States in terms of fielding a practical anti-satellite capability.

➢ In 2019, India also established two new bureaucracies for space, the **Defense Space Research Organization (DSRO) and the Defense Space Agency (DSA).**

　○ DSRO is a research organization geared toward facilitating the development of civilian space technology for military purposes, while DSA plays a role similar to that of a combatant command in the United States, integrating space assets from the army, navy, and air force and formulating strategy.

➢ India conducted its first **integrated space warfare exercise in July 2019,** bringing together personnel from across the services. The exercise focused on using communications and reconnaissance satellites to integrate intelligence and fires across the range of Indian military assets, indicating a firm understanding of the necessity of access to space.

➢ Some within the Indian defense community have argued for more aggressive reforms, including the establishment of a military space service similar to the US Space Force.

　○ This would facilitate the defense of India's growing satellite network, while also laying the groundwork for coercive action against enemy networks.

What are the Global Rules and Demands related to Space?

➢ **Outer Space Treaty of 1967:**

　○ The treaty prohibits countries from placing into orbit around the Earth "any objects carrying nuclear weapons or any other kinds of weapons of mass destruction".

　○ It also prohibits the stationing of such weapons on celestial bodies, like the moon, or in outer space. The moon and other celestial bodies shall be used by all state parties to the treaty exclusively for peaceful purposes.

○ **India is a party** to the Outer Space Treaty.

○ There are **four more multilateral treaties** that deal with specific concepts agreed to **in the Outer Space Treaty:**

　● The Rescue Agreement of 1968

　● The Space Liability Convention of 1972

　● The Registration Convention of 1976

　● The Moon Treaty of 1979

○ The **United Nations Committee on the Peaceful Uses of Outer Space (COPUOS)** oversees these treaties and other questions of space jurisdiction. **None of these, however, prohibits the Anti-Sat missions** of various countries.

➢ **TCBMS**: The international community has been debating the n**eed to introduce Transparency and Confidence-Building Measures in outer space activities (TCBMS).**

　○ In this regard, the **European Union (EU)** has also prepared a draft code of conduct (CoC). However, major powers are yet to agree on the idea of establishing a CoC conduct.

➢ **PPWT: Another important idea** that has been put on the table jointly by Russia and China is the **Prevention of the Placement of Weapons in Outer Space (PPWT)** instead of only Weapons of Mass Destruction which is resisted by the US and the EU.

PACER Scheme

Why in News?

Recently, the **Polar Science and Cryosphere (PACER) scheme** has been approved for continuation by the **Union Cabinet from 2021 to 2026.**

What is PACER Scheme?

➢ PACER encompasses the following six components.

　○ Construction of polar research vessel

　○ **Construction of the third research base in Antarctica**

　○ **Indian scientific endeavours in the Arctic**

　○ Polar expeditions-Antarctica

　○ **Southern Ocean Expedition**

➢ It is implemented through the **National Centre for Polar and Ocean Research (NCPOR).**

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What are the Major Works under this Scheme?

➤ **Understanding of Biogeochemical Processes:** Field-based studies were conducted in the lakes of **Larsemann Hills, East Antarctica** for the understanding of biogeochemical processes in supraglacial environments.

➤ **IndARC System:** The **IndARC mooring system** along with the Hydrophone system was successfully retrieved and deployed in Kongsfjorden, Svalbard.

➤ **Research Studies in Himalayas:** Glaciological field campaigns were carried out in **six benchmark glaciers in Chandra basin of Lahaul-Spiti region of Western Himalaya.**

  ○ Winter snow accumulation over the glaciers was recorded using snow pits and snow corners.

➤ **Automatic Weather Station (AWS) Systems**: Two new **Automatic Weather Station (AWS) systems** were installed at **Baralacha La**, a high elevation site in the arid Spiti region to strengthen infrastructure across the Chandra basin.

➤ **Southern Ocean Expedition** :The **11th Indian Southern Ocean Expedition** was executed successfully

What is the National Centre for Polar and Ocean Research (NCPOR)?

➤ It is an autonomous institute under the **Ministry of Earth Sciences**.

➤ **Its responsibilities include:**

  ○ Management and upkeep of the Indian Antarctic Research Bases **"Maitri" and "Bharati", and the Indian Arctic base "Himadri".**

  ○ Management of the Ministry's research vessel **Ocean Research Vehicle (ORV) Sagar Kanya** as well as the other research vessels chartered by the Ministry.

    ● The **ORV Sagar Kanya** is a versatile ocean observing platform equipped with technologically advanced scientific equipment and related facilities.

  ○ Playing a facilitatory role in the scientific research activities being undertaken by several national institutions and organisations in **Antarctica, the Arctic and in the Indian Ocean sector of the Southern Ocean.**

  ○ Playing a lead role in the geoscientific surveys of the country's **Exclusive Economic Zone (EEZ)** and its extended continental shelf beyond 200m, deep-sea drilling in the Arabian Sea basin through the **International Ocean Discovery Program (IODP)**, exploration for ocean non-living resources such as gas hydrates and multi-metal sulphides in mid-ocean ridges.

➤ It is located in the **state of Goa.**

What are Other Major Initiatives of the Ministry of Earth Sciences?

➤ **IndARC**

➤ **Ocean Services, Technology, Observations, Resources Modelling and Science (O-SMART)**

➤ **ACROSS Scheme**

What are India's Arctic Missions?

➤ India launched its **first scientific expedition** to the Arctic Ocean in 2007.

➤ India opened a research base named **"Himadri" in Svalbard, Norway** in July 2008 to carry out studies in disciplines like **Glaciology, Atmospheric sciences & Biological sciences.**

Note:

What are India's Antarctic Missions?

➢ India officially acceded to the **Antarctic Treaty System** on 1st August 1983.

➢ On 12th September 1983, India became the **fifteenth Consultative Member of the Antarctic Treaty.**

➢ India is expanding its **infrastructure development in Antarctica.**

➢ The **newest base commissioned in 2015 is Bharati.**

➢ India is **rebuilding its station, Maitri**, to make it bigger and last for at least 30 more years.

➢ **Dakshin Gangotri,** the first Indian base established in 1984, has weakened and become just a supply base.

➢ **Sagar Nidhi:** In 2008, India commissioned the Sagar Nidhi, for research.

  ○ It is an **ice-class vessel**, it can cut through the thin ice of 40 cm depth and is the first Indian vessel to navigate Antarctic waters.
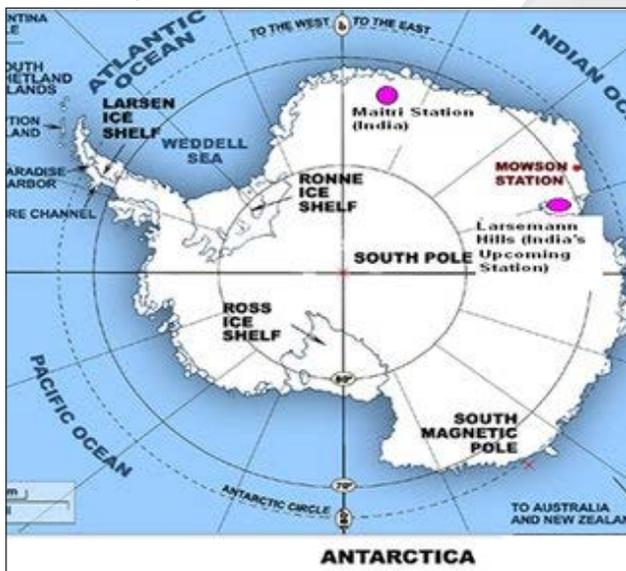
NETRA Project & Space Junk

Why in News?

With **space junk** posing an increasing threat to Indian assets in space, the **Indian Space Research Organisation (ISRO)** is building up **its orbital debris tracking capability.**

➢ In this pursuit, a space debris tracking **radar** with a **range of 1,500 km and an optical telescope** will be inducted as part of establishing an effective surveillance and tracking network under the **Network for Space Objects Tracking and Analysis (NETRA) project.**

What is Space Junk?

➢ Space junk or debris consist of **spent rocket stages, dead satellites, fragments of space objects and debris** resulting from **Anti-satellite (ASAT) System (ASAT).**

➢ Hurtling at an average speed of 27,000 kmph in **Low Eart Orbit (LEO)**, these objects pose a very real threat as collisions involving **even centimetre-sized fragments can be lethal to satellites.**

➢ This free floating space debris is a **potential hazard for operational satellites** and colliding with them can leave the satellites dysfunctional.

  ○ This is referred to as **Kessler Syndrome,** named after **National Aeronautics and Space Administration (NASA)** scientist Donald Kessler in 1978.

  ○ It says if there is too much space junk in orbit, it could result in a **chain reaction where more and more objects will collide and create new space junk in the process,** to the point where Earth's orbit becomes unusable – **a Domino Effect.**

What is the NETRA Project & Its Advantage?

➢ **About:** 'Project NETRA' is an **early warning system in space** to detect debris and other hazards to Indian satellites.

  ○ Once operational, it will give India its own capability in **Space Situational Awareness (SSA)** like the other space powers.

➢ **Need:** With countries launching more and more satellites, each one of them being a **strategic or commercial asset, avoiding collisions** could become a challenge in the future.

  ○ For protecting its space assets, the ISRO was forced to perform 19 C**ollision Avoidance Manoeuvres (CAM) in 2021**.

➢ **Modus Operandi:** Under NETRA, the ISRO plans to put up many observational facilities: **connected radars, telescopes, data processing units and a control centre.**

➢ **Benefits:** NETRA can spot, track and catalogue objects as s**mall as 10 cm, up to a range of 3,400 km and equal to a space orbit of around 2,000 km.**

  ○ The NETRA effort would **make India a part of international efforts** towards tracking, warning about and mitigating space debris.

Note:

○ More importantly, the SSA also has a **military quotient** to it and adds a new ring to the country's overall security, **against attacks from air, space or sea.**

○ This is a vital requirement for **protecting our space assets and a force multiplier.**

What is the Current Scenario?

➢ **Currency SSA Capability:** At present, India uses a **Multi Object Tracking Radar at Sriharikota range (Andhra Pradesh),** but it has a limited range.

○ Further, for SSA, India depends on data from **NORAD** and others available in the public domain.

○ However, these platforms don't provide accurate (or comprehensive) information.

○ NORAD, or the **North American Aerospace Defence Command,** is an initiative of the U.S. and Canada that shares selective debris data with many countries.

➢ **Implementing Agency:** ISRO's efforts towards space situational awareness (SSA) is coordinated by the **SSA Control Centre in Bengaluru** and managed by the Directorate of Space Situational Awareness and Management at the ISRO headquarters.

➢ **Global Initiative: Clearspace-1 (of European Space Agency),** which is scheduled to launch in 2025, will be the first space mission to eliminate debris from orbit.

■■■

Note:

Environment & Ecology

Highlights

- World Energy Transitions Outlook 2022
- Microplastics in Human Blood
- 'Sujalam 2.0' Grey Water Recycling Project
- Lead Poisoning
- State of India's Solar Capacity
- World Meteorological Day
- Mercury Pollution

- India's Arctic Policy
- Project Dolphin
- Himalayan Griffons
- BBNJ Treaty
- World Water Day 2022
- International Day of Forests
- World Air Quality Report 2021

World Energy Transitions Outlook 2022

Why in News?

Recently, **the International Renewable Energy Agency (IRENA)** launched the **World Energy Transitions Outlook 2022** at the **Berlin Energy Transition Dialogue.**

➢ The Berlin Energy Transition Dialogue (BETD) has become a leading international forum for key stakeholders of the energy sector.

> **What is Energy Transition?**
> ➢ Energy transition refers to the **global energy sector's shift from fossil-based systems of energy production and consumption** — including oil, natural gas and coal — to **renewable energy sources** like wind and solar, as well as lithium-ion batteries.

What is the Purpose of the Outlook?

➢ The Outlook **sets out priority areas and actions based on available technologies** that must be realised by 2030 to achieve **net zero emissions** by mid-century.

➢ It also **takes stock of progress across all energy uses** to date, which shows that the current pace and scale of the renewables-based transition is inadequate.

➢ It **provides in-depth analysis of two areas** particularly relevant for the **decarbonisation** of end-use sectors: **electrification and bioenergy.**

➢ It also **explores the socio-economic impacts of the 1.5°C pathway (under Paris Agreement)** and **suggests ways to speed progress towards universal access** to clean energy (renewable energy).

What are the Findings of the Outlook?

➢ **Global annual additions of renewable power will triple by 2030** as recommended by the **Intergovernmental Panel on Climate Change.**

○ At the same time, **coal power will have to resolutely be replaced,** fossil fuel assets phased out and infrastructure upgraded.

➢ The **Outlook sees electrification and efficiency as key drivers of the energy transition,** enabled by **renewables, hydrogen,** and sustainable biomass.

➢ **End-use decarbonisation will take centre-stage** with many solutions available through **electrification, green hydrogen,** and the direct use of renewables.

➢ **High fossil fuel prices, energy security concerns** and the urgency of **climate change** underscore the pressing need to move faster to a clean energy system.

The impact on emissions of replacing fossil fuels with renewables and increasing energy efficiency through 2030
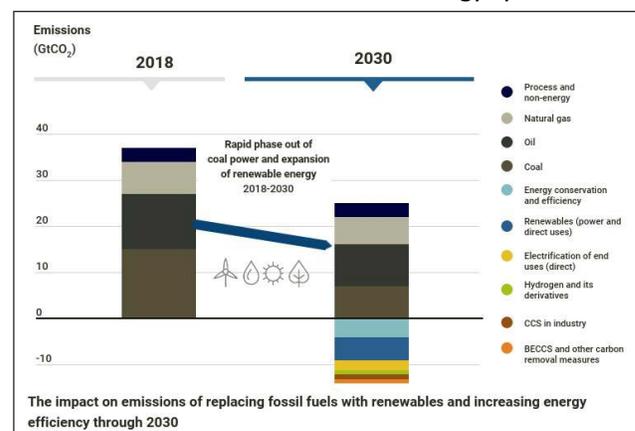
Note:

What are the Recommendations?

➢ **Short-term interventions addressing the current energy crisis must be accompanied by a steadfast focus** on mid- and long-term goals of the energy transition.

➢ Renewables will have to scale-up massively across all sectors from **14% of total energy today to around 40% in 2030.**

➢ The largest energy consumers and carbon emitters will have to **implement the most ambitious plans and investments by 2030.**

➢ Countries **need to set more ambitious targets and implement measures** to ramp up energy efficiency and deployment of renewables.

➢ To fulfill the 1.5°C Scenario, the **electricity sector will have to be thoroughly decarbonised by mid-century,** with solar and wind leading the transformation.

What is the International Renewable Energy Agency (IRENA)?

➢ It is an intergovernmental organisation, it was officially founded in Bonn, Germany, in January 2009.

➢ It has 167 members and India is the 77th Founding Member of IRENA.

➢ It has its headquarters in Abu Dhabi, United Arab Emirates.

What is the State of India's Energy Transition?

➢ **About:**

❍ The country's installed **Renewable Energy (RE)** capacity stands at 150.54 GW (solar: 48.55 GW, wind: 40.03 GW, Small hydro Power: 4.83, Bio-power: 10.62, Large Hydro: 46.51 GW) as on 30th Nov. 2021 while its nuclear energy based installed electricity capacity stands at 6.78 GW.

● **India has the 4th largest wind power capacity** in the world.

❍ This brings the total **non-fossil based installed energy capacity to 157.32 GW** which is 40.1% of the total installed electricity capacity of 392.01 GW.

❍ At **COP26**, India announced that it will reach **carbon neutrality by 2070** as part of a five-point action plan that included reducing emissions to 50% by 2030.

➢ **Rank of India in the Energy Transition Index:**

❍ India ranked 87 out of 110 countries in the **Global Energy Transition Index (ETI) 2021,** a benchmark by the **World Economic Forum.**

➢ **Related Initiatives/Schemes:**

❍ **International Solar Alliance**

❍ **One Sun, One World, One Grid (OSOWOG).**

❍ **National Solar Mission.**

❍ **Pradham Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyaan (PM KUSUM)**

❍ Solar Park Scheme and Grid Connected **Solar Rooftop Scheme**

❍ **National Wind-Solar Hybrid Policy 2018.**

❍ **Hydrogen Based Fuel Cells Vehicles**

❍ **Green Energy Corridor (GEC)**

Microplastics in Human Blood

Why in News?

Tiny particles of plastics, called **Microplastics, were detected in human blood for the first time,** according to a study by a group of researchers in the Netherlands.

➢ The researchers adapted existing techniques to detect and **analyze particles that were as small as 700 nanometers** in size.

➢ They **targeted five common plastics**, including **Polyethylene Terephthalate (PET)**, and polyethylene.

What are Microplastics?

➢ **About:**

❍ They are **defined as plastics less than five millimeters in diameter**—smaller in diameter than the standard pearl used in jewelry. It can be harmful to our ocean and aquatic life.

❍ There are t**wo categories of microplastics**: primary and secondary.

➢ **Classification:**

❍ **Primary Microplastics**: They are tiny particles designed for commercial use and microfibers shed from clothing and other textiles.

● E.g. Microbeads found in personal care products, plastic pellets and plastic fibres.

❍ **Secondary Microplastics:** They are formed from the breakdown of larger plastics such as water bottles.

● This breakdown is caused by exposure to environmental factors, mainly the sun's radiation and ocean waves.

Note:

What does the Study Say?

➢ The scientists **analysed blood samples from 22 anonymous donors, all healthy adults and found plastic particles in 17.**

○ Half the samples contained PET plastic, which is commonly used in drinks bottles.

○ A third contained polystyrene, used for packaging food and other products.

○ A quarter of the blood samples contained polyethylene, from which plastic carrier bags are made.

➢ This is the **first indication that we have polymer particles in blood.**

○ Previous work had shown that microplastics were 10 times higher in the faeces of babies compared with adults and that babies fed with plastic bottles are swallowing millions of microplastic particles a day.

➢ The particles can **travel around the body and may lodge in organs**. The impact on health is as yet unknown.

➢ The results **support the hypothesis that human exposure to plastic particles results in the absorption of particles into the bloodstream, but further study is needed to assess the impacts** of exposure and whether it is a public health risk.

What are the Concerns related to Microplastics?

➢ Microplastics can latch on to the outer membranes of red blood cells and **may limit their ability to transport oxygen**.

➢ The particles have also been found in the **placentas of pregnant women, and in pregnant rats they pass rapidly through the lungs** into the hearts, brains and other organs of the foetuses.

➢ Microplastics **cause damage to human cells in the laboratory** and air pollution particles are already known to enter the body and cause millions of early deaths a year.

○ In general, babies and young children are more vulnerable to chemical and particle exposure.

What are the Initiatives to Tackle Microplastics?

➢ **Elimination of Single Use Plastic:** In 2019, the Prime Minister of India pledged to **eliminate all single-use plastic in the country by 2022,** with an immediate ban in urban Delhi.

➢ **Important Rules: Plastic Waste Management Rules, 2016** state that every local body has to be responsible for setting up infrastructure for segregation, collection, processing, and disposal of plastic waste.

○ Plastic Waste Management (Amendment) Rules 2018 introduced the concept of **Extended Producer Responsibility (EPR).**

➢ **Un-Plastic Collective: Un-Plastic Collective (UPC)** is a voluntary initiative launched by the UNEP-India, Confederation of Indian Industry and WWF-India.

