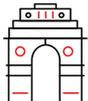
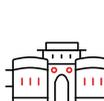




UPDATED CLASSROOM STUDY MATERIAL-1

January 2023- February 2023

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PT 365 UPDATED PART 1

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NOTE

Dear Students,

PT 365 documents comprehensively covers the important current affairs of last 1 year (365days) in a consolidated manner to aid Prelims preparation.

In our endeavour to further enhance the document in the interest of the aspirants, following additions have been incorporated:



Summary Infographics: They have been made for ease of understanding and memorization.



Organization infographics: Prelims oriented information for key organisations have been consolidated alongside the respective article for quick revision.



Important Reports: Given **separately** in crisper format



Do You Know: They have been used to provide prelims related additional information on several topics.



Know the Term: Certain keywords have been identified and explained in a simplistic format.



Different colours have been used in the document for easy classification and recollection of a variety of information.



QR based Smart quiz has been added to test the aspirant's learnings and understanding.



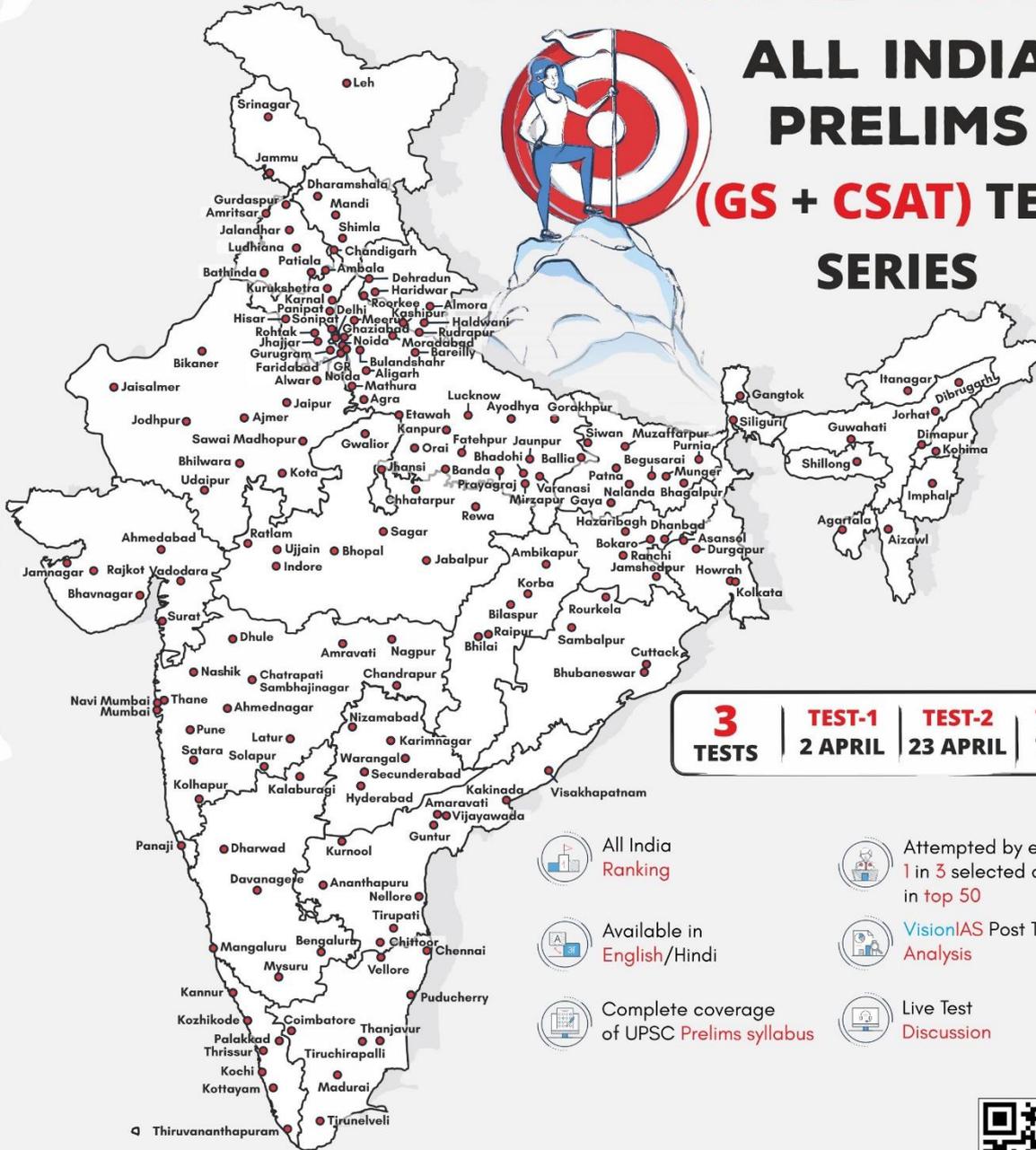
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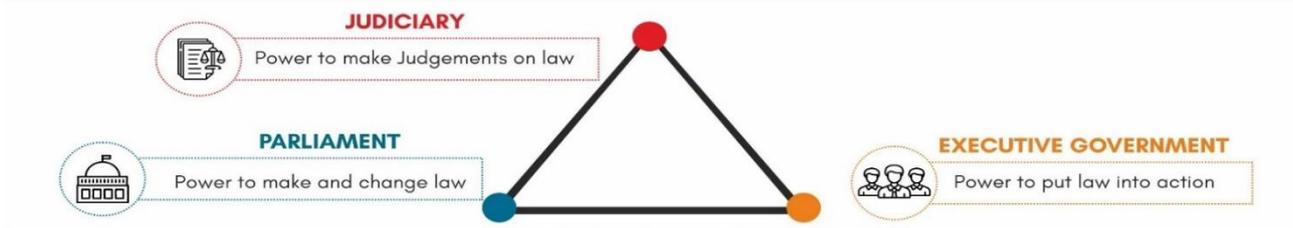
1. POLITY

1.1. SEPARATION OF POWER

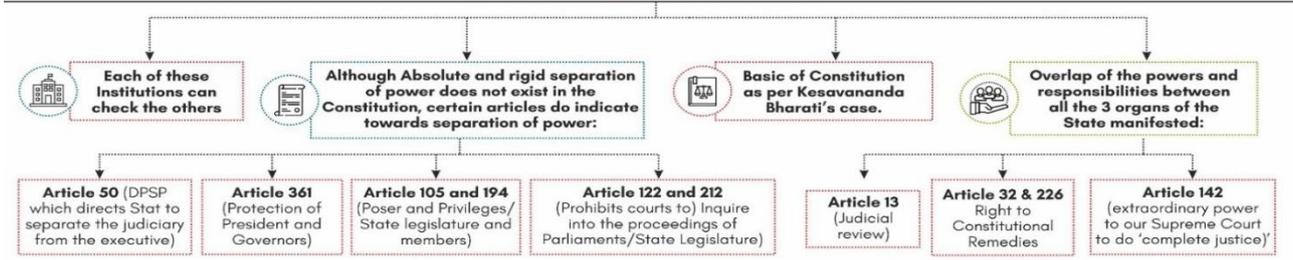
Why in News?