○ The Collective seeks to minimise externalities of plastics on the ecological and social health of our planet.

➢ **Global Partnership on Marine Litter (GPML):** The GMPL was launched at the **Earth Summit** in 2012 in response to a request set out in the Manila Declaration.

➢ **London Convention, 1972:** The **1972 Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter** was signed to control all sources of marine pollution and prevent pollution of the sea through regulation of dumping into the sea of waste materials.

➢ **Plastic Pacts:** The **Plastics Pacts** are business-led initiatives to transform the plastics packaging value chain for all formats and products.

'Sujalam 2.0' Grey Water Recycling Project

Why in News?

On the **World Water Day (22ⁿᵈ March),** the Ministry of Jal Shakti launched a **countrywide project to reuse grey water, or run-offs from kitchens, bathing and laundry.**

What is Grey water?

➢ Grey water is defined as **wastewater that is produced from household processes** (e.g. washing dishes, laundry and bathing).

➢ Grey water can **contain harmful bacteria and even faecal matter** that contaminates soil and groundwater.

Note:

➢ So far, India does not have a focused policy framework for management and usage of grey water in urban and rural areas. However, some guidelines for treatment of wastewater do exist.

❍ For example, the **Central Public Health and Environmental Engineering Organisation (CPHEEO)** has specified permitted discharge standards for treated water; use of treated wastewater in agriculture and horticulture (MoHUA, 2012).

❍ The **Central Ground Water Board (CGWB, 2000)** directs that treated wastewater can be used as a source of artificial ground water recharge once it meets standards and is compatible with existing groundwater.

What is 'Sujalam 2.0' Grey Water Recycling Project?

➢ **About:**

❍ The campaign would focus on the **creation of institutional level greywater management assets** in **Panchayat Ghar, healthcare facilities, schools, Anganwadi Centres (AWCs), community centres** and other government institutions.

❍ Creation of individual and community greywater management assets **will be encouraged.**

❍ With active participation from all States and local communities' great success was achieved under the **Sujlam 1.0 campaign** which was started in August 2021.

● **More than 1 million soak pits were built** at household and community level across the country.

Technology Options for Greywater Management
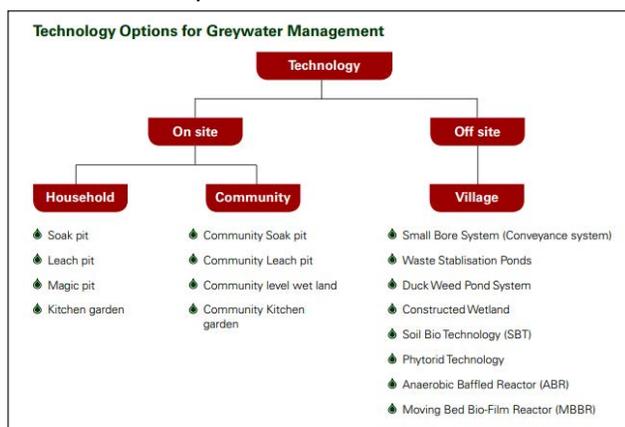
➢ **Funding for the Project:**

❍ The funds to execute the activities for greywater management will be sourced from **Swachh Bharat Mission Grameen Phase-II** or through **15th Finance Commission** tied-grants or **MGNREGS** or through convergence of all.

What is the Need to Address the Grey Water Crisis?

➢ **Saving on fresh water** use can significantly reduce household water bills, but also has a broader community benefit in reducing demands on public water supply.

➢ **Reducing the amount of wastewater entering sewers** or on-site treatment systems.

➢ 2.2 billion people across the world are facing a water crisis.

❍ **Sustainable Development Goal 6** aims to provide universal access to safe and clean drinking water and sanitation.

➢ It is estimated that **31 billion litres of greywater** is generated every day in India.

➢ Under **Sujlam 2.0 campaign**, over 6 lakh villages will see intense activity on **solid and liquid waste management.**

➢ In the present context, a lot of water will flow out of rural households.

❍ **6 Crore tap water connections** have been provided under **Jal Jeevan Mission** since its launch in August 2019.

❍ A **total of 9.24 Crore households in the country** have access to water through taps.

What are the Related Initiatives?

➢ **India:**

❍ **Jal Shakti Abhiyan:**

● **Launched in 2019** to cover **water stressed districts, in 2021** it was taken to all rural and urban districts.

❍ **Atal Bhujal Yojana:**

● Launched in 2019, it is being **implemented in select areas of 7 States** wherein the people prepare their water security plan detailing out how they are getting water, amount of water being consumed, type of water conservation method applied and how one can moderate its usage.

- **World:**
  - The **Global Water System Project,** which was launched in 2003 as a joint initiative of the **Earth System Science Partnership (ESSP) and Global Environmental Change (GEC) programme**, epitomises global concern about the human-induced transformation of fresh water and its impact on the earth.

Lead Poisoning

Why in News?

Recently, **high levels of lead were found in the blood of thousands of children** living around the Kabwe mine in Zambia.

What is Lead Poisoning?

- **About:**
  - Lead poisoning or chronic intoxication is caused by the **absorption of Lead in the system and is characterised especially by fatigue, abdominal pain, nausea,** diarrhoea, loss of appetite, anaemia, a dark line along the gums, and muscle paralysis or weakness of limbs.
  - **Children younger than 6 years are especially vulnerable** to lead poisoning, which can severely affect mental and physical development. At very high levels, lead poisoning can be fatal.

- Lead exposure also causes **anaemia, hypertension, renal impairment, immunotoxicity and toxicity** to the reproductive organs.
- More than **three quarters of global lead consumption** is for the manufacture of lead-acid batteries for motor vehicles.

- **Sources of Lead Poisoning:**
  - People can become exposed to lead through **occupational and environmental sources.** This mainly results from:
    - **Inhalation** of **lead particles generated** by burning materials containing lead, for example during smelting, recycling, stripping leaded paint and using leaded aviation fuel; and
    - **Ingestion of lead-contaminated dust, water** (from leaded pipes) and food (from lead-glazed or lead-soldered containers).

What is Lead?

- Lead is a **naturally occurring toxic metal found in the Earth's crust.**
- Lead in the body is **distributed to the brain, liver, kidney and bones.** It is stored in the teeth and bones, where it accumulates over time.
  - Human exposure is usually assessed through the **measurement of lead in blood.**
- **Lead in bone is released into blood during pregnancy** and becomes a source of exposure to the developing foetus.
- There is **no level of exposure to lead** that is known to be without harmful effects.
- Lead exposure is preventable.

What about the Disease Burden of Lead?

- According to the **Institute for Health Metrics and Evaluation (IHME)**, in 2019, lead exposure **accounted for 900 000 deaths and 21.7 million years of healthy life lost (Disability-Adjusted Life Years, or DALYs)** worldwide due to long-term effects on health.
- The highest burden was in **low- and middle-income countries.**

What has been the Response of the World?

- **WHO's Response:**
  - **Lead as one of 10 chemicals of major public health concern** by the **World Health Organization (WHO).**

Note:

- ❍ WHO has joined with the **United Nations Environment Programme** to form the **Global Alliance to Eliminate Lead Paint.**
  - Leaded paint is a **continuing source of exposure in many countries.**
- ❍ WHO is **also a partner in a project funded** by the **Global Environment Facility (GEF)** that aims to support at least 40 countries in enacting legally binding controls on lead paint.
  - The GEF, established on the eve of the **1992 Rio Earth Summit**, is a catalyst for action on the environment — and much more.
- ➢ **India's Response:**
- ❍ The Ministry of Environment, Forest and Climate Change (MOEFCC) has passed a notification as **"Regulation on Lead contents in Household and Decorative Paints Rules, 2016"** and has prohibited manufacture, trade, import as well as export of household and decorative paints containing lead or lead compounds in excess of **90 Parts Per Million (PPM).**

State of India's Solar Capacity

Why in News?

India added a **record 10 Gigawatt (GW) of solar energy** to its cumulative installed capacity in 2021.

- ➢ This has been the **highest 12-month capacity addition**, recording nearly a 200% year-on-year growth.
- ➢ India has now **surpassed 50 GW of cumulative installed solar capacity,** as on **28th February 2022.**
- ➢ Of the **50 GW installed solar capacity**, an overwhelming **42 GW comes from ground-mounted Solar Photovoltaic (PV) systems,** and only 6.48 GW comes from **Roof Top Solar (RTS)**; and 1.48 GW from off-grid solar PV.

What is the Significance of the Achievement?

- ➢ This is a milestone in **India's journey towards generating 500 GW from renewable energy by 2030**, of which 300 GW is expected to come from solar power.
- ➢ India's capacity **additions rank the country fifth in solar power deployment**, contributing nearly 6.5% to the global cumulative capacity of 709.68 GW.

Why is India falling short in Roof-top Solar Installations?

- ➢ **Fails to Exploit the Benefits of Decentralised Renewable Energy:**
  - ❍ The large-scale **solar PV focus fails to exploit the many benefits of Decentralised Renewable Energy (DRE) options,** including reduction in **Transmission and Distribution (T&D) losses.**
- ➢ **Limited Financing:**
  - ❍ One of the **primary benefits of solar PV technology** is that it can be installed at the point of consumption, significantly reducing the need for large capital-intensive transmission infrastructure.
    - This is not an **either/or situation**; India needs to deploy both large and smaller-scale solar PV, and particularly needs to expand RTS efforts.
  - ❍ However, there is **limited financing for residential consumers and Small and Medium Enterprises (SMEs)** who want to install RTS.
- ➢ **Lukewarm Responses from Electricity Distribution Companies (DISCOMS):**
  - ❍ Lukewarm responses from electricity **Distribution Companies (DISCOMS)** to supporting net metering, **RTS continues to see low uptake across the country.**

What are the Challenges to India's Solar Power Capacity Addition?

- ➢ Despite significant growth in the **installed solar capacity,** the contribution of solar energy to the country's power generation has **not grown at the same pace.**
- ➢ In 2019-20, for instance, **solar power contributed only 3.6%** (50 billion units) of India's total power generation of 1390 BU.
- ➢ The utility-scale **solar PV sector continues to face challenges** like land costs, high T&D losses and other inefficiencies, and grid integration challenges.
- ➢ There have also been **conflicts with local communities and biodiversity protection norms.** Also, while India has **achieved record low tariffs for solar power generation** in the utility-scale segment, this has not translated into cheaper power for end-consumers.
- ➢ The **International Renewable Energy Agency (IRENA)** estimates that the global value of recoverable materials from solar PV waste could exceed USD15 billion.

Note:

drishti

- Currently, **only the European Union has taken decisive steps in managing solar PV waste.**
- India could look at developing appropriate guidelines around **Extended Producer Responsibility (EPR),** which means holding manufacturers accountable for the entire life cycle of solar PV products and creating standards for waste recycling.
  - This could give **domestic manufacturers a competitive edge** and go a long way in addressing waste management and supply side constraints.

What is the state of India's Domestic Solar Module Manufacturing Capacity?

- Domestic manufacturing capacities in the solar sector do not match up to the present potential demand for solar power in the country.
  - India had **3 GW capacity for solar cell production and 8 GW for solar panel production capacity.** Moreover, **backward integration in the solar value chain is absent** as India has no capacity for manufacturing solar wafers and polysilicon.
  - In 2021-22, India **imported nearly USD 76.62 billion worth of solar cells and modules from China alone**, accounting for **78.6% of India's total imports that year.**
  - **Low manufacturing capacities, coupled with cheaper imports from China** have rendered Indian products uncompetitive in the domestic market.
- This situation can, however, be corrected if **India embraces a circular economy model for solar systems.**
  - This would **allow solar PV waste to be recycled and reused in the solar PV supply chain.** By the end of 2030, **India will likely produce nearly 34,600 metric tonnes of solar PV waste.**

World Meteorological Day

Why in News?

Every year, World Meteorological Day is celebrated globally on **23rd March**.

- Earlier in October, 2021, the **World Meteorological Organization (WMO)** released the **State of Climate Services report 2021.**

What is the World Meteorological Organization (WMO)?
- The World Meteorological Organization (WMO) is an **intergovernmental organization** with a membership of 192 Member States and Territories.
  - India is a member of WMO.
- It **originated from the International Meteorological Organization (IMO),** which was established after the 1873 Vienna International Meteorological Congress.
- Established by the ratification of the WMO Convention on **23rd March 1950**, WMO **became the specialized agency of the United Nations** for meteorology (weather and climate), operational hydrology and related geophysical sciences.'
- WMO is **headquartered in Geneva, Switzerland.**

What are the Key Highlights of the World Meteorological Day?

- **About:**
  - The day is celebrated to commemorate the establishment of the **World Meteorological Organization (WMO)**, which was created in 1950.
  - Being **celebrated since 1961**, the day is also observed to **make people aware of their role in protecting Earth's atmosphere.**
- **Theme for 2022:**
  - Early warning and early action - it emphasises the critical necessity of hydrometeorological and climate information for disaster risk reduction.
- **State of Disasters:**
  - **World:**
    - A disaster related to a **weather, climate or water hazard occurred every day** on average over the past 50 years – killing 115 people and causing USD 202 million in losses daily.
      - According to the **WMO Atlas of Mortality and Economic Losses from Weather, Climate and Water Extremes (1970 – 2019),** there were more than **11, 000 reported disasters** attributed to these hazards globally.
    - The **number of disasters has increased by a factor of five over the 50-year period**, driven by **climate change**, more extreme weather and improved reporting.

Note:

- The **frequency and intensity of extreme weather events is set to rise** due to more and more **greenhouse gases** being added to the atmosphere every year, resulting in warming.
  - **India:**
    - The number of **severe cyclones over the Arabian Sea has risen by 1 per decade** and maximum temperature has increased by 0.99 degree C since 1901 in India - small numbers that are big when it comes to weather.
    - There is a significant rise in **heavy rainfall events also over India.**

What are the Initiatives taken to tackle Disaster on WMO Day?

➢ **Action Plan on Early Warning Systems:**
  - WMO will present an action plan on early warning systems at the **27th Conference of Parties (CoP)** to the **UN Framework Convention on Climate Change (UNFCCC)** in November 2022 in Egypt.
    - An early warning system for **floods, droughts, heatwaves or storms,** is an integrated system which alerts people to hazardous weather. It also informs how **governments, communities and individuals can act to minimise the possible impacts** of the weather event.
    - The aim is to **understand what risks the foreseeable storms** could bring to an area that will be affected — which may differ if it is a city or rural area, polar, coastal or mountainous regions.

➢ **Need:**
  - A third of the world's people, mainly in **Least Developed Countries (LDC)** and **Small Island Developing States (SIDS),** are still not covered by early warning systems.
    - In Africa, it is even worse: **60%of people lack coverage.**

What is the State of Early Warning System in India?

➢ **About:**
  - Early warning systems in India such as the **India Meteorological Department's (IMD)** regular cyclone alerts, combined with brisk action taken by state and district administrations, have already saved hundreds or even thousands of lives in the past few years.

  - But still more needs to be done in this regard, **especially in the field of district and even village-level weather prediction and early warning.**

➢ **Initiatives for Early Warning:**
  - In June 2020, the Union Ministry of Earth Sciences, in collaboration with the disaster management department, Municipal Corporation of Greater Mumbai, launched the **Integrated Flood Warning system for Mumbai, referred to as iFLOWS-MUMBAI.**
  - Uttarakhand launched the **'Uttarakhand Earthquake Alert' app** to provide early warning of earthquakes in the state.
  - The **Indian Tsunami Early Warning System (ITEWS)** was established in 2007 and is based at & operated by INCOIS, Hyderabad.
  - The **Council of Scientific and Industrial Research** -National Geophysical Research Institute (CSIR-NGRI) has launched an 'Environmental Seismology' group to develop a 'Landslide and Flood Early Warning System' for the **Himalayan region.**
  - **'Ocean Services, Modelling, Application, Resources and Technology (O-SMART)' Scheme** is a government scheme that **aims at promoting ocean research and setting up early warning weather systems.**

Mercury Pollution

Why in News?

Recently, Indonesia has **introduced a global declaration** that calls on parties to the **Minamata Convention on Mercury** to tackle illegal trade of mercury.

➢ The declaration was read in Nusa Dua, Bali, where **Indonesia is hosting the fourth Conference of Parties (COP4)** to the Minamata Convention on Mercury.

➢ The conference is being held from 21st to 25th March 2022.

What are the Objectives of the Declaration?

➢ **The non-binding declaration calls upon parties to:**
  - **Develop practical tools and notification** and information-sharing systems for monitoring and managing trade in mercury.

Note:

- Exchange experiences and practices relating to combating illegal trade in mercury, including reducing the use of mercury in artisanal and small-scale gold mining.
- Share examples of national legislation and data and information related to such trade.

What is the Minamata Convention on Mercury?

- The Minamata Convention on Mercury is a global treaty to protect human health and the environment from the adverse effects of mercury and its compounds.
- It was agreed at the fifth session of the Intergovernmental Negotiating Committee in Geneva, Switzerland 2013.
- Controlling the anthropogenic releases of mercury throughout its lifecycle is one of the key obligations under the Convention.
- The Convention also addresses interim storage of mercury and its disposal once it becomes waste, sites contaminated by mercury as well as health issues.
- The Convention covers all aspects of the life cycle of mercury, controlling and reducing mercury across a range of products, processes and industries. This includes controls on:
  - mercury mining
  - the manufacture and trade of mercury and products containing mercury
  - disposal of mercury waste
  - emissions of mercury from industrial facilities.
- Countries that have ratified the Convention are bound by international law to put these controls in place.
  - India has ratified the Convention.

What do we know about Mercury?

- About:
  - Mercury is a naturally occurring element that is found in air, water and soil.
  - Exposure to mercury – even small amounts – may cause serious health problems, and is a threat to the development of the child in utero and early in life.
  - Mercury may have toxic effects on the nervous, digestive and immune systems, and on lungs, kidneys, skin and eyes.

- Mercury is considered by the World Health Organisation (WHO) as one of the top ten chemicals or groups of chemicals of major public health concern.
- People are mainly exposed to methylmercury, (an organic compound) when they eat fish and shellfish and are more vulnerable to Minamata disease.
  - Minamata Disease: A disorder caused by methylmercury poisoning that was first described in the inhabitants of Minamata Bay, Japan and resulted from their eating fish contaminated with mercury industrial waste.
    - The disease is characterized by peripheral sensory loss, tremors, and both hearing and visual loss.
  - Methylmercury is very different from ethylmercury. Ethylmercury is used as a preservative in some vaccines and does not pose a health risk.
- Types of Sources:
- Natural sources: Volcanic eruptions and emissions from the ocean.
- Anthropogenic (human-caused) emissions: It includes mercury that is released from fuels or raw materials, or from uses in products or industrial processes.
  - Globally, Artisanal and Small-Scale Gold Mining (ASGM): It is the largest source of anthropogenic mercury emissions (37.7%), followed by stationary combustion of coal (21%).
  - Other large sources of emissions are non-ferrous metals production (15%) and cement production (11%).
  - Globally, 10-20 million people work in the ASGM sector and many of them use mercury on a daily basis.

India's Arctic Policy

Why in News?

Recently, the Ministry of Earth Science has unveiled India's Arctic Policy, titled 'India and the Arctic: building a partnership for sustainable development'.

- India holds one of the 13 positions as the Observer in the Arctic Council.

➢ The **Arctic Council** is an **intergovernmental body** that promotes research and facilitates cooperation among Arctic countries on issues related to the environmental **protection and sustainable development of the Arctic region.**

What is the Background?

➢ India's engagement with the Arctic began when it signed the **Svalbard Treaty in 1920** in Paris between **Norway, the US, Denmark, France, Italy, Japan, the Netherlands, Great Britain, and Ireland, and the British overseas Dominions and Sweden** concerning Spitsbergen.

  ○ **Spitsbergen** is the largest island of the **Svalbard archipelago**, part of Norway, in the Arctic Ocean.

  ○ Spitsbergen is the **only permanently inhabited part of Svalbard.** More than 50% of the land is covered in ice year-round. Together with the glaciers, it is mountains and fjords that define the landscape.

➢ Ever since then, India has been closely monitoring all the developments in the Arctic region.

➢ India initiated its **Arctic research program in 2007 with a focus on climate change** in the region.

  ○ The **objectives included studying** teleconnections between Arctic climate and **Indian monsoon**, to characterise sea ice in the Arctic using satellite data, to estimate the effect on global warming.

➢ India also **focuses on conducting research on the dynamics and mass budget of Arctic glaciers and sea-level changes,** carrying out an assessment of the flora and fauna of the Arctic.

What are the Major Provisions of India's Arctic Policy?

➢ **Six Central Pillars:**
  ○ Science and research.
  ○ Environmental protection.
  ○ Economic and human development.
  ○ Transportation and connectivity.
  ○ Governance and international cooperation.
  ○ National capacity building.

➢ **Objectives:**
  ○ It aims to **strengthen national capabilities and competencies** in science and exploration, climate and environmental protection, maritime and economic cooperation with the Arctic region.

  ○ It seeks **to strengthen institutional and human resource capacities** within the government and academic, research and business institutions through inter-ministerial coordination in pursuit of India's interests in the Arctic.

  ○ It seeks to **enhance understanding of the impact of climate change in the Arctic region** on India's climate, economic and energy security.

  ○ It aims to **promote better analysis, prediction and coordinated policymaking on the implications of ice melting** in the Arctic on India's economic, military and strategic interests related to global shipping routes, energy security and exploitation of mineral wealth.

  ○ It seeks to study the **linkages between polar regions and the Himalayas** and **deepen the cooperation between India and the countries of the Arctic region** under various Arctic forums, drawing expertise from scientific and traditional knowledge.

  ○ The policy also seeks to **increase India's participation in the Arctic Council and improve understanding of the complex governance** structures in the Arctic, relevant international laws and geopolitics of the region.

➢ **Relevance of Arctic for India?**

  ○ The Arctic region is significant due to the **shipping routes that run through it.**

  ○ According to an analysis published by the Manohar Parrikar Institute for Defence Studies and Analyses, the adverse effects of the Arctic are not just impacting the availability of mineral and hydrocarbon resources, but also transforming global shipping routes.

    • According to the Ministry of External Affairs**, India can play a constructive role in securing a stable Arctic.**

  ○ The region **holds immense geopolitical importance as the Arctic is projected to be ice-free by 2050** and world powers making a beeline to exploit the region rich in natural resources.

Note:

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Project Dolphin

Why in News

Recently, the MInistry of Jal Shakti expressed his displeasure **over the slow pace of the approval process for Project Dolphin.**

What is Project Dolphin?

➢ The initiative got in-principle approval in 2019 at the first meeting of the **National Ganga Council (NGC)**, headed by the Prime Minister.

  ○ Project Dolphin is one of the activities planned under **Arth Ganga**, an ambitious inter-ministerial initiative of the government approved in 2019.

➢ Project Dolphin will be on the lines of **Project Tiger**, which has helped increase the tiger population.

➢ It is expected to be **implemented by the Ministry of Environment, Forest and Climate Change.**

PROJECT DOLPHIN
PRESERVING OUR UNDERWATER FRIENDS
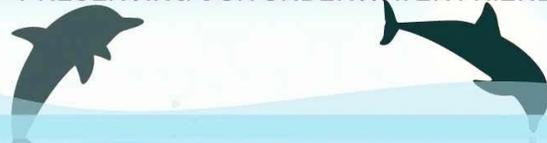
- 10-YEAR PROJECT TO FOCUS ON BOTH RIVER AND SEA DOLPHINS

- AIM TO STRENGTHEN BIODIVERSITY, CREATE EMPLOYMENT OPPORTUNITIES AND ATTRACT TOURISM

- KILLING, HABITAT FRAGMENTATION BY DAMS AND BARRAGES AND INDISCRIMINATE FISHING HAS REDUCED THE GANGES RIVER DOLPHIN POPULATION FROM TENS OF THOUSANDS TO AROUND 3,700 OVER THE LAST CENTURY

- GANGES RIVER DOLPHIN, A SPECIES OF FRESHWATER DOLPHINS, IS PRIMARILY FOUND IN GANGA AND BRAHMAPUTRA RIVERS, AND THEIR TRIBUTARIES IN INDIA, BANGLADESH AND NEPAL

- IN INDIA, THESE DOLPHINS ARE SIGHTED IN DEEP RIVERS IN ASSAM, BIHAR, JHARKHAND, MADHYA PRADESH, RAJASTHAN, UTTAR PRADESH AND WEST BENGAL

- GANGES RIVER DOLPHIN, OFFICIALLY DISCOVERED IN 1801, CAN LIVE ONLY IN FRESHWATER

○ A Special Conservation program **needs to be taken up for Gangetic Dolphin which is a national aquatic animal** and also **indicator species** for the river **Ganga** spread over several states.

  ● Indicator species, organisms—often a microorganism or a plant—that serves as a measure of the environmental conditions that exist in a given locale.

○ As the Gangetic dolphin is at the top of the food chain, protecting the species and its habitat will ensure conservation of aquatic lives of the river.

○ So far, the **National Mission for Clean Ganga (NMCG),** which implements the government's flagship scheme **Namami Gange**, has been taking some initiatives for saving dolphins.

➢ **Global Experience:** The **Rhine Action Plan (1987)** of the International Commission for the Protection of the Rhine (ICPR) — representing Switzerland, France, Germany, Luxemburg and the Netherlands — helped in conservation of the **salmon fish** (also an indicator species).

Note:

What are the Key Points Related to Gangetic Dolphin?

➢ **Scientific Name:** *Platanista gangetica gangetica.*

➢ **Discovery:** It was officially discovered in **1801**.

➢ **Habitat:** They live in the **Ganges-Brahmaputra-Meghna** and **Karnaphuli-Sangu** river systems of Nepal, India, and Bangladesh.

   ❍ The Ganges river dolphin can **only live in freshwater and is essentially blind.**

   ❍ They **hunt by emitting ultrasonic sounds,** which bounces off of fish and other prey, enabling them to "see" an image in their mind. They are also **called 'susu'.**

➢ **Population:** The global population of the species is estimated at 4,000, and nearly **80% found in the Indian subcontinent.**

➢ **Significance:**

   ❍ It is a reliable **indicator of the health of the entire river ecosystem.**

➢ **Threats:**

   ❍ **Bycatch:** These dolphins and people both favour areas of the river where fish are plentiful and the water current is slower.

      ● This has led to **fewer fish for people and more dolphins dying as a result of accidentally being caught** in fishing nets, also known as bycatch.

   ❍ **Pollution:** Industrial, agricultural, and human pollution is another serious cause of habitat degradation.

   ❍ **Dams:** Construction of dams and other irrigation-related projects make them susceptible to inbreeding and more **vulnerable to other threats because they cannot move to new areas.**

      ● Dolphins below a dam are **threatened by heavy pollution**, increased fishing activities and vessel traffic. They also have less food because dams disturb the migration, breeding cycles and habitat of fish and other prey.

➢ **Conservation Status:**

   ❍ **Indian Wildlife (Protection), Act 1972:** Schedule I.

   ❍ **International Union for the Conservation of Nature (IUCN):** Endangered.

   ❍ **Convention on International Trade in Endangered Species (CITES):** Appendix I (most endangered).

   ❍ **Convention on Migratory Species (CMS):** Appendix II (migratory species that need conservation and management or would significantly benefit from international co-operation).

➢ **Other Steps Taken:**

   ❍ **National Dolphin Research Centre (NDRC):** The NDRC is coming up on the 4,400 square metre plot of land on the premises of Patna University for the conservation of the endangered Gangetic river dolphin.

   ❍ **Dolphin Sanctuary: Vikramshila Ganges Dolphin Sanctuary** has been established in Bihar.

   ❍ **National Ganga River Dolphin Day:** The **National Mission for Clean Ganga** celebrates 5th October as National Ganga River Dolphin Day.

   ❍ **Conservation Plan:** The Conservation Action Plan for the Ganges River Dolphin 2010-2020, which "identified threats to Gangetic Dolphins and impact of river traffic, irrigation canals and depletion of prey-base on Dolphins populations".

Himalayan Griffons

Why in News?

Recently, at least **Himalayan Griffons** died of suspected poisoning in Assam.

Note:

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What do we Know about Himalayan Griffons?

➤ **About:**
  ○ The Himalayan Griffon **Vulture**, **Gyps himalayensis**, is an Old World vulture in the **family Accipitridae**, which also includes eagles, kites, buzzards and hawks.
  ○ It is closely related to the **European Griffon Vulture, G. fulvus.**
  ○ This vulture is a **typical vulture, with a bald white head, very broad wings**, and short tail feathers.
  ○ It has a **white neck ruff and yellow bill** and the whitish body and wing coverts contrast with the dark flight feathers.

➤ **Protection Status:**
  ○ **IUCN Red List:** Near Threatened (NT)

➤ **Distribution Range:**
  ○ The Himalayan vulture mostly lives in the **Himalayas on the Tibetan plateau** (India, Nepal and Bhutan, central China and Mongolia).
  ○ It is also **found in the Central Asian mountains** (from Kazakhstan and Afghanistan in the west to western China and Mongolia in the east).
  ○ Occasionally it **migrates to northern India** but migration usually only occurs altitudinally.

What are the Characteristics of Vultures?

➤ **About:**
  ○ It is one of the **22 species of large carrion-eating birds** that live predominantly in the tropics and subtropics.
  ○ They act an **important function as nature's garbage collectors** and help to keep the environment clean of waste.
    ● Vultures also play a valuable role in keeping wildlife diseases in check.

➤ **Species in India:**
  ○ India is home to **9 species of Vulture** namely the Oriental white-backed, Long-billed, Slender-billed, Himalayan, Red-headed, Egyptian, Bearded, Cinereous and the Eurasian Griffon.

● Most of these 9 species face danger of extinction.
● Bearded, Long-billed, Slender-billed, Oriental white-backed are protected in the **Schedule-1** of the **Wildlife Protection Act** 1972. Rest are protected under **'Schedule IV'.**

➤ **Threats:**
  ○ Poisoning from diclofenac that is used as a medicine for livestock.
  ○ Loss of Natural Habitats due to anthropogenic activities.
  ○ Food Dearth and Contaminated Food.
  ○ Electrocution by Power lines.

➤ **Conservation Efforts**
  ○ **By India:**
    ● The Ministry of Environment, Forests and Climate Change (MoEFCC) launched a **Vulture Action Plan 2020-25** for the conservation of vultures in the country.
  ○ To study the **cause of deaths of vultures in India**, a **Vulture Care Centre (VCC)** was set up at Pinjore, Haryana in 2001.
  ○ Later in 2004, the VCC was upgraded to being the first Vulture Conservation and Breeding Centre (VCBC) in India.
    ● At present, there are nine Vulture Conservation and Breeding Centres (VCBC) in India, of which three are directly administered by the **Bombay Natural History Society (BNHS).**
  ○ **International:**
    ● **International: SAVE (Saving Asia's Vultures from Extinction):**
      ■ The consortium of **like-minded, regional and international organisations, created** to oversee and coordinate conservation, campaigning and fundraising activities to help the plight of south Asia's vultures.
      ■ **Objective:** To save three critically important species from extinction through a single programme.

Note:

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Sr. No.	Name of the Vulture Species	IUCN status	Pictorial Representation
1.	Oriental White-backed Vulture (Gyps Bengalensis)	Critically Endangered	
2.	Slender-billed Vulture (Gyps Tenuirostris)	Critically Endangered	
3.	Long-billed Vulture (Gyps Indicus)	Critically Endangered	
4.	Egyptian Vulture (Neophron Percnopterus)	Endangered	
5.	Red-Headed Vulture (Sarcogyps Calvus)	Critically Endangered	
6.	Indian Griffon Vulture (Gyps Fulvus)	Least Concerned	
7.	Himalayan Griffon (Gyps Himalayensis)	Near Threatened	
8.	Cinereous Vulture (Aegypius Monachus)	Near Threatened	
9.	Bearded Vulture or Lammergeier (Gypaetus Barbatus)	Near Threatened	

BBNJ Treaty

Why in News?

Recently, the **fourth meeting of the Intergovernmental Conference (IGC-4)** was held in New York **to conclude a draft of the instrument on the conservation and sustainable use of marine Biological diversity in areas Beyond National Jurisdiction (BBNJ).**

➢ The IGC-4 is **convened under the United Nations Convention on the Law of the Sea (UNCLOS)**.

What is the BBNJ Treaty?

➢ The "BBNJ Treaty", **also known as the "Treaty of the High Seas"**, is an international agreement on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, **currently under negotiation** at the **United Nations.**

➢ This new instrument is **being developed within the framework of the UNCLOS,** the main international agreement governing human activities at sea.

➢ It will achieve **a more holistic management of high seas activities,** which should better balance the conservation and sustainable use of marine resources.

➢ BBNJ **encompasses the high seas, beyond the exclusive economic zones or national waters of countries.**

○ According to the **International Union for Conservation of Nature (IUCN)**, these areas account for **"almost half of the Earth's surface."**

○ These areas are **hardly regulated and also least understood or explored** for its biodiversity - only 1% of these areas are under protection.

➢ Launched at the **One Ocean Summit** in February 2022, the **High Ambition Coalition on Biodiversity Beyond National Jurisdiction** brings together many delegations engaged in the BBNJ negotiations on a common and ambitious outcome at the highest political level.

➢ The negotiations are **centred around a package of elements** agreed upon in 2015, namely:

➢ the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, in particular, together and as a whole, marine genetic resources, including questions on the sharing of benefits

➢ area-based management tools, including marine protected areas

➢ environmental impact assessments

➢ capacity-building and the transfer of marine technology

What is the Need of Legally Binding Instrument for BBNJ?

➢ **Areas beyond national jurisdiction comprise 95% of the ocean** and provide invaluable ecological, economic, social, cultural, scientific and food-security benefits to humanity.

Note:

- However, these areas teeming with life are now **vulnerable to growing threats**, including pollution, overexploitation, and the impacts already visible of climate change.
  - The increasing demand for marine resources in the coming decades – for food, minerals or biotechnology – threatens to exacerbate this problem.
- The high seas are **extremely biodiverse and have been exploited** without even knowing its impacts.
- While there are scientific explorations of the surface water of the high seas, **the deep sea i.e. below 200 metres of the surface has hardly been studied.**
- The deep seafloors, believed to be the harshest habitat, the extinction process is setting in.
  - The 184 species (of Molluscs) assessed, 62% are listed as threatened: 39 are critically endangered, 32 are endangered and 43 are vulnerable.
  - In the Indian Ocean vents, 100% molluscs are already listed as critically endangered. This shows the urgent need to protect them from extinction. Yet, the International Seabed Authority, a Jamaica-based intergovernmental body, is allowing deep sea mining contracts.

What is UNCLOS?

- The **United Nations Convention on the Law of the Sea (UNCLOS), 1982** is an international agreement that e**stablishes the legal framework for marine and maritime activities.** It is **also known as Law of the Sea.**
- It divides marine areas into **five main zone**s namely- I**nternal Waters, Territorial Sea, Contiguous Zone, Exclusive Economic Zone (EEZ)** and the **High Seas.**
- It is the only international convention which stipulates a framework for state jurisdiction in maritime spaces. It provides a different legal status to different maritime zones.
- It provides the backbone for offshore governance by coastal states and those navigating the oceans.
- It not only zones coastal states' offshore areas but also provides specific guidance for states' rights and responsibilities in the five concentric zones.
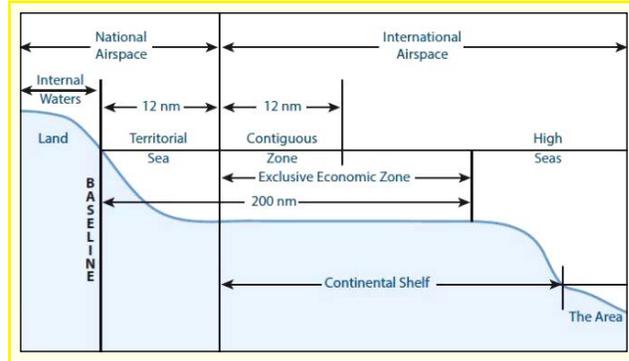
World Water Day 2022

Why in News?

World Water Day is celebrated on **22nd March Every Year** to highlight the importance of water.

- On the Occasion of the **World Water Day UN (united Nations)** University's Canadian-based Institute for Water Environment and Health (UNU-INWEH) has published an assessment report, showing the **levels of water security in Africa overall are unacceptably low**.
- The World Water Day 2022 theme sets the focus for the **annual World Water Development Report.**
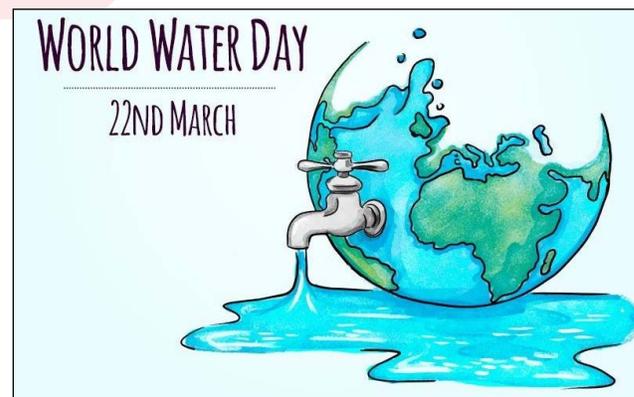
What is World Water Day?

- **Aim:** The Day aims to **support the achievement of Sustainable Development Goal 6:** water and sanitation for all by 2030.
- **Theme:** Groundwater: making the invisible visible.
  - The theme was decided by **UN-water at its 30th meeting in Rome**. It was proposed by the **International Groundwater Resources Assessment Centre (IGRAC).**

➢ **History:**

    ❍ The idea for this international day goes back to 1992, the year in which the **UN Conference on Environment and Development** in Rio de Janeiro took place.

    ❍ That same year, the **United Nations General Assembly** adopted a **resolution** by which 22ⁿᵈ March of each year was declared World Day for Water, to be observed **starting in 1993.**

    ❍ Later on, other celebrations and events were added. For instance, the **International Year of Cooperation in the Water Sphere 2013**, and the current **International Decade for Action on Water for Sustainable Development, 2018-2028.**

➢ **Significance:**

    ❍ The day's intention is to **inspire people around the world** to learn more about water-related issues and to take action to make a difference.

      ● While water covers almost 70% of the planet, **freshwater only amounts to about 3% of it**, out of which two-thirds is frozen or inaccessible and unavailable for use.