Recently, demand of executive representation in collegium system had started debate over doctrine of separation of power in Indian Constitutional setup.

SEPARATION OF POWERS

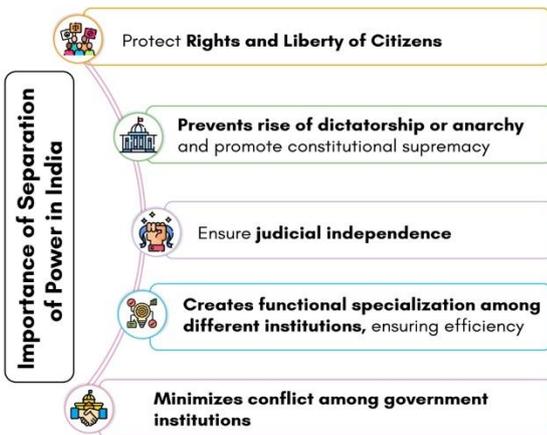


SEPARATION OF POWERS



HISTORICAL BACKGROUND OF SEPARATION OF POWER

- Concept was first seen in the works of Aristotle, in the 4th century BCE, wherein he described the three agencies of the government as General Assembly, Public Officials and Judiciary.
- In modern times, it was 18th-century French philosopher Montesquieu who made the doctrine a highly systematic and scientific one, in his book De l'esprit des lois (The Spirit of Laws).



JUDICIAL PRONOUNCEMENT ON SEPARATION OF POWERS

Kesavananda Bharati and ors v. State of Kerala

Apex court held that the amending power of the Parliament is subject to the **basic features** of the Constitution. So, any amendment violating the basic features will be declared unconstitutional.

I.R. Coelho v. State of Tamil Nadu

Doctrine of basic structure as propounded in the above-mentioned case and the Ninth schedule grant blanket protection to certain legislations from **judicial review** is violative of this doctrine.

Ram Jawaya Kapoor V State of Punjab

The court held that the Indian Constitution has **not indeed recognized the doctrine of separation of powers** in its absolute rigidity but the functions of the different parts or branches of the government have been sufficiently differentiated.

P Kannadasan V State of Tamil Nadu

The court held, "the Constitution has invested the **Constitutional Courts with the power to invalidate laws made by Parliament** and the state legislatures transgressing Constitutional limitations.

Golak Nath v. State of Punjab

It was observed that the three organs of the government are expected to exercise their functions within their limits and keeping in mind certain encroachments assigned by the constitution.

Kartar Singh v. State of Punjab

Court stated, "it's the function of the legislature to make the law, the executive to implement the law and the judiciary to interpret the law within the limits set down by the Constitution."

Related News

National Judicial Commission (NJC) Bill 2022

- Recently, private member bill NJC Bill 2022 was introduced in Rajya Sabha.
- NJC Bill 2022 aims to regulate appointment of judges to High Courts and Supreme Court through National Judicial Commission.
- Bill seeks to regulate the procedure to be followed by NJC:
 - for recommending persons for appointment as the CJI and other Judges of SC and Chief Justices and other Judges of High Courts.
 - for their transfers and to lay down judicial standards and provide for accountability of Judges.
 - establish credible and expedient mechanism for investigating into individual complaints for misbehavior or incapacity of a judge of SC or of a HC.
 - for presentation of an address by Parliament to President in relation to proceeding for removal of a Judge.

1.2. FEDERALISM: UNIQUE STATUS OF DELHI

Why in News?

In recent times, tussle is going on between UTs and Centre affecting routine administrative work in UTs.

More about News

- In SC, a case is going on the tussle between Delhi government and Centre over administrative control of postings and transfers of **civil servants belonging to All India Services serving in Delhi.**
- Central government stated that a Union Territory is nothing but an extension of Union (of India).

Present Status of Delhi as UT

- **69th Amendment of Constitution in 1991** gave National Capital of Delhi special status with its own democratically elected government and legislative assembly.
 - Insertion of **new Articles 239AA and 239AB** after Article 239A of Constitution.
 - Legislative Assembly shall have power to enumerate anything in **State List or in Concurrent List** in so far as any such matter is applicable to Union territories.
 - Provided that **in case of difference of opinion between Lieutenant Governor (L-G) and his Ministers on any matter**, L-G shall refer it to President for decision and act according to the decision given thereon by the President.
 - **Public order, Police and Land** in NCT of Delhi fall within domain of Union Government.
- **Government of National Capital Territory of Delhi (Amendment) Act (GNCTD) 2021**
 - Term **“government”** in any law made by Legislative Assembly shall mean L-G.
 - **L-G’s opinion** shall be obtained before government takes any

Important Judicial pronouncement in context of NCT delhi



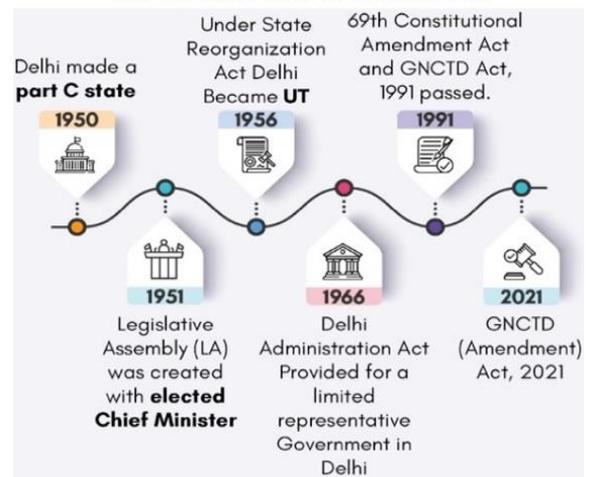
- **GNCTD vs Union of India case(2019)**
A two-judge bench of the Supreme Court had delivered a split verdict on the question of powers GNCTD and the Centre over services and referred the matter to a three-judge bench.

Government of NCT Delhi vs Union of India case (2018)

- The L-G would be bound by the **aid and advice of the Council of Ministers (COM)** in matters that were not directly under the control of the L-G.
- Barring **police, public order and land** the L-G’s concurrence is not required on other issues.
- However, the decisions of the CoM will have to be communicated to the L-G.