    ❍ These observances **serve to reaffirm that water and sanitation measures are key to poverty reduction, economic growth, and environmental sustainability.**

➢ **Other Important Days :**

    ❍ **22 March: World Water Day**

    ❍ **22 April: Earth Day**

    ❍ **22 May: World Biodiversity Day**

What does the UN World Water Development Report 2022 say?

➢ **Groundwater, which accounts for 99% of all liquid freshwater,** has the potential to provide societies with tremendous social, economic and environmental benefits and opportunities.

➢ The groundwater already provides **almost half of the total water used for domestic purposes including drinking water.** The water resource has though been mismanaged, undervalued and abused.

➢ The report describes **groundwater to be central to the fight against poverty** and achieving food and water security and even the creation of jobs and socio-economic development.

➢ The **Asia-Pacific region is the largest groundwater abstractor in the world**, containing seven out of the ten countries that extract most groundwater (Bangladesh, China, **India**, Indonesia, Iran, Pakistan and Turkey).

    ❍ These countries alone **account for roughly 60% of the world's total groundwater withdrawal.**

➢ Th**e present dependence on groundwater will only increase due to increasing water demand** by all sectors and increasing disruption in rainfall patterns.

➢ The report states that it all starts with **making the invisible visible** and the action would require strong and concerted efforts to manage and use it sustainably.

International Day of Forests

Why in News?

   Every year 21ˢᵗ March is celebrated as the **International Day of Forests** (IDF) by the **United Nations (UN).**

➢ It has to be noted that just a day after i:e **22ⁿᵈ March** is celebrated as the **World Water Day by** the UN.

What is International Day of Forests?

➢ The UN proclaimed 21ˢᵗ March as the IDF in 2012 to c**elebrate and raise awareness of the importance of all types of forests**.

➢ Countries are encouraged to undertake local, national and international efforts to organise activities involving forests and trees, such as tree planting campaigns.

➢ The organisers are the UN Forum on Forests and the **Food and Agriculture Organisation (FAO)** of the UN, in collaboration with Governments, the Collaborative Partnership on Forests and other relevant organisations in the field.

➢ The **theme for 2022** is 'Forests and sustainable production and consumption'.

What is the Significance of Forests?

➢ Forests cover **one-third of the land surface on Earth** and provide various environmental benefits, including their primary role in **maintaining the balance of the hydrological cycle, contributing to climate regulation, and preserving biodiversity.**

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- Apart from the ecological perspective, studies from an economic perspective conclude that **forest resources can contribute to a nation's economic growth and maintaining forest cover is essential for various agricultural and forestry-related activities**.
  - Forests **provide more than 86 million green jobs** while supporting the livelihoods of many people.
- Everyone on the planet has had some form of contact with forests. This includes **communities that directly rely on these ecosystems** for their lives and livelihoods or communities which rely on the products obtained from these forests.
- Forest sustainable management and resource use are **critical to preventing climate change** and contributing to present and future generations' prosperity and well-being. Forests are also important for poverty alleviation.
  - Despite these priceless environmental, economic, social, and health benefits, **global deforestation continues at an alarming rate.**
  - The FAO has estimated that **10 million hectares were cleared each year globally between 2015 and 2020**. Closer home**, India lost 132kha of natural forest in 2020** alone, according to the **Global Forest Watch,** a worldwide platform that monitors forests and changing patterns.
  - According to another study, **Amazon Forests** have started emitting Carbon dioxide (CO_2) instead of absorbing it.

What is the State of Forests in India?

- The country has 3,07,120 square kilometres of forest in the open category, which increased by 4,203 sq km in the last two years (2019-21), according to **India's State of Forest Report 2021.**
- Add scrub land (46,539 sq km) to this and the total becomes 3,53,659 sq km, constituting 10.76% of degraded forest and scrub land in India. If we consider only forest area, it is 43.03%.
- The report showed a **continuing increase in forest cover across the country,** but experts **flagged some of its other aspects as causes for concern**, such as a decline in forest cover in the Northeast, and a degradation of natural forests.

GAINS & LOSSES IN FOREST COVER SINCE 2019

Positive change (%)
>3
>2.0 to 3.0
>1.0 to 2.0
>0.5 to 1.0
>0 to 0.5

No change

Negative change (%)
>0 to -0.25
>-0.25 to -0.5
>-0.5 to -1.0
>-1.0

GAINS	
State	(sq km)
Andhra Pradesh	647
Telangana	632
Odisha	537
Karnataka	155
Jharkhand	110

LOSSES	
State	(sq km)
Arunachal Pradesh	257
Manipur	249
Nagaland	235
Mizoram	186
Meghalaya	73
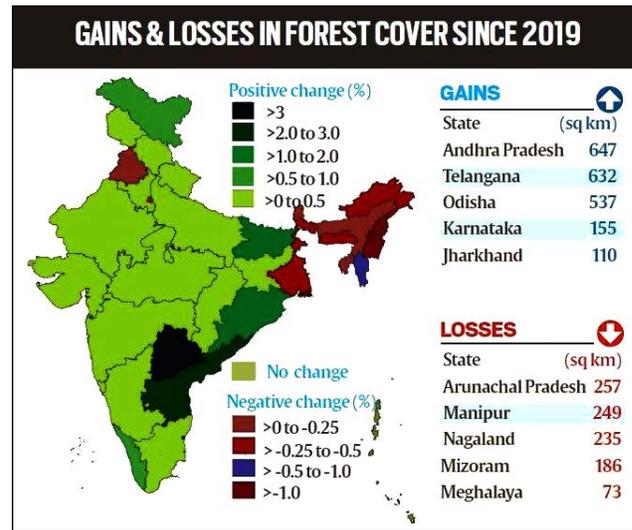
What are the Major Government Initiatives for Forests?

- **National Mission for a Green India:**
  - It is one of the eight Missions under the **National Action Plan on Climate Change (NAPCC).**
  - It was **launched in February, 2014** with the objective to safeguard the biological resources of our nation and associated livelihoods against the peril of adverse climate change and to recognise the vital impact of forestry on ecological sustainability, biodiversity conservation and food-, water- and livelihood-security.
- **National Afforestation Programme (NAP):**
  - It has been **implemented since 2000** for the afforestation of degraded forest lands.
  - It is being implemented by the Ministry of Environment, Forest and Climate Change (MoEFCC).
- **Compensatory Afforestation Fund Management and Planning Authority, (CAMPA Funds):**
  - **Launched in 2016,** 90% of the fund is to be given to the states while 10% is to be retained by the Centre.
  - The funds can be used for treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.

Note:

- ➢ **National Action Programme to Combat Desertification:**
  - ❍ It was **prepared in 2001** to address issues of increasing **desertification** and to take appropriate actions.
  - ❍ It is implemented by the MoEFCC.
- ➢ **Forest Fire Prevention & Management Scheme (FFPM):**
  - ❍ It is the only **centrally funded program specifically dedicated to assist the states** in dealing with forest fires.

World Air Quality Report 2021

Why in News?

Recently, the **2021 World Air Quality Report** was released, the report presented an overview of the **state of global air quality in 2021.**

- ➢ **IQAir, a Swiss group** that measures air quality levels based on the concentration of **Particulate Matter (PM) 2.5.**
- ➢ IQAir endeavours to **engage, educate, and inspire governments, researchers, Non-Government Organisations,** companies, and citizens to work together to improve air quality and create healthier communities and cities.

2021 CAPITAL CITY RANKING
Average annual PM2.5 concentration in the year

❶	New Delhi, India	85.0
❷	Dhaka, Bangladesh	78.1
❸	N'Djamena, Chad	77.6
❹	Dushanbe, Tajikistan	59.5
❺	Muscat, Oman	53.9
❻	Kathmandu, Nepal	50.9
❼	Manama, Bahrain	49.8
❽	Baghdad, Iraq	49.7
❾	Bishkek, Kyrgyzstan	48.3
❿	Tashkent, Uzbekistan	42.8

Delhi tops global capital pollution chart again

New Delhi continues to be the world's most polluted capital city for the fourth consecutive year. A look at the report compiled by IQAir

The top five polluted countries in 2021

No country met WHO air quality guideline for PM2.5, which cut the existing annual guideline value from 10 µg/m3 to 5 µg/m3 in 2021

Only 222 out of 6,475 global cities met updated PM2.5 parameters

93 cities had annual PM2.5 concentrations exceeding **10 times** the WHO norms

Of **1,887** Asian cities, only four met updated PM2.5 norms

46 of 50 most polluted cities in the world are in Central and South Asia | P7

What is the Need for the Report?

- ➢ **Air pollution** is now considered to be the **world's largest environmental health threat,** accounting for seven million deaths around the world every year.

- ➢ Air pollution causes and **aggravates many diseases, ranging from asthma to cancer, lung illnesses and heart disease.**
- ➢ The estimated daily economic cost of air pollution has been figured at **USD 8 billion,** or **3 to 4% of the Gross World Product (GWP)**
  - ❍ GWP is the **combined Gross Domestic Product (GDP)** of all the countries in the world equals the total global GDP.
- ➢ Air pollution **affects those that are most vulnerable the most.** It is estimated that in **2021, the deaths of 40,000 children under the age of five were directly linked to PM2.5 air pollution.**
- ➢ Further, in this age of **Covid-19**, researchers have found that exposure to **PM2.5 increases both the risk of contracting the virus** and of suffering more severe symptoms when infected, including death.

How is PM 2.5 measured?

- ➢ The report is based on PM2.5 air quality data from **6,475 cities in 117 countries, regions and territories around the world.**
- ➢ PM2.5, particulate matter consisting of fine aerosol particles measuring 2.5 microns or smaller in diameter, is **one of six routinely measured criteria air pollutants** and is commonly accepted as the most harmful to human health due to its prevalence in the environment and broad range of health effects.
- ➢ PM2.5 is generated from many sources and **can vary in chemical composition and physical characteristics.**
  - ❍ Common chemical constituents of **PM2.5 include sulphates, nitrates, black carbon, and ammonium.**
- ➢ The **most common human-made sources include** internal combustion engines, power generation, industrial processes, agricultural processes, construction, and residential wood and coal burning.
- ➢ The most common natural sources for **PM2.5 are dust storms, sandstorms, and wildfires.**

What is the Indian Scenario?

- ➢ India's annual average PM2.5 levels reached **58.1 µg/m³ in 2021**, ending a three-year trend of improving air quality. India's annual PM2.5 averages have now returned to pre-quarantine concentrations measured in 2019.

- ➢ India was home to **11 of the 15 most polluted cities in Central and South Asia in 2021.**
- ➢ In 2021, Mumbai had recorded **Particulate Matter (PM) 2.5 annual average of 46.4 microgram/cubic metre – nearly nine times above the** World Health Organisation (WHO) **limit.**

What are Challenges in Front of India?

- ➢ Air pollution has a **massive impact on human health in India.**
- ➢ It is the **second biggest risk** factor for disease, and the economic cost of air pollution is estimated to exceed **USD 150 billion dollars annually.**
- ➢ Major sources of air pollution in India include **vehicular emissions, power generation, industrial waste, biomass combustion for cooking, the construction sector, and episodic events like crop burning.**
- ➢ In 2019, India's Ministry of Environment, Forest and Climate Change (MoEF&CC) enacted the **National Clean Air Program (NCAP).**
  - ❍ The plan seeks to reduce PM concentrations by **20% to 30% by 2024** in all identified non-attainment cities, increase air quality monitoring, and implement a city, regional, and state-specific clean air action plan as well as conduct source apportionment studies.
- ➢ However, the **lockdowns,** restrictions, and resulting economic downturn due to the **COVID-19 pandemic** have made it difficult to determine the plan's impact based on air pollution levels alone.

What are Initiatives taken by India for Controlling Air Pollution?

- ➢ **System of Air Quality and Weather Forecasting and Research (SAFAR) Portal**
- ➢ **Air Quality Index:** AQI has been developed for eight pollutants viz. PM2.5, PM10, Ammonia, Lead, nitrogen oxides, sulphur dioxide, ozone, and carbon monoxide.
- ➢ **Graded Response Action Plan**
- ➢ **For Reducing Vehicular Pollution:**
  - ❍ **BS-VI Vehicles,**
  - ❍ **Push for Electric Vehicles (EVs),**
  - ❍ **Odd-Even Policy** as an emergency measure
- ➢ **New Commission for Air Quality Management**
- ➢ Subsidy to farmers for buying **Turbo Happy Seeder (THS) Machine**

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Note:

History

Highlights

- *Malabar Rebellion*
- *Shaheed Diwas*

Malabar Rebellion

Why in News?

Recently, the **Indian Council for Historical Research (ICHR)** has deferred its decision on a recommendation to remove the **1921 Malabar Rebellion (Moplah riots) martyrs** from the list of India's freedom fighters.

➢ The recommendation also included the names **Variamkunnaathu Kunhahamad Haji** and **Ali Musliyar**.

What is the Indian Council of Historical Research?
➢ **About:**
  ○ It is an **autonomous organization,** established under Societies Registration Act,1860 in 1972.
  ○ It is under the **Ministry of Education.**
➢ **Objectives:**
  ○ To bring historians together for exchange of views.
  ○ To give a national direction to an objective and scientific writing of history.
  ○ To promote, accelerate and coordinate research in history and ensure its dissemination.
  ○ The council also provides grants, assistance and fellowships for historical research.

What is the Background?

➢ In the **sixteenth century when Portuguese traders arrived on the Malabar coast,** they noted the Mappilas to be a mercantile community concentrated in urban centres and fairly segregated from the local Hindu population.

➢ However, **with the rise in Portuguese commercial power**, the Mappilas found themselves a competitor and increasingly started moving inland in search of new economic opportunities.

➢ The **shifting of the Mappilas led to a clash of religious identities** both with the local Hindu population and the Portuguese.

Who was Moplahs/Mappilas?
➢ The name Mappilla (lit. son-in-law; anglicized form Moplah) is given to Malayali-speaking Muslims who reside along the entire length of the Malabar Coast of northern Kerala.
➢ By 1921, the **Moplahs formed the largest and fastest growing community in Malabar.** With a population of one million, 32% of that of Malabar as a whole, the Moplahs were concentrated in South Malabar.

What was Mapillah Revolt?

➢ **About:**
  ○ Fuelled by the **fiery speeches by Muslim religious leaders and anti-british sentiments,** the Mopillahs launched a violent rebellion. Numerous acts of violence were reported and a series of persecutions were committed both against the British and the Hindu landlords.
  ○ While there are some who call it a **case of religious fanaticism**, there are others who look at it as an instance of struggle against British authority, and then there are others who perceive the Malabar rebellion to be a peasant revolt against unfair practices of the landlords.
  ○ While **historians continue to debate on the matter**, the broad consensus on the episode notes it to have started off as a struggle against political power, which later took on a communal colour.
    ● Most of the **landlords were Namboodiri Brahmins** while most of the tenants were Mapillah Muslims.

Note:

- The **riots led to the mass killings of over 10,000 Hindus, raping of women**, forced religious conversions, destruction or damage of nearly 300 temples, loot and arson of properties worth crores of rupees and burning of houses belonging to the Hindus.

➢ **Support:**

○ In the initial stages, the movement had the support of **Mahatma Gandhi** and other Indian nationalist leaders, but as it turned violent they distanced themselves from it.

➢ **Collapse:**

○ By the end of 1921, the rebellion was crushed by the British who had raised a special battalion, the Malabar Special Force for the riot.

➢ **Wagon Tragedy:**

○ In November 1921, **67 Moplah prisoners were killed** when they were being transported in a closed freight wagon from Tirur to the Central Prison in Podanur. They died of suffocation. This event is called the Wagon Tragedy.

What were the Reasons behind the Mapillah Revolt?

➢ **Non-Cooperation & Khilafat Movement:**

○ The trigger of the uprising came from the **Non-Cooperation Movement** launched by the Congress in 1920 along with the Khilafat agitation.

○ The anti-British sentiment fuelled by these agitations affected the Muslim Mapillahs.

➢ **New Tenancy Laws:**

○ After the death of **Tipu Sultan in 1799** in the Fourth Anglo-Mysore War, Malabar had come under British authority as part of the Madras Presidency.

○ The British had **introduced new tenancy laws** that tremendously favoured the landlords known as Janmis and instituted a far more exploitative system for peasants than before.

○ The new laws **deprived the peasants of all guaranteed rights to the land**, share in the produce they earlier got and in effect rendered them landless.

Shaheed Diwas

Why in News?

Every year, **Shaheed Diwas**, also known as **Martyrs' Day or Sarvodaya Day, is observed** on 23rd March.

➢ This Day should not be confused with the **Martyrs' Day** observed on 30th January, the day **Mahatma Gandhi** was assassinated.

What is the History behind Shaheed Diwas?

➢ It was on this day that **Bhagat Singh**, **Sukhdev and Rajguru** were executed by the British government in 1931.

○ They were **hanged to death for assassinating John Saunders,** a British police officer in 1928. They had mistaken him for British police superintendent James Scott.

● It was Scott who had ordered lathi charge, which eventually led to the death of **Lala Lajpat Rai.**

○ While Bhagat Singh, who had publicly announced avenging Lala Lajpat Rai's death, went into hiding for many months after this shootout, **he resurfaced along with an associate Batukeshwar Dutt**, and the two, in April 1929, set off two explosive devices inside the Central Legislative Assembly in Delhi.

● Allowed themselves to be arrested, while shouting the famous slogan: **"Inquilab Zindabad",** **or "Long live the revolution".**

➢ Their lives **inspired countless youth and in their death, they set an example.** They carved out their own path for independence, where **individual heroism** and their aggressive need to do something for the nation stood out, departing from the path followed by the Congress leaders then.

Who was Bhagat Singh?

➢ **Early Life:**

○ Born as Bhaganwala on the **26th September, 1907**, Bhagat Singh grew up in a petty-bourgeois family of Sandhu Jats settled in the Jullundur Doab district of the Punjab.

- He belonged to a **generation that was to intervene between two decisive phases** of the Indian national movement - the phase of the **'Extremism' of Lal-Bal-Pal** and the **Gandhian phase of nonviolent mass action.**

➢ **Role in Freedom Struggle:**

○ In 1923, Bhagat Singh **joined the National College, Lahore** which was founded and managed by **Lala Lajpat Rai** and **Bhai Parmanand.**

- The **College was set up as an alternative to the institutions** run by the Government, bringing to the field of education the idea of Swadeshi.

○ In 1924 in Kanpur, he became a member of the **Hindustan Republican Association**, started by **Sachindranath Sanyal** a year earlier. The main organiser of the Association was **Chandra Shekhar Azad** and Bhagat Singh became very close to him.

- It was as a **member of the HRA that Bhagat Singh began to take seriously** the philosophy of the Bomb.

  - **Revolutionary Bhagwati Charan Vohra** wrote the famous article **philosophy of the Bomb.** Including the philosophy of bomb he authored three important political documents; the other two were **Manifesto of Naujawan Sabha** and **Manifesto of HSRA.**

- **Armed revolution** was understood to be the only weapon with which to fight British imperialism.

○ In 1925, **Bhagat Singh returned to Lahore** and within the next year he and his colleagues started a militant youth organisation called the **Naujawan Bharat Sabha.**

○ In April 1926, **Bhagat Singh established contact with Sohan Singh Josh** and through him the **'Workers and Peasants Party'** which brought out the monthly magazine Kirti in Punjabi.

- For the next year **Bhagat Singh worked with Josh** and joined the editorial board of Kirti.

○ In 1927, **he was first arrested on charges of association with the Kakori Case,** accused for an article written under the **pseudonym Vidrohi (Rebel).** He was also **accused of being responsible for a bomb explosion** at Lahore during the Dussehra fair.

○ In 1928, Bhagat Singh **changed the name of Hindustan Republican Association to Hindustan Socialist Republican Association (HSRA)**. In 1930, when Azad was shot, the HSRA collapsed.

- **Naujawan Bharat Sabha** replaced **HSRA in Punjab.**

○ His time in the prison was spent **protesting, seeking better living conditions for inmates.** During this time, he gained the sympathy of the public, especially when he joined fellow defendant Jatin Das in a hunger strike.

- The strike ended with **Das' death from starvation in September 1929.** Two years later, Singh was convicted and hanged at the age of 23.

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Art and Culture

Highlights

- *Bamiyan Buddhas*

Bamiyan Buddhas

Why in News?

Recently, the Taliban regime in **Afghanistan** has said it **would protect the ancient Buddha statues in Mes Aynak**.

➤ Mes Aynak is also the site of a copper mine where the Taliban are hoping for Chinese investment.

➤ The Taliban's position is in **marked contrast to the time they ruled Afghanistan earlier,** when, in the face of global outrage, they brought down the **centuries-old Buddha statues in Bamiyan** using artillery, explosives, and rockets.

What is Background of Taliban's Destruction of Bamiyan?

➤ The hardline **Taliban movement,** which emerged in the early 1990s, was in control of almost 90% of Afghanistan by the end of the decade.

➤ While their **governance supposedly curbed lawlessness**, they also **introduced so-called "Islamic punishments''** and a regressive idea of Islamic practices, which included **banning television, public executions, and lack of schooling for girls** aged 10 and above.

  ○ The **destruction of the Bamiyan Buddhas** was part of this extremist culture.

➤ On 27th February 2001, the Taliban declared its intention to destroy the statues.

What is the Status After Destruction?

➤ In 2003, UNESCO included the **remains of the Bamiyan Buddhas** in its list of **world heritage sites.**

➤ On 9th March 2021, the statue of **Salsal was "recreated"** — a 3D projection was beamed at the corner where it had stood.

What are Bamiyan Buddhas?

➤ **Legacy of the Bamiyan Buddhas:**

  ○ The Bamiyan Buddha statues, cut from sandstone cliffs, are said to have dated back to the 5th century AD, and were **once the tallest standing Buddhas in the world.**

    ● In their Roman draperies and with two different mudras, the statues were great examples of a **confluence of Gupta, Sassanian and Hellenistic artistic styles.**

  ○ **Called Salsal and Shamama by the locals**, they rose to heights of 55 and 38 metres respectively.

    ● Salsal means **"light shines through the universe",** while Shamama is **"Queen Mother".**

➤ **Significance:**

  ○ Bamiyan is **situated in the high mountains of the Hindu Kush** in the central highlands of Afghanistan.

  ○ The valley, which is **set along the line of the Bamiyan River**, was once integral to the early days of the **Silk Roads**, providing passage for not just merchants, but also culture, religion and language.

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○ When the **Buddhist Kushan Empire spread**, acting as a crucible of sorts, Bamiyan became a major trade, cultural and religious centre. As China, India and Rome sought passage through Bamiyan, the Kushans were able to develop a syncretic culture.

○ In the **rapid spread of Buddhism between the 1st to 5th centuries AD**, Bamiyan's landscape reflected the faith, especially its monastic qualities.

○ The **two colossal Buddhas were only a part of several other structures**, such as stupas, smaller seated and standing Buddhas, and wall paintings in caves, spread in and around surrounding valleys.

Who are the key Facts about Buddhism?

➢ Buddhism is **2,500 years old.**

➢ It is **one of the important religions** of South and South-Eastern Asian countries.

➢ Buddhism arose as a result of Siddhartha Gautama's quest for Enlightenment in around the 6th Century BC.

➢ There is **no belief in a personal God**. It is not centred on the relationship between humanity and God.

➢ Buddhists believe that nothing is fixed or permanent - change is always possible.

➢ The **two main Buddhist sects are** Theravada Buddhism and Mahayana Buddhism, but there are many more.

➢ The **path to Enlightenment is through the practice and development of morality,** meditation and wisdom.

➢ The religion is based upon the teachings, life experiences of its founder **Siddhartha Gautam**, born in circa 563 BCE.

○ He was **born into the royal family of the Sakya clan** who ruled from Kapilvastu, in Lumbini which is situated near the Indo-Nepal Border.

○ At the age of 29, **Gautama left home and rejected his life of riches** and embraced a lifestyle of asceticism, or extreme self-discipline.

○ After 49 consecutive days of meditation, Gautama attained Bodhi (enlightenment) under a pipal tree at Bodhgaya a village in Bihar.

○ Buddha **gave his first sermon in the village of Sarnath**, near the city of Benares in UP. This event is known as **Dharma-Chakra-Pravartana** (turning of the wheel of law).

○ He died at the age of 80 in 483 BCE at a place called Kushinagara, a town in UP. The event is known as Mahaparinibban.

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Security

Highlights

- *Central Armed Police Forces Reforms*
- *Assam Rifles*
- *Hypersonic Missiles*

Central Armed Police Forces Reforms

Why in News

Recently, the **Government of India told the Lok Sabha** that nearly **1,200 paramilitary troopers died by suicide in last 10 years.**

➢ Also, more **Central Armed Police Force (CAPF)** personnel died by suicide in the **Covid-19 pandemic** years of 2020 and 2021.

➢ **Domestic problems, illness and financial problems** are some of the contributory factors among others behind the incidents of suicide.

What are Central Armed Police Forces?

➢ The **Ministry of Home Affairs** maintains seven CAPFs:
  ○ The **Central Reserve Police Force (CRPF)**, which assists in internal security and counterinsurgency.
  ○ The **Central Industrial Security Force (CISF),** which protects vital installations (like airports) and **public sector undertakings.**
  ○ The **National Security Guards (NSG)**, which is a special counterterrorism force.
  ○ Four border guarding forces, which are the **Border Security Force(BSF), Indo-Tibetan Border Police (ITBP), Sashastra Seema Bal (SSB), and Assam Rifles (AR).**

What are Major Functions of CAPFs?

➢ **Border Security:** Safeguard the security of borders of India and promote a sense of security among the people living in border areas.

  ○ Prevent trans-border crimes, smuggling, unauthorised entry into or exit from the territory of India and to prevent any other illegal activity.

➢ **Industrial Security:** Provide security to sensitive installations, persons at security risk.

➢ **Other Functions:** Counter Insurgency Operations, Anti Naxal Operations, Internal Security Duties, VIP Protection, Lead Intelligence Agency, Security To Diplomatic Missions Abroad, **United Nations(UN) Peacekeeping Operations,** Disaster Management, Civic Action Nodal Agency for UN Police Missions, etc.

What are Associated Issues with CAPFs?

➢ **Working Conditions:** The **Standing Committee on Home Affairs** in the year 2017 had expressed concern over the **working conditions of personnel of the border guarding forces.**

  ○ The Committee observed that they had to **work 16-18 hours a day, with little time for rest or sleep.**
  ○ The personnel were also **not satisfied with medical facilities** that had been provided at border locations.
  ○ In addition, the Standing Committee observed that personnel of the CAPFs have **not been treated at par with the Armed Forces,** in terms of pay and allowances.

➢ **Impediments to Modernisation:** The MHA has been making efforts to provide modern arms, ammunition, and vehicles to the CAPFs.

  ○ The Plan aims to provide financial support to CAPFs for modernisation in areas of arms, clothing, and equipment.
  ○ However, the **Estimates Committee** observed that the **procurement process under the Plan was cumbersome and time consuming.**

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- ➤ **Burdened By States' Responsibilities:** There is heavy dependence of states on CAPFs, even for everyday law and order issues.
  - ○ This affects the **anti-insurgency and border guarding operations**, besides curtailing the training needs of these forces.
- ➤ **Cadre Management Issue:** Each of the seven has its own cadre of officers, but they are **headed by officers of the Indian Police Service.**
  - ○ This has a demoralising effect on the officers of the CAPFs, and **impacts the effectiveness of the forces.**
  - ○ In addition, there was frustration in CAPFs due to stagnation in promotions and lack of cadre review.
- ➤ **Increasing Cases of Fratricide:** There have been more than **25 incidents of fratricide** (killing of one's brother or sister) **reported in the forces since 2019.**

What can be the Way Forward for CAPFs?

- ➤ **Modernising the CAPFs:** MHA should ensure the **bottlenecks in procurement should be identified** and corrective action should be taken.
  - ○ Moreover, given the evolution of **hybrid warfare,** the contents of training should be a mix of conventional matters as well as latest technologies such as ICT, and cyber security.
- ➤ **Augmenting States' Capacity:** States must develop their own systems, and augment their police forces by **providing adequate training and equipment.**
  - ○ The central government should supplement the efforts of state governments by providing financial assistance and other help needed by states for capacity building of their forces.
- ➤ **Corrective Measures in Cadre Policy:** Citing the dissatisfaction in **Cadre policy, Joshi Committee recommended** that top positions should be filled from the respective cadre of the CAPF.
  - ○ Further, the Committee recommended that c**adre review of all the CAPFs should be carried out within a defined timeline.**
  - ○ It is high time to implement these recommendations as soon as possible.
- ➤ **Personnel Reforms:** Workshops on **stress management** should regularly be undertaken, and yoga and meditation be made part of the daily exercise for CAPF personnel.

- ○ Further, the provision of accommodation near the deployment of the respective force, to enable personnel to meet their family members, can also be explored.

Assam Rifles

Why in News?

Recently, the **187ᵗʰ Raising Day of the Assam Rifles** has been celebrated in **Shillong. Assam Rifles is the watchdog of the North East and the oldest paramilitary force in the country.**

What is the Key Role of Assam Rifles?

- ➤ Assam Rifles is a **Central Paramilitary Forc**e under the **Central Armed Police Forces.**
- ➤ It came into being in **1835**, as a militia **called the 'Cachar Levy'**, to primarily protect **British Tea estates and their settlements against tribal raids.**
- ➤ It significantly contributed to the opening of Assam region to administration and commerce and over time it came to be known as the **"right arm of the civil and left arm of the military".**
- ➤ Assam Rifles has **two battalions stationed in Jammu and Kashmir and one National Disaster Relief Force battalion**, which is playing its active role in case of natural calamities.
- ➤ Although India has been contributing to the **UN peacekeeping** for many years, the addition of the **Riflewomen Team of the Assam Rifles** adds another social and human dimension to our commitment to the community of nations.
- ➤ **Major role post-Independence:**
  - ○ Conventional combat role during the **Sino-India War 1962.**
  - ○ Operations in a foreign land as part of the **Indian Peace Keeping Force to Sri Lanka** in 1987 (Operation Pawan).
  - ○ Peacekeeping role in the North-Eastern areas of India.
- ➤ In November 2019, **MHA proposed to merge it** with the Indo-Tibetan Border Police (ITBP).
  - ○ ITBP is a specialized mountain force, raised in October 1962.

Note:

○ It is deployed on border guarding duties from Karakoram Pass in Ladakh to Jachep La in Arunachal Pradesh covering 3488 km of Indo-China Border.

What is the Central Armed Police Forces?

➢ The Central Armed Police Forces (CAPF) refers to **seven security forces** in India under the authority of the Ministry of Home Affairs.

     ○ Assam Rifles (AR)

     ○ Border Security Force (BSF)

     ○ Central Industrial Security Force (CISF)

     ○ Central Reserve Police Force (CRPF)

     ○ Indo Tibetan Border Police (ITBP)

     ○ National Security Guard (NSG)

     ○ Sashastra Seema Bal (SSB)

Hypersonic Missiles

Why in News

Recently, Russia used a hypersonic missile for the first time in the ongoing **conflict with Ukraine.**

What is a Hypersonic Missile?

➢ A hypersonic missile is a weapon system **which flies at least at the speed of Mach 5 i.e. five times the speed of sound** and is manoeuvrable.

➢ The manoeuvrability of the hypersonic missile is **what sets it apart from a ballistic missile as the latter follows a set course** or a ballistic trajectory.

➢ Thus, unlike ballistic missiles, **hypersonic missiles do not follow a ballistic trajectory** and can be manoeuvred to the intended target.

➢ The two types of hypersonic weapons systems are **Hypersonic Glide Vehicles (HGV) and Hypersonic Cruise Missiles.**

     ○ The HGV are launched from a rocket before gliding to the intended target while the hypersonic cruise missile is powered by air breathing high speed engines or **'scramjets'** after acquiring their target.

What are the advantages of hypersonic missiles?

➢ They can enable **responsive, long range strike options against distant, defended or time critical threats**

(such as road mobile missiles) when other forces are unavailable, denied access or not preferred.

➢ **Conventional** hypersonic weapons **use only kinetic energy i.e. energy derived from motion**, to destroy unhardened targets or even underground facilities.
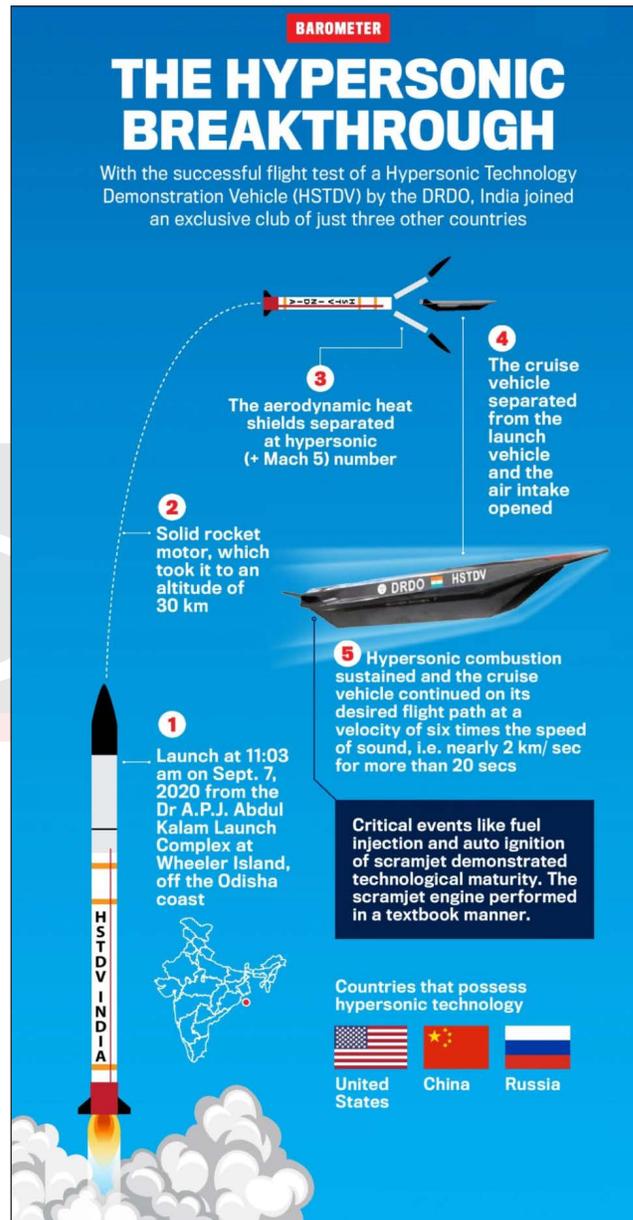
Are hypersonic missiles detectable in flight?

➢ Hypersonic weapons can challenge detection and defence due to their **speed, manoeuvrability and low altitude of flight.**

➢ The Ground based **radars** or terrestrial radars cannot detect hypersonic missiles until late in the flight of the weapon.

Note:

○ This delayed detection makes it difficult for the responders to the missile attack to assess their options and to attempt to intercept the missile.

Which countries possess hypersonic weapons?

➢ While the US, Russia and China are in advanced stages of hypersonic missile programmes, **India, France, Germany, Japan and Australia too are developing hypersonic weapons.**

What is the Indian Hypersonic Missile Programme?

➢ India is also developing an indigenous, dual capable (conventional as well as nuclear) hypersonic cruise missile as part of its **Hypersonic Technology Demonstrator Vehicle Programme** and has successfully tested a Mach 6 scramjet in June 2019 and September 2020.

➢ India operates approximately **12 hypersonic wind tunnels and is capable of testing speeds upto Mach 13**.

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Note:

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Miscellaneous

Highlights

- Access to MATLAB Software allowed for Academic Users
- IONS Maritime Exercise 2022
- Shrinkflation
- Legal Aid Clinic for Women
- TEJAS Skilling Project
- Koyna Dam
- Army Variant of MRSAM
- Translation of India's Constitution into Ol Chiki Script
- Mahatma Gandhi Green Triangle
- Exercise LAMITIYE 2022
- World Happiness Report 2022
- International Day to Combat Islamophobia
- Kamikaze Drone
- Navroz

- Africa's Boma Technique
- Women Transforming India Awards
- DUSTLIK Exercise
- MANPADS
- Air Traffic Management Systems
- H2Ooooh! – Waterwise program for the Children of India
- 35th Surajkund International Mela
- Zoji la Pass
- Articulated All-Terrain Vehicles
- Herbal Formulation for Tick Infestation
- Desert Fox and Mange Disease
- Earth Hour
- Sariska Tiger Reserve

Access to MATLAB Software allowed for Academic Users

Why in News?

For the first time in the country, **academic users in India will be able to access the MATLAB software suite** at no cost through the **Indian Science Technology and Engineering facilities Map (I-STEM) portal.**

> **What is MATLAB?**
> ➢ MATLAB is a **proprietary multi-paradigm programming language** and numeric computing environment **developed by MathWorks.**
> ➢ MATLAB, used by more than **4 million users globally,** allows matrix manipulations, plotting of functions and data, implementation of algorithms, creation of user interfaces, and interfacing with programs written in other languages.

How is this Step Significant?

➢ The software suite is **hosted on the cloud server of I-STEM** to provide user friendly access from anywhere in India.

➢ It is **expected to assist many students and researchers in the country,** especially those in the **more remote and less-endowed institutions**, thereby enhancing learning outcomes and **promoting Research & Development efforts** across India.

What is an I-STEM Portal?

➢ **About:**
  ○ I-STEM is a **National Web portal for sharing R&D (Research and Development) facilities.**
  ○ The portal **facilitates researchers to access slots** for the use of equipment, as well as to share the details of the outcomes, such as, patents, publications and technologies.
  ○ In July, 2021, I-STEM project was **accorded an extension for five years**, **until 2026** and entered its second phase with added features.

➢ **Launch:**
  ○ Launched in January 2020, it is an initiative of Office of the **Principal Scientific Adviser** to the Government of India under the aegis of **Prime Minister Science, Technology and Innovation Advisory Council (PM-STIAC) mission.**

Note:

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- **PM-STIAC:** It is an **overarching Council that facilitates the Principal Scientific Adviser's Office to assess the status** in specific science and technology domains, comprehend challenges in hand, formulate specific interventions, develop a futuristic roadmap and advise the Prime Minister accordingly.

➢ **Goal:**

   ❍ The **goal of I-STEM is to strengthen the R&D ecosystem** of the country by connecting researchers with resources.