EVOLUTION OF ADMINISTRATION OF DELHI GOVERNMENT



Difference between LG power in Delhi and Puducherry

- LG of Delhi enjoys greater powers than LG of Puducherry.
 - LG of Delhi has **“Executive Functions”** that allow him to exercise his powers in matters connected to **“public order, police and land”** “in consultation with Chief Minister, if it is so provided under any order issued by President under **Article 239** of Constitution”.
- LG of Delhi is also guided by **GNCTD (Amendment) Act 2021**, and Transaction of Business of Government of National Capital Territory of Delhi Rules, 1993, LG of Puducherry is guided mostly by Government of Union Territories Act, 1963.
- **Articles 239 and 239AA** of Constitution, as well as **GNCTD (Amendment) Act 2021**, clearly underline that Delhi is a UT, where Centre has a much more prominent role than in Puducherry.

executive action based on decisions taken by the Cabinet or any individual ministers.

- L-G will not assent to and pass on to President for consideration any Bill which “incidentally covers any of matters which falls outside purview of the powers conferred on Legislative Assembly”.

1.3. SPEAKER OF THE HOUSE

Why in news?

Recently, Kevin McCarthy elected as the U.S. House of representatives Speaker.

Comparison

U.S. House of representatives Speaker	Speaker of lok sabha
<ul style="list-style-type: none"> • The Speaker of the House is elected by a simple majority during the first session of Congress. 	<ul style="list-style-type: none"> • Speaker of loksabha is elected by simple majority of members present and voting in the house.
<ul style="list-style-type: none"> • He is simultaneously the House’s presiding officer, party leader, and institution’s administrative head, among other duties. 	<ul style="list-style-type: none"> • The Speaker is the Presiding Officers of the Lok Sabha. • The Speaker is the head of the Lok Sabha Secretariat which functions under his/her ultimate control and direction.
<ul style="list-style-type: none"> • Constitution does not prevent a congressperson from nominating an outsider. <ul style="list-style-type: none"> ○ Speaker usually is selected from among the elected members of the House. 	<ul style="list-style-type: none"> • Need to be a Lok Sabha member to be elected.
<ul style="list-style-type: none"> • He is elected by the house every two years. 	<ul style="list-style-type: none"> • Speaker of the Lok Sabha serves a five-year term. <ul style="list-style-type: none"> ○ Holds office from his/her election till immediately before the first meeting of the Lok Sabha after the dissolution of the one to which he/she was elected.
<ul style="list-style-type: none"> • Speaker is second in line to succeed the President, after Vice President. 	<ul style="list-style-type: none"> • There is no such provision for speaker in India

Speaker of House



- **Appointment: Elected by Lok Sabha (LS)** from amongst its members. **(Article 93)**

- As office of Deputy Speaker becomes vacant, LS elects another member.
- **Date of election** of Deputy Speaker is **is fixed by President.**
- Corresponding position for **Speaker of Legislative Assembly of a state (Article 178).**



Term of office: 5 years



- **Role of Deputy Speaker:** Head of LS. Acts as **ex-officio chairman of Parliamentary Group.**

- **When LS dissolved, Speaker doesn’t vacate his office** and continues till newly elected LS meets.



- **Powers and Functions of Speaker:**

- Guardian of powers and privileges of members, House as a whole and its committees.
- His **decision in Parliamentary matters is final.**
- **Derives powers and duties from three sources i.e.,** Constitution of India; Rules of Procedure and Conduct of LS; Parliamentary precedents.
- Cannot vote in first instance but **can exercise a casting vote.**
- **Decides whether a bill is money bill or not** and his decision is final.



- **Removal:** Speaker has to vacate office in any of three cases **(Article 94)**

- Removed only by **resolution passed by LS by Special majority;**
- **Resigns by writing to Deputy Speaker;**
- **Ceases to be a member** of LS.
- Speaker cannot preside LS while a resolution for his removal from office is under consideration **(Article 96).**



Salaries and Allowances (Article 97): Fixed by Parliament; Charged on Consolidated Fund of India.

1.4. DEPUTY SPEAKER

Why in news?

SC issued notices to Centre and five states (Rajasthan, Uttarakhand, Madhya Pradesh, Uttar Pradesh, and Jharkhand) over the failure to elect Deputy Speaker.

Deputy Speaker of House



- **Appointment: Elected by Lok Sabha (LS)** from amongst its members. (**Article 93**)
 - As office of Deputy Speaker becomes vacant, LS elects another member.
 - **Date of election** of Deputy Speaker is **fixed by Speaker**.
 - Corresponding position for **Deputy Speaker of Legislative Assembly of a state (Article 178)**.



Term of office: 5 years



- **Role of Deputy Speaker: Act as Speaker** when Speaker is absent.
 - **Not subordinate to speaker**, he is directly responsible to House.
 - Whenever he is **appointed as member of parliamentary committee**, he automatically **becomes chairman**.



- **Powers and Functions of Deputy Speaker (Article 95)**
 - Cannot vote in first instance but **can exercise a casting vote**.
 - **Preside joint sitting of both Houses of Parliament** when Speaker is absent.



- **Removal:** Deputy Speaker has to vacate office in any of three cases (**Article 94**)
 - Removed only by **resolution passed by LS by Special majority**;
 - **Resigns by writing to Speaker**;
 - **Ceases to be a member** of LS.
 - Deputy Speaker cannot preside LS while a resolution for his removal from office is under consideration (**Article 96**).



Salaries and Allowances (Article 97): Fixed by Parliament; Charged on Consolidated Fund of India.

1.5. PARLIAMENTARY PRIVILEGES

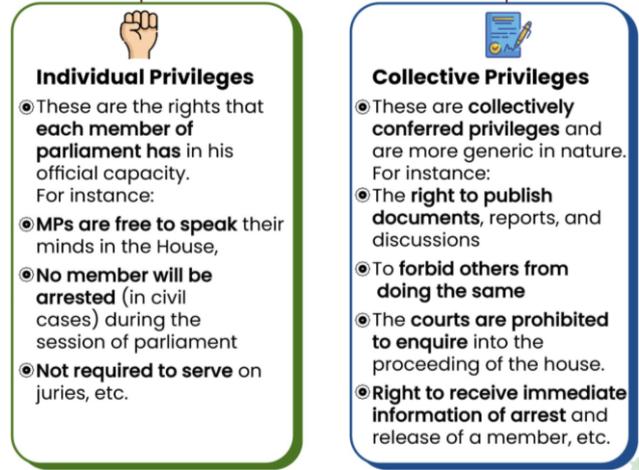
Why in the news?

Recently parts of the leader of the opposition speech on motion of thanks on the President's Address were expunged. Experts cited that this is against the **Parliamentary Privileges of MP** enjoyed under Article 105 of the Constitution.

About Parliamentary Privileges

- Parliamentary privileges are a **legal immunity enjoyed by members of legislatures, in which legislators are granted protection against civil or criminal liability** for certain actions done or statements made in course of their legislative duties.
- Parliament is sole authority to ascertain** if there has been a breach of privilege or contempt of House—no court is entrusted with this power.
- If **presiding officer gives consent, Council can either consider the question and come to a decision or refer it to Committee of Privileges** — a 10-member panel in Rajya Sabha and a 15-member panel in Lok Sabha.

Types of Privileges



Constitutional and legal provisions related to parliamentary privileges

- Constitutional Provisions:** Article 105 and Article 194 deal with powers, privileges, and immunities enjoyed by the Members of the Indian Parliament and State Legislative Assemblies respectively.
- Statutory provision:** The Code of Civil Procedure, 1908, provides for freedom from arrest and detention of members under civil process during the continuance of the meeting of the House or of a committee.
- Privileges based on Rules of Procedure and precedents:** Chairman has a right to receive immediate information of the arrest, detention, conviction, imprisonment, and release of a member.

Important Judicial pronouncement in context of parliamentary privileges

- In 'P V Narasimha Rao vs. State'** stated that members need wider protection of immunity against all civil and criminal proceedings that bear a nexus to their speech or vote.
- In M.S.M. Sharma case** stated whenever there is a condition of imbalance between provision of part V, Article 194(3)(privileges) and fundamental rights conferred by part III, fundamental right will remain supreme over the others.

1.6. OFFICE OF MAYOR

Why in the news?

Recently, SC said the Constitution does not allow nominated members of a municipality the right to vote for selecting post of mayor.

About Indian system for Mayor

- Mayor in Municipal Corporation is usually chosen **through indirect election by councillors from among themselves.**
- Councillors act by committee**, the most powerful being the Standing Committee with its role of steering committee exercising executive, supervisory, financial, and personnel powers.
- Municipal Commissioner is chief Executive Officer** and head of executive arm of Municipal Corporation.



- All **executive powers are vested in Municipal Commissioner.**
- The Constitution (74th Amendment) Act, 1992 provides for **elected and nominated councillors.**
 - Nominated councillors are to be chosen by elected councillors for their special knowledge or experience in municipal administration.

Case for direct election	
In India, mayoral electoral process has undergone some experimentation in recent decades.	
● Several states like –Madhya Pradesh, Uttar Pradesh, and Tamil Nadu – have mayors who are elected directly.	
Merits	Demerits
<ul style="list-style-type: none"> ● Speed up decision-making process. ● Mayors will have a personal democratic mandate to ‘deliver change’. ● Strengthen democratic politics and bring fresh life to local engagement. ● Improved accountability, and clarity. 	<ul style="list-style-type: none"> ● Difficult to remove mayor if her/his behaviour is arbitrary or corrupt. ● Reduce role of the elected councillors. ● ‘Presidentialisation’ of mayoral leadership will be paradoxical in a system based on collective decision-making.

1.7. ONLINE GAMING

Why in news

MeitY has established **three Grievance Appellate Committees (GAC)** under rule 3A of IT (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.

More in News

- Each GACs consists of a **chairperson as Ex-officio, and two whole-time members (one is retired member)** for a **term of three years** from the date of assumption of office or until further orders, whichever is earlier.
- **Role of GACs**
 - **Oversee and revoke content moderation-related decisions** taken by social media and other internet-based platforms.
 - If a user is unsatisfied with content moderation decision taken by a social company's grievance officer, they can **appeal to GACs within one month.** GAC will have to resolve the appeal within a month of receipt of appeal.
 - Committees can **seek assistance of people with expertise and experience** while dealing with users' appeals.
 - They will adopt an **online dispute resolution mechanism.**

THREE GRIEVANCE APPELLATE COMMITTEES (GAC)



Regulation of Online Gaming

- Currently, there is **no dedicated regulatory body for online gaming in India.**
- **Ministry of Electronics and Information Technology (MeitY) is responsible for overseeing the sector,** and the **Information Technology Act, 2000** governs online activities in India.

Related News

Recently, Ministry of Electronics and IT (MeitY) released a new draft of amendments to Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021 regarding regulations for online gaming platforms.

Key amendments

- **Online game:** Game that is offered on Internet and is accessible by a user through a computer resource if he makes a deposit with expectation of earning winnings.
- **Self-regulatory body (SRB):** Only games that are cleared by SRB will be allowed to legally operate in India.
- **Norms for Online gaming companies**
 - **Cannot engage in betting** on outcome of games.
 - **Appoint a compliance officer, nodal officer** (act as liaison official with government and assist law enforcement agencies), and **grievance officer** (resolve user complaints).
 - **Mandatory KYC verification** of players.

1.8. AUDIT DATA STANDARDISATION

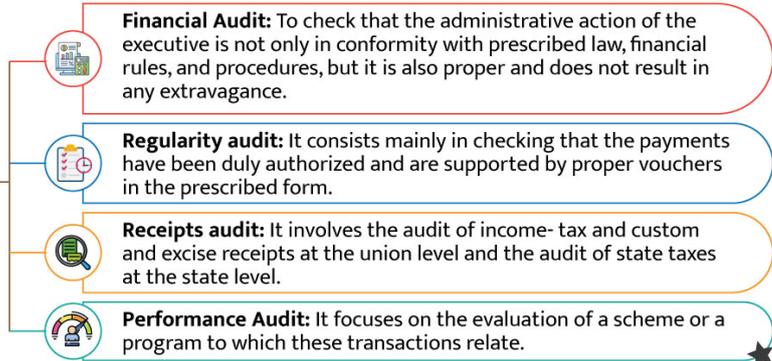
Why in the news?

Recently, Comptroller and Auditor General of India (CAG) said that the government must adopt **audit data standards**.

More on News

- CAG said that such **standards will ensure that data/information maintained by various departments and agencies can be seamlessly organised for better analysis.**

Type of Audits conducted by CAG



Present system of Audit

- **Statutory Audit:** Audit conducted by **CAG through agency of Indian Audit and Accounts Department.**
 - As per **Constitution as well as by Duties, Power, and Condition of service Act, 1971**, it is the function of CAG to
 - ✓ **Audit all expenditures** from Consolidated Fund of India, States and UTs with Legislature.
 - ✓ **Audit all transactions** of Union and states **relating to contingency funds and public accounts.**
 - ✓ CAG is empowered to inspect **any office connected with the transaction to which his/ her authority extends.**
- **Internal Audit:** It is internal to the organization.
 - It is conducted by an **agency or department created by the management of the organization.**
 - ✓ It is an integral part of organization and functions **directly under Chief Executive.**
 - ✓ Extent of CAG is limited to **test checking of internal audit work.**

Related news

International Labour Organization (ILO), Geneva has chosen CAG to serve as its external auditor for a four-year term from 2024 to 2027.