   ❍ **Promoting technologies and scientific equipment development indigenously,** and providing necessary supplies and support to researchers by enabling them an access to existing publicly funded R&D facilities in the country through the I-STEM web portal.

➢ **Phase-I:**

   ❍ In the first phase, the **portal was listed with more than 20,000 pieces of equipment from 1050 institutions** across the country and has more than 20,000 Indian researchers.

➢ **Objectives under Phase-II:**

   ❍ The portal will **host indigenous technology products listed through a digital catalogue.** It will **also host and provide access to selected R&D (Research and Development) software** required to undertake research projects by students and scientists.

   ❍ The portal will **also provide a platform for the various City Knowledge and Innovation Clusters** to enhance effective use of R&D infrastructure through leveraging collaboration and partnership built on a shared **STI (Science Technology and Innovation) ecosystem.**

   ❍ New phase will be **designed as a dynamic digital platform** that will **provide a boost to research and innovation** especially for 2 tier and 3 tier cities and also for the emerging **start-up ecosystem.**

IONS Maritime Exercise 2022

Why in News?

The maiden edition of **Indian Ocean Naval Symposium (IONS)** Maritime Exercise 2022 (IMEX-22) was conducted at Goa and in the Arabian Sea.

What is IMEX-22?

➢ The exercise witnessed participation of 15 out of the 25 member nations of IONS.

➢ The aim of the exercise was **to enhance interoperability in Humanitarian Assistance and Disaster Relief (HADR)** operations among member navies.

➢ The exercise is seen as a **significant stepping stone for regional navies to collaborate and respond collectively to natural disasters in the region** and paves way for further strengthening regional cooperation.

What is the Indian Ocean Naval Symposium?

➢ IONS is a premier forum for cooperation and collaboration **among navies of littoral states of the Indian Ocean Region.**

   ❍ The inaugural IONS Seminar was held in New Delhi in February, 2008.

➢ It is a **voluntary initiative that seeks to increase maritime cooperation among** navies of the littoral states of the Indian Ocean Region by providing an open and inclusive forum for discussion of regionally relevant maritime issues.

➢ There are **36 littoral states** in the Indian Ocean which have been geographically grouped into the following four sub-regions.

   ❍ **South Asian Littorals** - Bangladesh, India, Maldives, Pakistan, Seychelles and Sri Lanka

   ❍ **West Asian Littorals** - Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia, UAE and Yemen

   ❍ **East African Littorals** - Comoros, Djibouti, Egypt, Eriteria, France, Kenya, Madagascar, Mauritius, Mozambique, Somalia, South Africa, Sudan and Tanzania

   ❍ **South East Asian and Australian Littorals** - Australia, Indonesia, Malaysia, Myanmar, Singapore, Thailand and Timor Leste.

➢ The forum has enabled discussions on regional maritime issues, promoted friendly relationships, and significantly improved maritime security cooperation in the Indian Ocean Region.

➢ It **endeavours to generate a flow of information between naval professionals** that would lead to common understanding and possibly cooperative solutions on the way ahead.

Note:

What are the Other Important Groupings/Initiatives Associated with IOR?

➢ **Colombo Security Conclave:** The CSC, which was formed in 2011 as a trilateral maritime security grouping of India, Sri Lanka and the Maldives, is expanding. It recently welcomed Mauritius as a fourth member.

➢ **Indian Ocean Rim Association:** It was established in 1997. It is aimed at strengthening regional cooperation and sustainable development within the Indian Ocean region.

➢ **Indian Ocean Commission:** Recently, **India has been approved as an observer of the Indian Ocean Commission,** the inter-governmental organization that coordinates maritime governance in the south-western Indian Ocean.

➢ **Security and Growth for All in the Region (SAGAR):** It was launched in 2015. Through SAGAR, India seeks to deepen economic and security cooperation with its maritime neighbours and assist in building their maritime security capabilities.

➢ **Asia Africa Growth Corridor:** The idea of Asia Africa Growth Corridor (AAGC) emerged in the joint declaration **issued by India and Japan in 2016.**

  ○ The AAGC is raised on four pillars of Development and Cooperation Projects, Quality Infrastructure and Institutional Connectivity, Enhancing Capacities and Skills and People-to-People partnership.

Shrinkflation

Why in News?

Due to rising costs many companies are practising "**Shrinkflation**".

What is Shrinkflation?

➢ Shrinkflation is the practice of **reducing the size of a product while maintaining its sticker price**.

  ○ It is **a form of hidden inflation.**

➢ Raising the price per given amount is a strategy employed by companies, mainly in the food and beverage industries, **to stealthily boost profit margins or maintain them in the face of rising input costs.**

➢ Shrinkflation is also **referred to as package downsizing in business and academic research.**

➢ A less common usage of this term may **refer to a macroeconomic situation where the economy is contracting while also experiencing a rising price level.**

  ○ **Macroeconomics** is the study of the behaviour of a national or regional economy as a whole.

  ○ It is concerned with understanding economy-wide events such as the total amount of goods and services produced, the level of unemployment, and the general behaviour of prices.

➢ Nowadays, shrinkflation is a **common practice among producers.** The number of products that **undergo downsizing increases every year**.

  ○ Large **producers in the European and North American markets rely on this strategy** to maintain the competitive prices of their products without significantly reducing their profits.

➢ At the same time, **shrinkflation can frequently lead to customer frustration and deteriorating consumer sentiment** regarding the producer's brand.
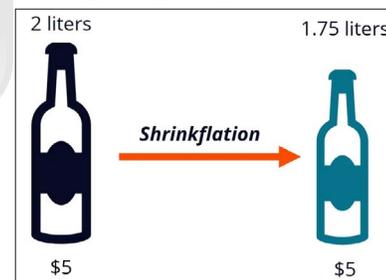
What are the Major Causes of Shrinkflation?

➢ **Higher Production Costs:** Rising production costs are generally the primary cause of shrinkflation.

  ○ Increases in the cost of ingredients or raw materials, energy commodities, and labour increase production costs and subsequently diminish producers' profit margins.

  ○ Reducing the products' weight, volume, or quantity while keeping the same retail price tag can **improve the producer's profit margin.**

  ○ At the same time, **the average consumer will not notice a small reduction** in quantity. Thus, sales volume will not be affected.

➢ **Intense Market Competition:** Fierce competition in the marketplace may also cause shrinkflation.

Note:

○ The food and beverage industry is generally an extremely competitive one, as consumers are able to access a variety of available substitutes.

○ Therefore, **producers look for options that will enable them to keep the favour of their customers** and maintain their profit margins at the same time.

Legal Aid Clinic for Women

Why in News?

Recently, the **National Commission for Women (NCW)** in collaboration with Delhi State Legal Services Authority (DSLSA) has launched a **Legal Aid Clinic.**

What is the Legal Aid Clinic?

➢ It is a single-window **facility for resolving grievances of women** by offering them **free legal assistance.**

➢ NCW is also planning to set up similar legal services clinics in other State Commissions for Women.

➢ Under the new legal aid clinic, counselling will be provided for walk-in complainants, women in distress will be given legal assistance, advice and information on various schemes of the **National Legal Services Authority (NALSA)**/ DSLSA, assistance in mahila jansunwai, free legal aid, hearings in matrimonial cases and other complaints registered with the Commission will be provided among other services.

What is the National Commission for Women?

➢ **About:**
  ○ It was set up as **a statutory body in January 1992 under the National Commission for Women Act, 1990.**
  ○ Its **mission** is to strive towards enabling women to achieve equality and equal participation in all spheres of life by securing her due rights and entitlements through suitable policy formulation, legislative measures, etc.

➢ **Functions:**
  ○ Review the **constitutional and legal safeguards for women.**
  ○ Recommend remedial legislative measures.
  ○ Facilitate redressal of grievances.
  ○ Advise the Government on all policy matters affecting women.

TEJAS Skilling Project

Why in News?

Recently, **TEJAS (Training for Emirates Jobs And Skills)**, a **Skill India International Project** to train overseas Indias was launched at the **Dubai Expo, 2020**.

What is the Aim of the Project?

➢ Skilling**, certification and overseas employment of Indians**.

➢ Creating **pathways to enable the Indian workforce** to get equipped for skill and market requirements in the UAE.

➢ Creating **a 10,000 strong Indian workforce in UAE** during the initial phase.

What is the Need of Such Initiatives?

➢ **Tap the Potential of Youth:**
  ○ The **youth are the largest stakeholder** in both nation building and image building.
  ○ The focus is to **skill this population and provide the world with a large skilled workforce** from India.

➢ **Tackle the Rising Unemployment:**
  ○ India's **unemployment rate** reached an all-time high in 2020.
    ● India's unemployment rate touched a **7.9% in December 2021.**
    ● There were several factors responsible for this, including the **coronavirus pandemic-induced lockdown**.

➢ **Potential to contribute in the Economy:**
  ○ According to the **World Economic Forum** report released in January 2021, investment in **upskilling could potentially boost** the global economy by USD6.5 trillion by 2030, and **India's economy by USD570 billion.**
  ○ India had the second-highest additional employment potential through upskilling as it could add 2.3 million jobs by 2030, second only to the US's 2.7 million jobs.

➢ **Unskilled Labour Force:**
  ○ According to the **UNDP's Human Development Report-2020**, only **21.1% of the labour force was skilled** in the period 2010-2019 in India.

Note:

● This dismal result is due to lack of cohesion within policy actions, absence of holistic approach and working in silos.

What are the Other Initiatives Related to Skilling?
➢ **IndiaSkills 2021**
➢ **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**
➢ **Recognition of Prior Learning**
➢ **National Career Service Project**
➢ **Skills Acquisition and Knowledge Awareness for Livelihood (SANKALP)**
➢ **Young, Upcoming and Versatile Authors' (YUVA) scheme**
➢ **Kaushalacharya Awards**
➢ **Scheme for Higher Education Youth in Apprenticeship and Skills (SHREYAS)**
➢ **Atmanirbhar Skilled Employee Employer Mapping (ASEEM)**
➢ **Skill Certification**

Koyna Dam

Why in News?

Recently, the **Comptroller and Auditor General (CAG) of India** informed about the **delay in the grant of Revised Administrative Approval to an incomplete hydroelectric project in Maharashtra.** The delay resulted in the **funds being blocked for more than six years.**
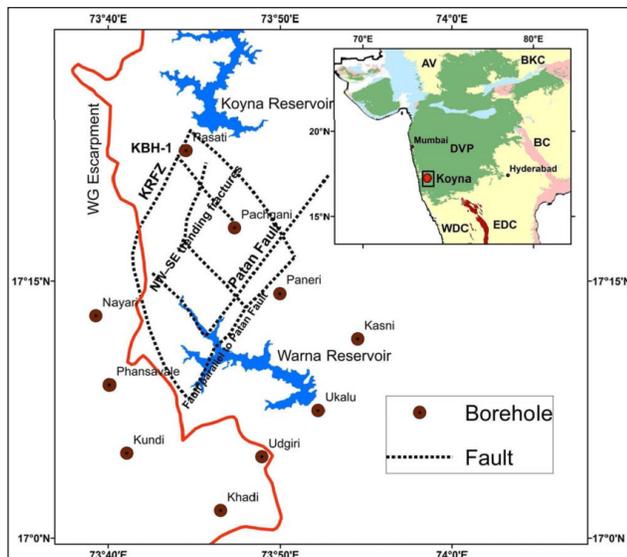
➢ The Water Resources Department (WRD) of the Maharashtra government accorded Administrative Approval for the construction of 2×40 MegaWatt (MW) hydroelectric project at Koyna Dam Foot on the left bank of the Koyna Dam **in 2004.**

What is Koyna Dam?

➢ The Koyna Dam is the **largest dam in Maharashtra.** The Dam is located in Koyana Nagar, Satara District.

➢ It is **nestled in the Western Ghats on the state highway between Chiplun and Karad.** Koyna Dam is a rubble-concrete dam built on the Koyna River which rises in Mahabaleshwar, a hill-station in Sahyadri mountain ranges.

➢ The work on Koyna dam was initiated in 1951 and the first turbine **started working in 1962.**
   ○ At **present the stage V of Koyna Hydroelectric Power Project** is under construction.

➢ The main purpose of the dam is **to provide hydroelectricity with some irrigation facilities in neighboring areas.**

➢ The Koyna dam **supplies water to Paschim Maharashtra** as well as to the hydroelectric power to neighboring areas.

➢ The dam plays a vital role in flood control in **monsoon** season. The catchment area dams the **Koyna river** and forms the **Shivsagar Lake** which is approximately 50 km in length.
   ○ **Koyna Wildlife Sanctuary** covering an area of around 423.55 km^2 was notified in 1985.
   ○ In 2007 Koyna Wildlife Sanctuary along with Chandoli National Park was declared as a part of **Sahyadri Tiger Reserve** declared by **The National Tiger Conservation Authority.**

➢ It is **one of the largest civil engineering projects commissioned after Indian independence**. The Koyna hydro-electric project is run by the Maharashtra State Electricity Board.

What are the Key Facts about the Koyna River?

➢ The **Koyna River is a tributary of the Krishna River** which originates in Mahabaleshwar, Satara district, Western Maharashtra.

➢ Unlike most of the other rivers in Maharashtra which flow East-West direction, the **Koyna River flows in North-South direction.**

Note:

drishti

➤ It covers an area of 2,036 km² in the Deccan terrain of the district of Satara in the state of Maharashtra.

○ With an elevation range of **550 – 1,460 m above mean sea level** it typically represents a physiographic setup characterized by the Deccan plateau in the Western Ghats region.

➤ It is dammed by the Koyna Dam at Koynanagar forming the Shivsagar reservoir.

➤ Koyna River is supported by four **tributaries**. They are **Kera, Wang, Morna and Mahind.** Among these rivers Kera, Wang and Morna are dammed.

Army Variant of MRSAM

Why in News?

Recently, the **Defence Research and Development Organisation (DRDO)** conducted two successful flight tests of the **Army version of Medium Range Surface to Air Missile (MRSAM) at the Integrated Test Range, Chandipur, off the coast of Odisha.**

➤ The tests were part of the live firing trials against high-speed aerial targets. The **first launch was to intercept a medium-altitude long-range target** and the **second launch was for providing capability of a low-altitude short-range target.**

➤ The maiden test of the **Medium Range Surface to Air Missile (MRSAM)** for the Indian Army was conducted in 2020.

What is an MRSAM?

➤ **Army Variant of MRSAM:**

○ It is a surface to air missile developed jointly by **DRDO,** India and Israel Aerospace Industries (IAI), Israel for use by the **Indian Army.**

○ It consists of a command and **control post, multi-function radar and mobile launcher system.**

➤ **MRSAM:**

○ It is a **high response, quick reaction, vertically launched supersonic missile,** designed to neutralize enemy aerial threats – missiles, aircraft, guided bombs, helicopters.

● Supersonic missiles exceed the speed of sound (Mach 1) but they are not faster than Mach-3.

○ It is used by the **Army, Navy and Air Force as different variants.**

● In May 2019, Indian Navy, DRDO and IAI conducted the maiden co-operative engagement firing of the naval version of the MRSAM.

○ It is a land based variant of the **Barak Air and Missile Defence System (AMD).**

● **India buys Barak AMD from Israel,** it was designed and developed by Israel to protect its economic zones and strategic facilities from various threats.

○ The missile's management system **uses the radar to track and correctly identify the target, calculates the distance from it and gives all the information to the Commander** for a decision to be made on interception.

○ The missile itself **is 4.5 metres in length with a weight of around 275 kg.**

○ It is **equipped with fins and canards to stabilise** its flight and provide it manoeuvrability.

○ The missile is powered by **a solid propulsion system coupled with a thrust vector control system.**

● It can **engage multiple targets upto a range of 70 km.**

Translation of India's Constitution into Ol Chiki Script

Why in News?

India's Constitution has been translated into Ol Chiki script for the first time.

➤ The Ol Chiki script, also known as Ol Chemet', Ol Ciki, Ol, and sometimes as the Santali alphabet, is the official writing system for Santhali, an Austroasiatic language recognized as an official regional language in India.

Note:

What is the Significance of Recognition?

➢ The Constitution of India has **special provisions for the development of the Scheduled Castes and the Scheduled Tribes,** and the translation has been useful in providing a deeper understanding of laws, powers and the community's **fundamental rights** for readers like Hembram. (Hembram is a surname which is commonly used among the Santhal tribals).

➢ Adivasi scholars often point to **Article 21 under Schedules V and VI of the Constitution** that set out the **rights of tribal peoples to developmen**t in ways that affirm their autonomy and dignity, and are considered by many to be the foundation of Adivasi rights.

  ○ **5ᵗʰ Schedule:** It deals with the **administration and control of Scheduled Areas as well as of Scheduled Tribes** residing in any State other than the States of **Assam, Meghalaya, Tripura and Mizoram.**

  ○ **6ᵗʰ Schedule:** It **provides for the administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram** to safeguard the rights of the tribal population in these states. This special provision is provided under **Article 244(2) and Article 275(1) of the Constitution.**

When was the Santali Language added to the Constitution of India?

➢ In 2003, the **92ⁿᵈ Constitutional Amendment Act added Santhali to Schedule VIII** to the Constitution of India, which lists the **official languages of India**, along with the **Bodo, Dogri and Maithili languages.**

➢ This addition meant that the **Indian government was obligated to undertake the development of the Santali language** and to allow students appearing for school-level examinations and entrance examinations for public service jobs to use the language.

What about the Population of Santhal People?

➢ According to the **2011 Census of India**, there are over **70 lakh people** who speak Santali across the country.

➢ But their geographic distribution is **not limited to India**—the community is also spread across **Bangladesh, Bhutan and Nepal.**

➢ Santhals are the **largest scheduled tribe** in the **Jharkhand state** of India in terms of population and are also found in the states of Assam, Tripura, Bihar, Chhattisgarh, Odisha and West Bengal.

What is the Eighth Schedule of the Constitution?

➢ **About:**

  ○ It lists the o**fficial languages of the republic of India**. Part XVII of the Indian constitution deals with the official languages in **Articles 343 to 351.**

  ○ The Constitutional provisions related to the Eighth Schedule are:

    ● **Article 344:** Article 344(1) provides for the constitution of a Commission by the President on expiration of five years from the commencement of the Constitution.

    ● **Article 351:** It provides for the spread of the **Hindi language** to develop it so that it may serve as a medium of expression for all the elements of the composite culture of India.

  ○ However, It can be noted that **there is no fixed criteria for any language** to be considered for inclusion in the Eighth Schedule.

➢ **Official Languages:**

  ○ The Eighth Schedule to the Constitution **consists of the following 22 languages:**

    ● Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili and Dogri.

  ○ Of these languages, **14 were initially included in the Constitution.**

  ○ **Sindhi** language was added by the **21ˢᵗ Amendment Act of 1967.**

  ○ **Konkani, Manipuri, and Nepali** were included by the **71ˢᵗ Amendment Act of 1992.**

  ○ **Bodo, Dogri, Maithili, and Santhali** were added by the **92ⁿᵈ Amendment Act of 2003 which came into force in 2004.**

Mahatma Gandhi Green Triangle

Why in News

Mahatma Gandhi Green Triangle' has been unveiled in **Madagascar** to mark Azadi ka Amrit Mahotsav.

Note:

What are the Key Points?

➢ The word green in the **plaque** (a flat piece of stone or metal) signifies their commitment to **sustainable development** and saving the environment.