- CAG provided specifics, stating that ILO had established a panel for nomination of an external auditor and had requested proposals from **Supreme Audit Institutions (SAIs).**
 - **SAIs** are public bodies responsible for auditing government revenue and expenditure. Nearly **every SAI from UN-member country is a member of INTOSAI.**
 - **International Organization of Supreme Audit Institutions (INTOSAI)** is a voluntary, non-political organization that works to promote auditing standards, good governance of SAIs, and SAI independence, among other work.
 - ✓ **There are seven INTOSAI Regional Organizations.**
 - ✓ The regions are AFROSAI (Africa), ARABOSAI (Middle East and North Africa), **ASOSAI (Asia)**, CAROSAI (Caribbean), EUROSAI (Europe and Eurasia), OLACEFS (Latin America) and PASAI (Oceania).
 - CAG has been elected as **Chairman of ASOSAI from 2024-2027.**
- **World Health Organization (2020-2023), Food and Agriculture Organization (2020-2025), International Atomic Energy Agency (2022-2027), Organization for the Prohibition of Chemical Weapons (2021-2023), and Inter-Parliamentary Union** are currently being externally audited by CAG of India (2020-2022).

1.9. ASPIRATIONAL BLOCK PROGRAMME (ABP)

Why in news?

Prime Minister launched the government's Aspirational Block Programme (ABP), which is aimed at **improving performance of blocks lagging on various development parameters.**

More on news

- It was first announced in Union Budget 2022-23 and has been **mentioned in Union Budget 2023-24.**
- It is based on the model of **Aspirational District Programme (ADP)** that was **launched in 2018 and covers 112 districts** across the country.

Features of Aspirational Block Programme (ABP)

Specifications	Detail
Coverage	<ul style="list-style-type: none"> Programme has been launched for covering 500 blocks across 31 states and Union Territories initially. Over half of these blocks are in 6 states—Uttar Pradesh, Bihar, Madhya Pradesh, Jharkhand, Odisha and West Bengal (in decreasing order). However, states can add more blocks to the programme later.
Aim	<ul style="list-style-type: none"> Saturation of essential government services across multiple domains such as health, nutrition, education, agriculture, water resources, financial inclusion, skill development, and basic infrastructure.
Key Indicators	<ul style="list-style-type: none"> 15 key socio-economic indicators (KSIs) under such multiple domains. States have flexibility to include additional state specific KSIs to address local challenges.
Periodic rankings	<ul style="list-style-type: none"> KSIs will be tracked on a real-time basis and periodic rankings will be released across key thematic areas to foster a healthy and dynamic competition among the blocks.
Focus of Programme	<ul style="list-style-type: none"> Improving governance to enhance quality of life of citizens in most difficult and underdeveloped blocks of India by converging existing schemes, defining outcomes, and monitoring them on a constant basis.

Aspirational District Programme

- Aim:** Launched in 2018, ADP aims to **transform 112 most under-developed districts** quickly and effectively across 26 states and 1 union territory across country.
- Focus of programme:** With **States as main drivers**, it focuses on **strength of each district, identifying low-hanging fruits** for immediate improvement and **measuring progress by ranking** districts monthly.
- Key indicators:** 49 Key Performance Indicators (KPIs) under **5 broad socio-economic themes - Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion & Skill Development and Infrastructure.**
 - Delta Ranking captures incremental change in district rankings based on these KPIs.
 - Baseline ranking captures district performance compared to baseline year.

3C APPROACH OF ADP

CONVERGENCE
Create convergence among State and Central Government initiatives at the district level to overcome constraints

COLLABORATION
This implies forging of cooperation between the civil society and the functionaries of Central & State Governments including district government bodies

COMPETITION
Promote competition among states and districts using the "Champions of Change" monitoring dashboard

1.10. VIBRANT VILLAGES PROGRAMME (VVP)

Why in news?

Cabinet approves Vibrant Villages Programme (VVP) Scheme.

Other Decisions Taken by Cabinet for Infrastructure Push Along Border

About VVP

- VVP, a Centrally Sponsored Scheme, will provide funds for development of essential infrastructure and creation of livelihood opportunities along the northern land border.
 - VVP (approved for 2022-23 to 2025-26) will cover **Himachal Pradesh (HP), Uttarakhand, Arunachal Pradesh, Sikkim and Ladakh.**
 - Scheme will help in **improving quality of life of people and reversing outmigration** adding to improved security of border.

Approved 4.1-km **Shinku-La tunnel** to allow all-weather connectivity between HP and Ladakh.

Approved raising of **seven new battalions of the Indo-Tibetan Border Police (ITBP) force.** ITBP is a **Central Armed Police Force** functioning under MHA.

Related News

Village Defence Committees (VDCs)

- Recently, Lt Governor of **Jammu and Kashmir** agreed to **set up VDCs.**
- First formed in the **mid-1990s** in **Doda district**, VDCs are a **force multiplier** against militant attacks.
 - It involves **residents of remote hilly villages** who are **trained and given weapons** to defend themselves.
 - They function **under the direction of SP/SSP of district** concerned with **ex-servicemen, ex-policemen** and **able-bodied youth** as members on a **voluntary basis.**
 - VDCs are **renamed as Village Defence Guards (VDGs)** with increased payment.

- **Key Features of the Scheme**
 - **Vibrant Village Action Plans** will be created by **district administration with the help of Gram Panchayats**.
 - **Development of growth centres on Hub and Spoke Model** through promotion of social entrepreneurship, youth and women empowerment etc.
 - Out of financial allocation of Rs. 4800 Crore, **2500 crore rupees will be used for roads**.
 - **100 % saturation of Central and state schemes** will be ensured.
 - **No overlap with Border Area Development Programme (BADP)**.
 - ✓ BADP aims to **meet development needs of people living in remote and inaccessible areas** situated near international border.
 - ✓ **Outcomes expected:** connectivity with all-weather road, drinking water, 24x7 electricity with focus on Solar and wind energy, mobile and internet connectivity, Tourist/multi-purpose/health and wellness Centers. PM sets USD 5 billion target in defence exports by 2024-25.

1.11. PUBLIC SERVICE CONTENT

Why in news?

Recently, advisory to telecast “Public service content” was released by **Ministry of Information and Broadcasting**.

More on news

- Guidelines were stipulated in **new unlinking-downlinking rules** prescribed by Ministry in November 2022.
- Fresh advisory was issued after consultations with private satellite television channels and their associations.

Key features

Content	<ul style="list-style-type: none"> • Channel will undertake public service broadcasting for a minimum period of 30 minutes in a day on themes of national importance and of social relevance like education, welfare of women, protection of environment and of cultural heritage etc. • Broadcasters have the liberty to modulate their content. • Content can be shared between the Broadcasters.
Accounting of Timing	<ul style="list-style-type: none"> • Channels will be required to air national interest content for 15 hours every month. • Content need not be of 30 minutes at a stretch it can be split over smaller time slots but can't be done from midnight to 6 am.
Reporting	<ul style="list-style-type: none"> • Voluntary compliance and self-certification would be the guiding principles. • Broadcasters shall submit a monthly report on the Broadcast Seva Portal by the 7th of the following month. • Exemptions <ul style="list-style-type: none"> ○ Foreign channels, downlinking in India (in languages other than those specified in the Eighth schedule of Constitution). ○ Channels broadcasting predominantly (more than 12 hours) sports and devotional, spiritual, yoga content will be exempt from furnishing the monthly reports.
Identification	<ul style="list-style-type: none"> • Electronic Media Monitoring Centre under Ministry shall keep the record of the content telecast for a period of 90 days.

1.12. OTHER IMPORTANT NEWS

Alderman	<ul style="list-style-type: none"> • SC said that Constitution does not allow aldermans of a municipality right to vote in meetings. • Alderman refers to a member of a city council or municipal body, with exact responsibilities depending on location of its usage. • According to Delhi Municipal Corporation Act of 1957, LG (of National Capital Territory of Delhi) may nominate ten individuals who are above age of 25 to corporation. • Aldermen play an important role in elections of Standing Committees, MCD in-house and ward committee meeting.
National level Multi-State Cooperative Societies	<ul style="list-style-type: none"> ○ Setting up of three national level MSCS will help in achieving the goal of 'Sahakar-se-Samridhhi' (Prosperity through Cooperation) through inclusive growth model of cooperatives.

(MSCS) under MSCS Act, 2002	3 New Cooperative bodies	Significance
	National Multi-State Cooperative Export Society	<ul style="list-style-type: none"> Act as umbrella organization for exports of surplus goods/service. Primary to national level cooperatives societies including primary societies, district, state and national level federations and MSCS can become its member. Higher exports will increase production of goods and services and increase employment opportunities. Increased export will promote "Make in India" thus leading to Atmanirbhar Bharat.
	National Multi-State Cooperative Organic Society	<ul style="list-style-type: none"> Unlock demand and consumption of organic products in domestic and global markets. Help farmers to get high price of organic product through aggregation, marketing, and branding. Provide institutional support for aggregation, certification, storage, processing etc. Better management of entire supply chain of products.
	National Multi-State Cooperative Seed Society	<ul style="list-style-type: none"> Act as an apex organization for production, procurement, processing, branding, labelling, packaging, storage, marketing, and distribution of quality seeds. Develop system for preservation and promotion of indigenous natural seeds. Increase seed replacement rate, varietal replacement rate, ensuring role of farmers in quality seed cultivation. Quality seeds production reduces dependence on imported seeds, boost rural economy, strengthen food security.
Lokur Committee, 1965	<ul style="list-style-type: none"> Experts have pointed that Office of Registrar-General of India (RGI) follows 'obsolete' criteria set out by Lokur Committee to define any new community as a Scheduled Tribe (ST). Criteria set out by Lokur Committee are indications of primitive traits, distinctive culture, geographical isolation, shyness of contact with community at large, backwardness. New criteria under government consideration included <ul style="list-style-type: none"> Socio-economic, including educational, backwardness is-a-vis, rest of population of State; Historical geographical isolation; Distinct language/dialect; Presence of a core culture relating to life-cycle, marriage, songs, etc. Endogamy, or in case of exogamy, marital relationship primarily with other STs. 	
Horizontal reservation and vertical reservation	<ul style="list-style-type: none"> Uttarakhand Governor gave nod to 30% horizontal reservation in government jobs for Uttarakhand women. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Horizontal reservation</p> <p>Horizontal reservation refers to equal opportunity provided to categories of beneficiaries such as women, transgender community, and differently abled, cutting through vertical categories.</p> <p>It is to be applied separately across each vertical category. For example, 30% reservation for women will be independently applied in each category (SCs, STs, OBCs, Unreserved).</p> <p>Article 16(1) as well as Article 15(3) contemplates horizontal reservation.</p> </div> <div style="text-align: center;"> <p>Vertical reservation</p> <p>Vertical Reservation is reservation for Scheduled Castes, Scheduled Tribes, and Other Backward Classes.</p> <p>It applies separately for each of groups specified under law.</p> <p>Article 16(4) contemplates vertical reservation</p> </div> </div> </div>	
Commonwealth Parliamentary Association (CPA)	<ul style="list-style-type: none"> Annual conference of 19th CPA India Region Zone III was inaugurated by Lok Sabha Speaker (ex-officio chairman). CPA, established in 1911, is made up of over 180 legislatures (or Branches) divided up between nine geographic regions of Commonwealth. 	

	<ul style="list-style-type: none"> Commonwealth is an association of 56 member states, majority of which are former territories of British Empire. After Africa Region, India has the largest number of member Branches of CPA. CPA India Region is divided into 4 zones.
Joint Parliamentary Committee (JPC)	<ul style="list-style-type: none"> Parliament continues to be halt over Opposition's demand for a JPC. <div style="border: 1px solid black; padding: 5px;"> <p>JOINT PARLIAMENTARY COMMITTEE (JPC)</p> <p> About: An ad hoc-body (dissolved after its term) usually set up for a specific object and duration</p> <p> Members: Total members of JPC is decided by parliament. Members are from both Houses and from both ruling parties and opposition.</p> <p> Power: JPC has power to scrutinise documents and summon people for questioning questioning submits a report and makes recommendations to government.</p> <p> Other Features: Their recommendation are not binding on government.</p> <p> Major JPC</p> <ul style="list-style-type: none"> Joint Committee on Bofors Contracts Joint Committee to enquire into irregularities in securities and banking transactions Joint Committee on stock-market scam Joint Committee on pesticide residues in and safety standards for soft drinks </div>
Motion of Thanks	<ul style="list-style-type: none"> Article 87 deals with President's special address to houses of parliament at commencement of first session after each general election and first session of every fiscal year. Following this, a 'motion of thanks' is moved in two Houses thanking President for his/her address, which is then put to vote. MPs can express their disagreement by moving amendments to motion. Defeat of 'Motion of thanks' is seen as a defeat of the government.
Electronic Supreme Court Reports (e-SCR) Project	<ul style="list-style-type: none"> CJI announced the launch of e-SCR project to provide access to judgements to common public. E-SCR is an initiative to provide digital version of apex court's judgments in manner as they are reported in official law report 'Supreme Court Reports'. <ul style="list-style-type: none"> Entire gamut of judgments from inception of SC in 1950 till date would be available freely to lawyers and law students. These judgments will be accessible on Supreme Court's website, mobile app and on National Judicial Data Grid's judgment portal.
Charge Sheets	<ul style="list-style-type: none"> SC held that charge sheet by probing agency is not a "public document". <ul style="list-style-type: none"> It stated that putting it in public domain will violate the rights of victim, accused and investigating agencies. Charge sheet refers to a formal police record showing the names of each person brought into custody, nature of the accusations, and identity of the accusers. First Information Report (FIR) is a written document prepared by police when they receive information about commission of a cognizable offence. <ul style="list-style-type: none"> Under Youth Bar Association Case (2016), SC issued directions to police to upload FIRs in website within 24 hours except in sensitive cases like rape.
SC judgements to be available in 4 languages	<ul style="list-style-type: none"> CJI stated that judgments delivered by SC will now be translated into four languages —Hindi, Tamil, Gujarati and Odia. CJI said that move will help in access to justice for citizens as English is not a comprehensible language to majority of the citizens in country. CJI also launched an Online e-Inspection Software at Delhi High Court that will facilitate online e-inspection of digitised judicial files through internet.
Bail Process	<ul style="list-style-type: none"> SC presses need for reform on bail processes. Bail refers to temporary release of accused in a criminal case in which court has a trial pending and is yet to announce the judgement. <ul style="list-style-type: none"> Bail is a right if the person accused is detained or arrested for a bailable offence (Section 436 of CrPC). Anticipatory Bail: A person can apply for this if he/she could be arrested for a non-bailable offence (Section 438 of CrPC).