➢ The naming of this park as Mahatma Gandhi Green Triangle **is a tribute to Mahatma Gandhi.**

 ❍ Gandhi was a '**Pravasi' who returned to India from South Africa**, led India's freedom struggle.

➢ Madagascar has **a large diaspora from the Indian state of Gujarat and it is fitting that a green triangle named after Gandhi**, who hailed from Porbandar in the state, is being unveiled in the capital of Madagascar (Antananarivo).

➢ Madagascar voiced appreciation for efforts by the Indian Embassy in greening the area, saying it meets the objective of the **Urban Municipality of Antananarivo** to create the maximum green space in the **capital city of Madagascar.**

What are the Key Facts Related to Mahatma Gandhi?

➢ **Birth:** 2nd October 1869 in Porbandar (Gujarat)

➢ **Brief Profile:** Lawyer, politician, social activist, and writer who became the leader of the nationalist movement against the British rule of India.

➢ **Satyagrah:** In **South Africa (1893-1915)**, he had successfully fought the racist regime with a novel method of mass agitation, which he called satyagraha.
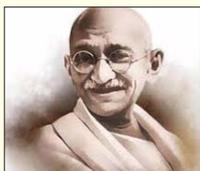
➢ **Return to India:** He returned to India from South Africa on 9th January 1915.

 ❍ **Pravasi Bharatiya Divas (PBD)** is celebrated on **9th January** every year to mark the contribution of the Overseas Indian community in the development of India.

➢ **Satyagraha Movements in India:** Mahatma Gandhi believed that the dharma of non-violence could unite all Indians.

 ❍ In **1917 he travelled to Champaran** in Bihar to inspire the peasants to struggle against the oppressive plantation system.

 ❍ In **1919**, he decided to launch a **nationwide satyagraha** against the proposed **Rowlatt Act (1919).**

➢ **Non-Cooperation Movement (1920-22):** At the Calcutta session of the Congress in September 1920, he convinced other leaders of the need to start a non-cooperation movement in support of Khilafat as well as for swaraj.

➢ **The Salt March and the Civil Disobedience Movement:** For several years after the Non-cooperation Movement ended, Mahatma Gandhi focused on his social reform work.

 ❍ In 1930, Gandhiji declared that he would lead a march to break the salt law.

  ● According to this law, the state had a monopoly on the manufacture and sale of salt.

➢ **Quit India Movement:**

 ❍ With the outbreak of **World War II** (1939-45), the nationalist struggle in India entered its last crucial phase.

➢ **Social Work:**

 ❍ He worked for the upliftment of untouchables and gave them a new name **'Harijan'** meaning the children of God.

  ● In September 1932, **B.R. Ambedkar** negotiated the **Poona Pact** with Mahatma Gandhi.

 ❍ His symbol of self-reliance - the spinning wheel - became a popular symbol of the Indian Independence Movement.

➢ **Books Written:** Hind Swaraj, **My Experiments with Truth** (Autobiography)

➢ **Death:** He was shot dead by Nathuram Godse on **30th January, 1948.**

 ❍ **30th January is observed as Martyrs' Day**.

Note:

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Exercise LAMITIYE 2022

Why in News?

An Indian Army contingent has arrived in Seychelles for the **ninth edition of the Joint Military Exercise Lamitiye 2022** between the Indian Army and Seychelles Defence Forces (SDF).

➢ Seychelles is **an Archipelago in the western Indian Ocean**, comprising about 115 islands.

What are the Key Points?

➢ Lamitiye, which in Creole means friendship, is **a biennial training event being conducted in Seychelles since 2001.**

➢ The **aim** is to build and promote bilateral military relations in addition to exchanging skills, experiences and good practices **between both armies.**

➢ Exercise Lamitiye is significant **in terms of security challenges faced by both the nations** in the backdrop of the current global situation and growing security concerns in the **Indian Ocean Region.**

World Happiness Report 2022

Why in News?

Recently, the **World Happiness Report 2022** was published by the **United Nations Sustainable Development Solutions Network.**

➢ This year marks the **10th anniversary of the World Happiness Report.**

What is the World Happiness Report?

➢ Published since 2012, the **World Happiness Report is based on two key ideas:**
  ○ **Happiness or life evaluation** measured through opinion surveys and
  ○ **Identifying key elements** that determine well-being and life evaluation across countries.

➢ The report **usually ranks 150 countries** based on several factors such as **real GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity** and **perceptions of corruption.**
  ○ This year, the **report ranked 146 countries.**

➢ Every year, **each variable measures a populated-weighted average score** on a scale of 0-10 that is tracked over a period of time and further compared with other countries.

➢ This year, countries which **ranked in the top 10 last year, moved upwards and downwards.**

What about the Performance of the Countries?

➢ **Top Performers:**
  ○ **Finland** has been named the **world's happiest country** for the fifth year running followed by **Denmark.**
  ○ The biggest gains in happiness have taken place in **Serbia, Bulgaria and Romania.**

➢ **Worst Performers:**
  ○ **Afghanistan was ranked as the unhappiest nation**, followed by Lebanon, Zimbabwe, Rwanda and Botswana, respectively.

➢ **India's Performance:**
  ○ **India saw a marginal improvement** in its ranking, jumping **three spots to 136, from 139 a year ago.**

What is the Sustainable Development Solutions Network?

➢ The SDSN, launched in 2012, **mobilises global scientific and technological expertise** to promote practical problem solving for the **Sustainable Development Goals (SDGs)** and the **Paris Climate Agreement.**

Note:

> ➢ It was established under the **auspices of the United Nations Secretary-General.**
> ➢ The **SDSN and the Bertelsmann Stiftung** have been publishing the annual **Sustainable Development Goals (SDGs)** Index & Dashboards Global Report since 2016.

International Day to Combat Islamophobia

Why in News?

Recently, the **UN General Assembly** approved a resolution for setting **March 15ᵗʰ** as the **International Day to Combat Islamophobia.**

➢ The resolution was introduced by Pakistan on behalf of the **Organisation of Islamic Cooperation (OIC).**

➢ Though the resolution has been passed at **UNGA, India has highlighted several concerns.**

What are the Key Points of the Resolution?

➢ The resolution, adopted by consensus by the **193-member world body and cosponsored by 55 mainly Muslim countries.**

➢ The resolution asks all countries, U.N. bodies, international and regional organisations, civil society, private sector and faith-based organisations **"to organise and support various high-visibility events aimed at effectively increasing awareness of all levels about curbing Islamophobia.**

➢ The resolution emphasizes the right to freedom of religion and belief and recalls a 1981 resolution calling for **"the elimination of all forms of intolerance and of discrimination based on religion or belief."**

What is India's Stand?

➢ India expressed **concern over phobia against one religion being elevated to the level of an international day,** saying there are growing contemporary forms of **religiophobia,** especially **anti-Hindu, anti-Buddhist and anti-Sikh phobias.**

➢ It also cited that that word **'pluralism' finds no mention in the resolution.**

➢ India hopes the resolution adopted **"does not set a precedent"** which will lead to multiple resolutions on phobias based on **selective religions and divide the United Nations into religious camps.**

➢ The term Islamophobia does not have any agreed definition in **international law, contrary to the freedom of religion or belief.**

> **What is International Day Commemorating the Victims of Acts of Violence Based on Religion or Belief?**
>
> ➢ Earlier in 2019, UNGA has also passed a resolution to celebrate August 22ⁿᵈ, **International Day Commemorating the Victims of Acts of Violence Based on Religion or Belief.**
>
> ➢ Its resolution **envisages recognizing the importance of providing victims of acts of violence based on religion or belief** and members of their families with appropriate support and assistance in accordance with applicable law.

Kamikaze Drone

Why in News

Recently, the US announced USD 800 million in new military aid for Ukraine, including 800 additional Stinger anti-aircraft missiles, 9,000 antitank weapons, 100 tactical drones including **Kamikaze or suicide drones.**

➢ Kamikaze are unmanned aircraft that ar**e part of the tranche of weapons that are being sent by the US to Ukraine to assist their fight against Russia.**

What are Kamikaze drones?

➢ **About:**

- ○ Also called Switchblade drones, these are **small unmanned aircraft that are packed with explosives** that can be flown directly at a tank or a group of troops that are destroyed when it hits the target and explodes.
  - They are called S**witchblade because their bladelike wings spring out on launch.**
- ○ The drones have **the capability of going past traditional defences to strike its targets and also cost a fraction of what the larger counterparts do.**

Note:

○ These small lethal drones **are difficult to detect on radar**, and they can even be programmed to hit targets **without human intervention,** based on facial recognition.

➢ **Countries Possess such Drones:**

○ Although the Kamikaze might be the most advanced form of this genre of drones, **Russia, China, Israel, Iran and Turkey** all have some version of it.

What are its Specifications?

➢ **Light Weight:**

○ Weighing just five-and-a-half pounds, including its small warhead, the Switchblade can be taken into battle in a backpack and **fly up to 7 miles to hit a target.**

➢ **Can Adjust Blast Radius:**

○ The Switchblade has a feature **that allows the operator to adjust the blast radius.** So, it can kill the driver of a vehicle but not a passenger, for example. The weapon can be "waived off" up to two seconds before impact.

● A **blast radius** is the distance from the source that will be affected when an explosion occurs.

➢ **Cameras for Centralised View of Area of Operation:**

○ The Switchblade also has cameras that show a target seconds before impact.

○ The drone cruises at 63 miles per hour and provides "operators with real-time video downlinks for a centralised view of the area of operation".

Navroz

Why in News?

Recently, the PM greeted the people on the occasion of Navroz (21st March 2022).

What are the Key Points?

➢ Navroz is **also known as Parsi New Year.**

➢ In Persian, **'Nav' stands for new, and 'Roz' stands for the day,** which literally translates to 'new day'.

➢ Though **celebrated in March globally, Navroz arrives 200 days later in India and is celebrated in the month of August** as the Parsis here follow the Shahenshahi calendar that doesn't account for leap years.

○ In India, Navroz is also known as **Jamshed-i-Navroz, after the Persian King, Jamshed.**

○ The king Jamshed is credited with having created the Shahenshahi calendar.

➢ Interestingly **in India, people celebrate it twice a year** - first according to the Iranian calendar and the second according to the Shahenshahi calendar which is followed by people here and in Pakistan.

➢ The tradition is **observed by Iranians and Zoroastrian** around the world.

➢ Navroj was **inscribed in the list of UNESCO Intangible Cultural Heritage of Humanity of India in 2009.**

○ This coveted list is made up of those intangible heritage elements that help demonstrate diversity of cultural heritage and raise awareness about its importance.

Existing Traditions of India Recognised by UNESCO			
1.	Tradition of Vedic chanting, 2008	8.	Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir, India, 2012
2.	Ramlila, the traditional performance of the Ramayana, 2008	9.	Sankirtana, ritual singing, drumming and dancing of Manipur, 2013
3.	Kutiyattam, Sanskrit theatre, 2008	10.	Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab, India ,2014
4.	Ramman, religious festival and ritual theatre of the Garhwal Himalayas, India, 2009	11.	Yoga, 2016
5.	Mudiyettu, ritual theatre and dance drama of Kerala, 2010	12.	Nowruz, 2016
6.	Kalbelia folk songs and dances of Rajasthan, 2010	13.	Kumbh Mela, 2017
7.	Chhau dance, 2010	14.	Durga Puja in Kolkata, 2021

What is Zoroastrianism?

➢ Zoroastrianism, **one of the earliest known monotheistic faiths**, is practised by Parsis.

➢ It was **created over 3,500 years ago in ancient Iran** by Prophet Zarathustra.

➢ It was the **official religion of Persia (now Iran)** from 650 BCE until the emergence of Islam in the 7th century, and it was one of the most important faiths in the ancient world for over 1000 years.

➢ When the Islamic troops invaded Persia, numerous Zoroastrians fled to India (Gujarat) and Pakistan.

➢ The Parsis ('Parsi' is Gujarati for Persian) are the largest single group in India, with an estimated 2.6 million Zoroastrians worldwide.

➢ Zoroastrians (Parsis) are one of the notified **minority communities.**

Africa's Boma Technique

Why in News?

Recently, **Africa's Boma technique** was undertaken at **Keoladeo National Park** in Rajasthan's Bharatpur district.

Note:

➢ It was undertaken for capturing **chitals or spotted deer and** translocating them to **Mukundara Hills Tiger Reserve, so as to** improve the prey base.

➢ The **IUCN Red List** Status of Chital is **Least Concern.**

What is Boma capturing Technique?

➢ The Boma capturing technique is **popular in Africa**.

➢ It involves **luring animals into an enclosure** by chasing them through a funnel-like fencing.

➢ The funnel tapers into an **animal selection-cum-loading chute,** supported with grass mats and green net to make it opaque for animals, which are herded into a large vehicle for their transport to another location.

➢ This old technique was earlier utilised to capture **wild elephants for training and service.**

➢ This shifting exercise has been approved by **National Tiger Conservation Authority's (NTCA).**

➢ The translocation of herbivores would reduce preying upon rural cattle, sheep and goats around the **tiger reserves.**

What are Key Points Related to Keoladeo National Park?

➢ Keoladeo National Park is formerly known as the **Bharatpur Bird Sanctuary.**

➢ It is located in the **State of Rajasthan.**

➢ It is an **UNESCO World Heritage** and a **Ramsar site.**

➢ **Breeding Ground:** Different species from far-flung areas of northern hemisphere visit the Sanctuary for breeding. The Siberian crane is one of the rare species that can be spotted here.

➢ **Fauna:** Animals such as **Jackals, Sambar, Nilgai, wild cats, hyenas, wild boar, porcupine and mongoose** can be found in the region.

➢ **Flora**: The principal vegetation types are **tropical dry deciduous forest** dominated by Acacia nilotica intermixed with **dry grassland.**

➢ **River: Gambhir** and **Banganga** are two rivers that flow through this National Park.

What are Protected Areas in Rajasthan?

➢ **Tiger Reserves:**

○ **Ranthambore Tiger Reserve (RTR)** in Sawai Madhopur

○ **Sariska Tiger Reserve (STR)** in Alwar

○ **Mukundra Hills Tiger Reserve (MHTR)** in Kota

➢ **National Park:**

○ **Desert National Park,** Jaisalmer

○ Keoladeo National Park, Bharatpur

➢ **Wildlife Sanctuary:**

○ **Sajjangarh wildlife sanctuary,** Udaipur

○ National Chambal Sanctuary (on tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh).

Women Transforming India Awards

Why in News?

NITI Aayog's Women Entrepreneurship Platform (WEP) organized the **fifth edition of the Women Transforming India Awards (WTI).**

➢ The WTI Awards 2021 were conferred upon **75 women achievers to celebrate their contribution towards a 'Sashakt Aur Samarth Bharat'.**

Note:

➢ The **Women Entrepreneurship Platform (WEP) anthem titled 'Nari Shakti'-**written, composed and sung by Kailash Kher was presented at the event.

What is the WTI Award?

➢ **About:**
  ○ The WTI Awards is NITI Aayog's **annual initiative to highlight the commendable and ground-breaking endeavours of India's women leaders** and change-makers.
  ○ **Since 2018,** the Awards have been **hosted under the aegis of NITI Aayog's Women Entrepreneurship Platform (WEP),** with a special focus on entrepreneurship.

➢ **Categories:**
  ○ Public and Community Service
  ○ Manufacturing Sector
  ○ Non-manufacturing sector
  ○ Financial Products enabling Economic Growth
  ○ Climate Action
  ○ Promote Art, Culture and Handicrafts
  ○ Digital Innovation

➢ **Selection of Winners:**
  ○ The awardees have been selected on the basis of nominations received on WEP (Women Entrepreneurship Platform) and through shortlisting by a search-and-select committee**.**

What is WEP?

➢ WEP is an initiative by the NITI Aayog **to promote and support aspiring as well as established women entrepreneurs in India**, assisting them in their journey from starting up to scaling up and expanding their ventures.

➢ The idea of the Platform was **first proposed by Amitabh Kant, CEO, NITI Aayog** who announced the WEP at the conclusion of the 8th Global Entrepreneurship Summit (GES) in 2017, to help resolve the information asymmetry that exists in the ecosystem.

➢ The platform works to **strengthen industry linkages and increase awareness of the women entrepreneurs** regarding the existing programmes and services.

➢ Through its partnerships, services are provided in 6 main focus areas: Community and Networking, Funding and Financial Assistance, Incubation and Acceleration, Compliance and Tax Assistance, Entrepreneur Skilling and Mentorship and Marketing Assistance.

➢ Over 900 women entrepreneurs have benefitted through 77 programmes and events hosted on the platform.

DUSTLIK Exercise

Why in News?

The **3rd edition of joint training exercise** between Indian and Uzbekistan armies, **EX-DUSTLIK** is being conducted at Yangiarik, Uzbekistan from 22nd to 31st March 2022.

What is the DUSTLIK Exercise?

➢ **About:**
  ○ The exercise would **focus on Counter Terrorism operations** in semi-urban terrain under a **United Nations** Mandate.
    ● The **Grenadiers battalion** is nominated for the exercise. The battalion is **one of the highly decorated battalions of the Indian Army.**
  ○ The training schedule will f**ocus primarily on sharing tactical level drills** and learning of best practices from each other.
  ○ It aims at **enhancing understanding, cooperation and interoperability between two armies.**
    ● The last edition of DUSTLIK was conducted in **Ranikhet (Uttarakhand) in March 2021.**

Note:

➢ **Significance:**

○ Uzbekistan is important to India for security and connectivity to the **Central Asian Region** and also Iran, it is also one alternative India has with respect to Afghanistan.

   ● Security concerns stemming from the **conflict in Afghanistan** is one of the major challenges for India's involvement in Central Asia.

What are the other Joint military Exercises of India with Other Countries?

Joint Military Exercises of India with Other Countries	
Name of Exercise	**Country**
Garuda Shakti	Indonesia
Ekuverin	Maldives
Hand-in-Hand	China
Bold Kurukshetra	Singapore
Mitra Shakti	Sri Lanka
Nomadic Elephant	Mongolia
Shakti	France
Surya Kiran	Nepal
Yudh Abhyas	USA

MANPADS

Why in News?

The United States and **North Atlantic Treaty Organization (NATO)** are shipping weapons into **Ukraine**, including highly sensitive items such as shoulder-fired missiles called **Man-Portable Air-Defence Systems (MANPADS)** that can take down aircraft.

➢ Countries such as **India, Pakistan, Germany, UK, Turkey and Israel** have also used MANPADS in their defence efforts.

➢ **Russia is by far the biggest exporter of MANPADs,** having sold over 10,000 such systems between 2010 and 2018 to various countries including Iraq, Qatar, Kazakhstan, Venezuela, and Libya.

What are MANPADS?

➢ **About:**

○ MANPADS are **short-range, lightweight and portable surface-to-air missiles** that can be fired by individuals or small groups to destroy aircraft or helicopters.

○ They help **shield troops from aerial attacks** and are most effective in targeting low-flying aircrafts.

   ● **MANPATs or Man-Portable Anti-Tank Systems** work in a similar manner but are used to destroy or incapacitate military tanks.

○ MANPADS have a **maximum range of 8 kilometers and can engage targets at altitudes of 4.5 km.**

○ The **first MANPADS were introduced by the United States and Soviet Union** in the 1960s.