	<ul style="list-style-type: none"> • Court has power to cancel bail at any stage under sections 437 and 439 of CrPC. <ul style="list-style-type: none"> ◦ Grounds of cancellation of bail: When a person is indulged in criminal activity and misuse of their liberty.
Judicial Review	<ul style="list-style-type: none"> • SC stated that suitability of a candidate cleared by Collegium for appointment as a judge cannot be a subject of judicial review. • Judicial review is a type of court proceeding in which a judge reviews the lawfulness of a decision or action made by a public body. <ul style="list-style-type: none"> ◦ Article 13 expressly provides for doctrine of judicial review. • Scope of judicial review power of SC in India is narrower than that of what exists in US. <ul style="list-style-type: none"> ◦ American Constitution provides for ‘due process of law’ against that of ‘procedure established by law’ in Indian Constitution.
Bar Council of India (BCI)	<ul style="list-style-type: none"> • Supreme Court affirmed BCI’s power to hold All India Bar Examination, a test that a lawyer has to qualify to practise law in courts of country. • BCI was established by Parliament under Advocates Act, 1961 to regulate and represent Indian bar. • Statutory functions of BCI include <ul style="list-style-type: none"> ◦ Lay down standards of professional conduct and etiquette for advocates. ◦ Safeguard rights, privileges and interests of advocates. ◦ Recognise Universities whose degree in law shall be a qualification for enrolment as an advocate. <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <h3 style="text-align: center; color: #c00000;">Bar Council of India (BCI)</h3> <div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <p>Establishment: By Parliament under Advocates Act, 1961 to regulate and represent Indian bar.</p> </div> <div style="text-align: center;"> <p>Statutory body</p> </div> </div> <div style="margin-top: 10px;"> <p>Composition:</p> <ul style="list-style-type: none"> ◦ Chairman and Vice-Chairman for a period of two years from amongst its members. ◦ Members elected from each State Bar Council, and Attorney General of India and Solicitor General of India who are ex-officio members. ✓ Members from State Bar Councils are elected for a period of five years. </div> <div style="margin-top: 10px;"> <p>Functions:</p> <ul style="list-style-type: none"> ◦ Lay down standards of professional conduct and etiquette for advocates. ◦ Safeguard rights, privileges and interests of advocates. ◦ Promote and support law reform. </div> </div>
Senior Advocates	<ul style="list-style-type: none"> • Central Government is seeking to change guidelines for designation of Senior Advocates. <ul style="list-style-type: none"> ◦ Guidelines were issued by SC in Indira Jaising vs. Union of India (2017). • Senior Advocates are among three categories of Advocates that are entitled to practice law before SC. <ul style="list-style-type: none"> ◦ An advocate is designated as senior by SC or a High Court based on virtue of their ability. ◦ Under the guidelines, they are designated by a Committee for Designation of Senior Advocates or a Permanent Committee. • Senior Advocate is not entitled to appear without an Advocate-on-Record in SC or without a junior in any other court or tribunal in India.
Section 33(7) of Representation of People’s act 1951 (RPA)	<ul style="list-style-type: none"> • Supreme Court quashed the pleas to set aside Section 33(7) of RPA 1951. • Section 33(7) of RPA permits a candidate to contest any election (parliamentary, state assembly, biennial council, or by-elections) from up to two constituencies. <ul style="list-style-type: none"> ◦ Provision was introduced in 1996 prior to which there was no bar on number of constituencies from which a candidate could contest. • Issue: Burden on the exchequer, against the democratic spirit of elections.
Election Commission of India (ECI) decides on party name and symbol	<ul style="list-style-type: none"> • Article 324 read with Election Symbols (Reservation and Allotment) Order, 1968 empowers ECI to recognise political parties and allot symbols. <ul style="list-style-type: none"> ◦ Under Paragraph 15 of Order, it can decide disputes among rival groups or sections of a recognised political party staking claim to its name and symbol. • In Sadiq Ali Case (1971), SC upheld ECI’s authority to decide issues on a dispute or a merger and prescribed 3 tests to arrive at a decision: <ul style="list-style-type: none"> ◦ Test of Aims and Objectives of Party Constitution; Test of party constitution; and Test of Majority. • In line with Sec 29A of RPA, 1951 and Conduct of Election Rules,1961, ECI recognizes a Political Party and allocates symbol to it. <ul style="list-style-type: none"> ◦ National Parties: These parties are allocated with a symbol, which can be used across whole country in all elections. No other parties can use them. ◦ State Parties: These parties are allocated with an exclusive symbol within state. ◦ Independent Candidates: They can choose 3 Symbols in order of their preference (other than national and state party’s symbol) and ECI grants one among the three.
e-Gram Swaraj	<ul style="list-style-type: none"> • Recently, Ministry of Panchayati Raj organised a multistakeholder conference for consultation on e-Gram Swaraj 2.0, Manthan: Charting New Paths.

	<ul style="list-style-type: none"> • e-Gram Swaraj Portal aims at capacity building of third tier of governance through technological interventions. <ul style="list-style-type: none"> ○ It brings better transparency in decentralised planning, progress reporting and work-based accounting. ○ Application is developed as part of Panchayat Enterprise Suite (PES) under e-Panchayat Mission Mode Project (MMP). ○ Core modules on portal includes Panchayat Profile, Planning, Progress Reporting and Accounting.
Director General of Police (DGP) appointment	<ul style="list-style-type: none"> • Nagaland has shown concern over appointment process of DGP, highest police authority of State/UT's. • DGP appointment is made on basis of Guideline issued by Supreme Court in Prakash Singh vs Union Judgement (2006). <ul style="list-style-type: none"> ○ DGP is to be selected by state government from among three-senior most officers whose name has been suggested by UPSC (Issued its guidelines in 2009). ○ UPSC suggest names on basis of their length of service, very good record and experience (30 years). ○ DGP should have a fixed tenure of two years in the post, irrespective of retirement date.
World Government Summit 2023	<ul style="list-style-type: none"> • World Government Summit 2023 under theme of “Shaping Future Governments” was held in Dubai, United Arab Emirates. • It is a global forum held annually in Dubai. <ul style="list-style-type: none"> ○ It brings together leaders in government, business, technology, and civil society to discuss pressing issues facing humanity and to shape future of governments worldwide.