➢ **Features:**

○ **Shoulder-Fired, Light Weight:**

   ● They can be **shoulder-fired, launched from atop a ground-vehicle, fired from a tripod or stand**, and from a helicopter or boat.

   ● They are **fairly lightweight as compared to other elaborate weapon systems**, making them easy to operate by individual soldiers.

     ■ They weigh anywhere between 10 to 20 kilograms and are not longer than 1.8 meters.

○ **Fire and Forget Guidance Systems:**

   ● Most of them have passive or 'fire and forget' guidance systems, meaning that the operator is not required to guide the missile to its target, enabling them to run and relocate immediately after firing.

○ **Infrared (IR) Seekers:**

   ● The missiles are fitted with infrared (IR) seekers **that identify and target the airborne vehicle through heat radiation** being emitted by the latter.

➢ **Common Variants:**

○ Stinger Missiles (US), Igla MANPADS (Russia), Starstreak (Britain), RBS-70 MANPADS Series (Sweden), Next Generation Light Antitank Weapon or NLAW missiles and Javelin missiles (US and NATO).

➢ **Concerns:**

○ **Civilian Attacks:**

   ● According to a 2019 study, **more than 60 civilian aircraft have been hit by MANPADS since the 1970s**, claiming the lives of more than 1,000 civilians.

○ **Illicit Use by Non-State Actors:**

   ● Over time, non-state actors such as rebel and terrorist groups are known to have illicitly acquired MANPADS, using them during civil wars and other high-intensity conflicts.

Note:

○ **Illegal Weapon Trade:**

- Observers fear that sending lightweight ground-based MANPADS to Ukraine may contribute to intensifying the network of illegal weapon trade.

Air Traffic Management Systems

Why in News

Recently, the **Airports Authority of India (AAI),** under its R&D initiative, has signed an agreement with **Bharat Electronics Limited (BEL)** to jointly develop indigenous **Air Traffic Management System.**

➢ Under this Agreement, BEL and AAI will jointly develop **Civil Air Traffic Management System (ATMS)** with **Advanced-Surface Movement Guidance and Control System (ASMGCS),** a complex ground surveillance system that manages air traffic at airports and in Indian Civil Airspace for safe operation of flights from take-off to landing.

What is the Air Traffic Management System?

➢ Air traffic management and control primarily **involves the control of traffic in and around airports, airport terminals and airspace.**

➢ Air traffic controllers that work from **Air Traffic Control (ATC) towers are responsible for ensuring a safe distance between all aircraft,** both in the air and on the ground, to prevent accidents.

➢ Air traffic controllers **prevent collisions and maintain an orderly flow of air traffic.** The commonly used technologies and systems in air traffic management and control include:

- ○ Surface movement and surveillance **radars**
- ○ Holographic radar
- ○ Navigation and surveillance systems
- ○ Voice communication control systems
- ○ Ultra-high frequency (UHF) and very high frequency (VHF) communication systems
- ○ Flight data information display equipment
- ○ Radio modems and transceivers
- ○ Collision avoidance systems
- ○ Noise monitoring systems
- ○ Meteorological sensors and displays
- ○ Airfield lighting control and monitoring
- ○ Training management software

What are the Objectives and Significance of the Agreement?

➢ It will help in leveraging the complementary strengths and capabilities of BEL and AAI and enabling both to **address airport modernization opportunities.**

➢ It will **ensure safety, maintain separation between multiple aircraft, and efficient management of operations** at the airport and Indian airspace.

➢ It aims to upgrade its **ANS (Air Navigation Services) Infrastructure** in systematic, efficient and cost-effective manner and in compliance with the **'Atma Nirbhar Bharat'** missions of the Government of India.

➢ It will **reduce AAI's foreign dependency for procurement** of ANS infrastructure.

H2Ooooh! – Waterwise program for the Children of India

Why in News

On the occasion of **World Water Day (22ⁿᵈ March)**, **National Mission for Clean Ganga**, **UNESCO (United Nations Educational, Scientific and Cultural Organization)** and other partners released three animation films under its initiative **"H2Ooooh! – Water Wise program for the Children of India''.**

➢ The films are based on the stories submitted by school students **focusing on protection and conservation of Indian Rivers.**

What is UNESCO?

➢ **About:**

- ○ **It seeks to build peace** through international cooperation in Education, the Sciences and Culture.
- ○ UNESCO's programmes contribute to the achievement of the **Sustainable Development Goals** defined in Agenda 2030, adopted by the **UN General Assembly** in 2015.
- ○ It has 193 Members and 11 Associate Members. India joined UNESCO in 1946.
  - In 2019, **the USA and Israel formally quit UNESCO.**
- ○ It is headquartered in Paris, France.

○ **UNESCO-IOC (Intergovernmental Oceanographic Commission) is leading a global effort** to establish ocean-based **tsunami warning systems** as part of an overall multi-hazard disaster reduction strategy.

● Last year (2020), UNESCO-IOC approved the **recognition of two communities of Odisha** viz., Venkatraipur and Noliasahi as Tsunami Ready Communities.

➢ **Other Initiatives of UNESCO**

○ **Man and Biosphere Programme**

○ **World Heritage Programme**

○ **UNESCO Global Geopark Network**

○ **UNESCO's Network of Creative Cities**

What is H2Ooooh! Initiative?

➢ **About:**

○ It was **launched by UNESCO in July 2021**, jointly with the National Mission for Clean Ganga (NMCG) and others.

○ H2Ooooh! is a unique program crafted for **Indian school students from Standard 1-8.**

➢ **Objectives:**

○ It aims to **increase awareness about the limited availability of water, its sustainable use, its conservation, its exploitation** and much more.

○ It seeks to **enable the students to share their own experiences** and proposals for the protection of the environment.

○ Divided in **three phases**, the project aims to spur creativity and raise awareness on water conservation and its sustainable use for **students between the age of 6-14 years,** by providing training and encouraging them to submit paintings and story ideas for the animated short films.

● Since its launch, **nearly 31000 students from 53 schools in 18 Indian states have been engaged actively,** with the support from over 400 teachers.

What are the other Major Initiatives of India to Conserve Water?

➢ **Jal Kranti Abhiyan.**

➢ **National Water Mission.**

➢ **National Rural Drinking Water Programme.**

➢ **NITI Aayog Composite Water Management Index.**

➢ **Jal Jeevan Mission.**

➢ **Jal Shakti Abhiyan.**

➢ **Atal Bhujal Yojana.**

➢ **National Aquifer Mapping and Management Programme**

35th Surajkund International Mela

Why in News?

The 35th Surajkund International Crafts Mela 2022 is being held from 19th March, 22 to 4th April, 2022 **in Faridabad, Haryana.**

➢ This fair **is held every year in the month of February;** however, the schedule was revised this year due to the Coronavirus. The annual fair in Faridabad was **last held in 2020.**

Key Points

➢ The Mela is **organized by** the Surajkund Mela Authority & Haryana Tourism in collaboration with Union Ministries of Tourism, Textiles, Culture and External Affairs.

➢ The Mela was **initiated in 1987** to promote the pool of skilled artisans, who used indigenous technology, but were suffering due to the cheaper machine-made imitations**.**

○ The fair was **upgraded to an international level in 2013.**

➢ The Surajkund Mela showcases the richness and diversity of the handicrafts, handlooms and cultural fabric of India, & is the **largest crafts fair in the world.**

➢ **Jammu & Kashmir** is the **'Theme State'** and **Uzbekistan** is the "**Partner Nation**" for the year 2022.

Zoji la Pass

Why in News?

Recently, **Zoji la Pass** has been opened for **Civilian Traffic over Ladakh from Sonamarg.**

➢ Zoji la is located in **Drass, Ladakh at an altitude above 11,650 ft** and historically remains closed for the major part of the **winter season.**

Note:

drishti

What is Zoji La?

➢ Zoji La is a **high mountain pass** located in the **Kargil district of Ladakh.**

➢ The pass links **Leh and Srinagar** and provides an important link **between Union Territories of Ladakh and Kashmir.**

➢ Zoji la is known as the **"Mountain Pass of Blizzards".**

➢ Zojila pass remains closed during winters due to **heavy snowfall, cutting off Ladakh region from Kashmir.**

➢ In 2018, the **Zojila tunnel** project was launched. The **tunnel is Asia's longest and strategic bi-directional tunnel,** which will provide all-weather **connectivity between Srinagar, Kargil and Leh.**

Major Passes in the Himalayas

Pass	Link/Features
Banihal Pass	Kashmir Valley with the outer Himalaya and the plains to the south.
Bara-Lacha-La Pass	Lahaul district in Himachal Pradesh with Leh district in Ladakh.
Fotu La Pass	Leh with Kargil of Ladakh
Rohtang Pass	Kullu Valley with the Lahaul and Spiti Valleys of Himachal Pradesh.
Shipki La Pass	Kinnaur district of Himachal Pradesh with Autonomous Region of Tibet, China.
Jelep La Pass	Sikkim with Autonomous Region of Tibet, China.
Nathu La Pass	Sikkim with Autonomous Region of Tibet, China.
Lipu Lekh Pass	Chaudans valley of India with Autonomous Region of Tibet, China. It is located close to the tri junction of Uttarakhand (India), China and Nepal.
Khardung La	Ladakh with Siachen glacier. It is the highest motorable pass in the world.
Bom di La	It is in Arunachal Pradesh

Articulated All-Terrain Vehicles

Why in News?

The **Indian Army** has issued a Request For Information (RFI) for the supply of **Articulated All-Terrain Vehicles** to be deployed in **Ladakh** and **Kutch**.

➢ An RFI is a **formal process for gathering information** from potential suppliers of a good or service.

What are Articulated All Terrain Vehicles?

➢ It is **a twin cabin, tracked, amphibious carrier for off road mobility.**

➢ The special design of this equipme**nt exerts low ground pressure on the soil and a pull-push mode of locomotion** between two cabins facilitates mobility over varied terrains like snow, desert and slush.

➢ **A ballistic protection in the cabin body ensures protection** to troops travelling in it from small arms fire.

➢ They can reach where **wheeled vehicles cannot due to deep snow, slush or marshy terrain** and can be very effective for patrolling and rapid deployment in operational situations.

What is the Utility of these vehicles

➢ These vehicles are **very useful to move troops or supplies in snow-bound terrains** and in marshy/sandy environments.

➢ The **Indian Army** wishes to use these vehicles in the snow-bound areas of **Ladakh** and in the marshy terrain of the **Rann of Kutch.**

Herbal Formulation for Tick Infestation

Why in News?

Recently, the **National Innovation Foundation (NIF)** brought out a **Herbal Formulation** that has been found to be effective in combating **tick infestation among dairy animals.**

Note:

➢ The NIF collaborated with the **Indian Council of Agricultural Research**--**National Dairy Research Institute**, Karnal, Haryana in the form of a Research Programme for field testing of Poly Herbal Medication.

What is Tick Infestation?

➢ The Ticks are **harmful as blood sucking parasites** severely affect productivity of dairy animals and a major economic impediment, welfare concern in dairy farming.

➢ Tick-Borne Pathogens (TBP) are a **major source of production loss and a welfare concern in livestock** across the globe.

➢ This causes **tick worry, loss of appetite among animals causing reduction in milk production, thereby lessening farmers' income.**

   ❍ These parasites are vectors of **systemic protozoan infection,** threat to dairy animal health & productivity.

➢ Presently, **farmers rely on chemical acaricides that are costly,** have to be used recurrently due to the nature of parasites.

What is the New Formulation?

➢ The NIF has developed, standardised a formulation comprising common herbal ingredients like **Neem (***Azadirachta indica***)** and **Nagod (***Vitex negundo***).**

   ❍ These medicinal trees are widely known among indigenous communities**, a common part of the medicinal system in treatment of various ailments.**

➢ NIF's polyherbal medication was **found to demonstrate efficacy in field conditions and the development of technology-based on resources available in front of farm fields**.

➢ The medicines' successful demonstration will **ensure cost-effective health care.**

What is the National Innovation Foundation?

➢ It is an autonomous body which was **set up in 2000** with the assistance of the **Department of Science and Technology.**

➢ It is **India's national initiative to strengthen the grassroots technological innovations** and outstanding traditional knowledge.

➢ Its mission is **to help India become a creative and knowledge-based society** by expanding policy and institutional space for grassroots technological innovators.

➢ It **helps grassroot innovators and outstanding traditional knowledge** holders get due recognition, respect and reward for their innovations

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Desert Fox and Mange Disease

Why in News

Recently a few **Desert Foxes were spotted** in the scrub forests of **Rajasthan's Jaisalmer distric**t, suffering from a loss of fur due to the **Mange Skin Disease.**

➢ There were 8,331 foxes — both Indian and desert foxes — in the state according to the 2019 wildlife census of Rajasthan.

What is a Desert Fox?

➢ **Common Name**: White-footed fox

➢ **Scientific Name:** *Vulpes vulpes pusilla*

➢ **About:**

   ❍ Desert fox is the **third sub-species of red fox in India.**

      ● Other two subspecies are: the Tibetan Red Fox and the Kashmir Red Fox.

   ❍ They can be differentiated from other fox species by their **white tail-tip.** Beady eyes and a small snout give them an endearing, almost adorable look.

   ❍ Its range does not overlap with that of other red fox sub-species.

➢ **Habitation:**

   ❍ Desert fox **inhabits the dry and semi-arid regions of western and north-western India.**

   ❍ Desert foxes occupy less than half of their potential habitats in India.

   ❍ Desert foxes can be found wandering around sand dunes and semi-dried river beds, where they build their dens.

   ❍ They are omnivores consuming almost everything from berries and plants to desert rodents, insects, spiders, small birds, and lizards, like the spiny tail.

Note:

➢ **Threat:**
  ○ They are threatened by habitat loss, road-related mortality and negative interactions with free-ranging/domestic dogs.
➢ **Protection Status:**
  ○ **IUCN Red List:** Least Concern
  ○ **CITES listing:** Appendix II
 ○ India's **Wildlife (Protection) Act:** Schedule II

What is Mange?

➢ Mange is **a skin disease of animals caused by mite infestations**, characterized by inflammation, itching, thickening of the skin, and hair loss.

➢ The **most severe form of mange is caused by varieties of the mite Sarcoptes scabiei**, which also causes human scabies.

➢ Some form of mange is **known in all domestic animals, although many varieties of mange mites infest only one species.**

➢ They are transmitted between **animals by direct contact and by objects that have been in contact** with infested animals.

➢ Most forms of mange are **treatable.**

➢ When the infected animal scratches and the skin breaks, it lays eggs and multiplies. The affected area becomes scabbed and no hair grows there.

Earth Hour

Why in News

Every year on 26ᵗʰ March, people around the planet take an hour off electricity by switching off their lights at homes and offices as a show of support for conservation of energy during the **World Earth Hour.**

➢ It has to be noted here that the Earth Hour is different from **Earth Day (22nd April).**
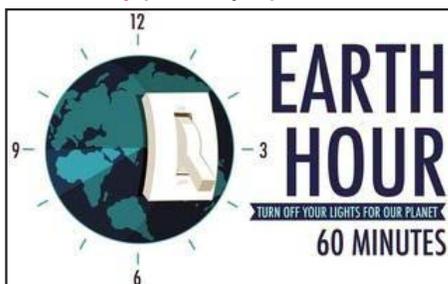
What is the World Wildlife Fund for Nature?
➢ **About:**
  ○ It is the **world's leading conservation organisation** and works in more than 100 countries.
➢ **Established:**
  ○ It was **established in 1961** and is headquartered at Gland, Switzerland
➢ **Mission:**
  ○ **To conserve nature and reduce the most pressing threats** to the diversity of life on Earth.
➢ **Other Initiatives of WWF:**
  ○ **TX2 Goal**
  ○ **TRAFFIC**
  ○ **Living Planet Report**

What is an Earth Hour?

➢ **About:**
  ○ Earth Hour is the **World Wildlife Fund for Nature (WWF)'s** annual initiative that began in 2007.
  ○ It is held every year on **the last Saturday of March.**
  ○ It encourages people from more than 180 countries to **switch off the lights from 8.30 pm to 9.30 pm as per their local time.**
  ○ The idea is to **refrain from the use of non-essential lighting** to save energy in a symbolic call for environmental protection.
➢ **2022 Theme:**
  ○ Shape Our Future

What are the Objectives and Significance?

➢ Earth Hour aims to **increase awareness and spark global conversations on protecting nature, tackling the climate crisis,** and working together to shape a brighter future for humans.

➢ It calls for the world to **unite in a moment of solidarity for people and the planet.**

➢ The practice has **become a catalyst for dramatic change and collective action** towards protecting the environment.

➢ The symbolic lights-out Earth Hour has become **the world's largest grassroots movement to raise awareness about climate change and energy conservation** and to assure a sustainable, brighter future.

What are the Major Indian Initiatives for Energy Conservation?

➢ **Perform Achieve and Trade Scheme (PAT)**: It is a market based mechanism to enhance the cost effectiveness in improving the Energy Efficiency in Energy Intensive industries through certification of energy saving which can be traded.

➢ **Standards and Labeling:** The scheme was launched in 2006 and is currently invoked for equipment/appliances.

➢ **Energy Conservation Building Code (ECBC):** It was developed for new commercial buildings in 2007.

➢ **Demand Side Management:** It is the selection, planning, and implementation of measures intended to have an influence on the demand or customer-side of the electric metre.

Sariska Tiger Reserve

Why in News?

Recently, a massive fire broke out inside the **Sariska Tiger Reserve (Rajasthan).** The fire spread and destroyed around 10 sq km of forests despite timely satellite warnings and the availability of a real-time mobile application-based fire response system.

➢ The **United Nations Environment Programme (UNEP)** warned in its annual Frontiers report released in February 2022 that wildfires — **a natural phenomenon — have become more dangerous and now affect larger areas.**

➢ A total of 381 forest fires have been reported in India by 30th March, 2022, according to the **Forest Survey of India.** Madhya Pradesh has recorded the highest number of fires at 133.

➢ The fire began **because of dry grass, leaves and plants because of reasons unknown to the park authorities.**

What are the Key Features of Sariska Tiger Reserve?

➢ **About:**

○ Sariska Tiger Reserve is **located in Aravali hills and forms a part of the Alwar District of Rajasthan.**

○ Sariska was declared a wildlife sanctuary in 1955 and was declared the tiger reserve later in 1978, making it a part of India's **Project Tiger.**

○ The **Reserve houses ruined temples, forts, pavilions** and a palace.

● Kankarwadi fort is located in the centre of the Reserve and it is said that Mughal emperor Aurangzeb had imprisoned his brother Dara Shikoh at this fort in struggle for succession to the throne.

● The Reserve also houses a famous temple of lord Hanuman at Pandupole related to Pandavas.

➢ **Flora and Fauna:**

○ The Reserve is immensely rich in flora and fauna, and is famous for Royal Bengal Tiger.

○ The park has **populations of leopards, Nilgai, Sambar, chital etc**.

What are the other Protected Areas of Rajasthan?

➢ **Desert National Park**, Jaisalmer

➢ Keoladeo National Park, Bharatpur

➢ Ranthambore National Park

➢ **Sajjangarh wildlife sanctuary**, Udaipur

➢ National Chambal Sanctuary (on tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh).

➢ Recently, the **Ramgarh Vishdhari wildlife sanctuary** received a nod from the National Tiger Conservation Authority's (NTCA) technical committee to become the 4th Tiger reserve of Rajasthan.

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Key Points

Details

Summary

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