1.13. ERRATA

PT 365 Polity (April 2022-December 2022)

- **Article 5.3 DELIMITATION COMMISSION:** In the Delimitation commission infographics, due to a typographical error it was wrongly mentioned as constitutional body. It should be statutory body.
- **Article 6.1. MULTI-STATE CO-OPERATIVE SOCIETIES (AMENDMENT) BILL, 2022:** In constitutional and legal provisions related to cooperatives infographics due to typographical error information under Article 19 (1) (C) and Article 43B (DPSP) was interchanged. Correct information is:

Article 19 (1) (C)	<ul style="list-style-type: none"> • Forming a cooperative is a fundamental right under 97th Constitutional Amendment Act 2011.
Article 43B (DPSP)	<ul style="list-style-type: none"> • State shall endeavour to promote voluntary formation, autonomous functioning, democratic control and professional management of cooperative societies.

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JAIPUR: 5 Apr, 7:30 AM & 5 PM | LUCKNOW: 25 May, 5 PM | 18 Jan, 5 PM
HYDERABAD: 10 Apr, 8 AM | PUNE: 21 Jan, 8 AM | BHOPAL: 1 June, 5 PM

2. INTERNATIONAL RELATIONS

2.1. INDIA-EGYPT

Why in News?

President of Egypt was the chief guest for India's 74th Republic Day celebrations.



India-Egypt Relations -Key Facts



Egypt is strategically located, making it a **hub for trade routes between Europe, Africa, and Asia**



India Egypt signed a friendship treaty in 1955.



Bilateral trade stands at **\$7 bn.**



India and Egypt are founding members of Non-Aligned Movement (NAM) along with Yugoslavia, Ghana, and Indonesia, Friendship Treaty of 1955, India-Egypt Joint Commission (1983).



India is 3rd largest export market for Egypt and act as a gateway to Europe and Africa.



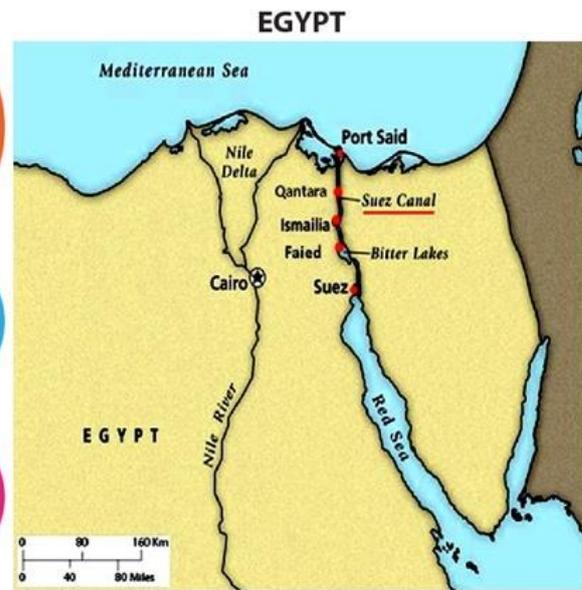
Egypt is also one of the **largest investment destinations for India** in the region



India signed preferential trade agreement with Egypt under Global System of Trade Preferences (GSTP).



Defence: Joint Defence Committee (JDC) started in 2006, Exercise Desert Warrior, Indian Navy Ships taking port calls at Egyptian ports etc.



2.2. INDIA-QATAR

Why in news?

Year 2023 marks 50 years of diplomatic relations between India and Qatar.

India Qatar Relations- Key Facts



Diplomatic relations between both countries were established in **1973**.



Bilateral trade stands at **US\$ 15 billion**.



India-Qatar Start-up bridge is a joint initiative to **link the start-up ecosystems of two countries**.



Defense:
India-Qatar Defence Cooperation Agreement signed in 2008.
India regularly participates in **biennial Doha International Maritime Defence Exhibition and Conference (DIMDEX)** in Qatar.
Za'ir-Al-Bahr (Roar of Sea) is naval exercise between Indian and Qatar Navy.



In 2002, Qatar first **proposed observer status for India at the Organisation of Islamic Cooperation (OIC)**.



Qatar is one of the largest suppliers of LNG to India (major supplier of LNG in 2021)



Agreement on Cultural Cooperation signed in 2012



Over 8 lakhs Indian comprise **largest expatriate community in Qatar**.



Qatar Fund for Development (QFFD) sent Covid medical relief material to India for combating second wave of Covid-19.

2.3. INDIA-SOUTH KOREA

Why in news?

India-South Korea diplomatic ties completed 50 years.

India-South Korea relations- Key Facts

- Both signed Strategic Partnership in 2010** which was upgraded to **'special strategic partnership'** in **2015** and defence cooperation lies at heart of this partnership.
- Bilateral trade amounts to **\$ 27 bn.**
- Comprehensive Economic Partnership Agreement (CEPA)**, was operationalized in **2010**.
- Civil Nuclear Energy Cooperation Agreement** was signed in 2011.
- In **2016**, India and **South Korea** launched **'Korea Plus'** initiative to promote and facilitate **Korean Investments in India**.
- Countries share **Kinship and Buddhist Connection** as per "SamgukYusa" written in 13th century.
- 1st 2+2 dialogue** between two nations was held in 2021 **synergising India's 'Act East Policy' with South Korea's 'New Southern Policy'**.
- In **2015**, India launched **SARANG** - an annual festival to showcase diverse Indian culture and art forms in ROK.
- In **1929**, Nobel Laureate **Rabindranath Tagore** composed **'Lamp of the East'** poem on **Korea's glorious past** and **promising bright future**.



Updated Classroom Study Material

2.4. INDIA-EURASIA

Why in news?

Recently, several countries including Japan, South Korea, Australia etc. have taken initiatives suggesting a growing focus over better relationship between European and Asian countries.

Significance of Eurasia for India

- Alternate to BRI:** INSTC (International North-South Transport Corridor) along with the **Ashgabat Agreement** (to enhance connectivity within the Eurasian region) in the long run and can act as a counter to opaque BRI.
- Economic:** India is working towards joining the EEU to further its contacts with Eurasia. This will give

About Eurasia

Key Geographical Features

- Largest continental area on Earth.**
- Comprises 93 countries of Europe, Middle East and Asia.**
- Home to over 5 billion people.**
- Geologically represented by Eurasian tectonic Plate.**

Eurasia and the world

Eurasia in IR- There is a lack of an agreed formal international understanding of what constitutes the region.

Key Resources in Eurasia

31 %

Natural gas reserves

17 %

Oil reserves

23 %

Iron ore

14 %

Gold

7 %

Copper

access to Indian goods to entire geographic space through a single tariff, boosting exports and overall economic growth.

- **Social:** Central Asian e-network by India is an attempt to leverage its prowess in IT sector by linking India's top hospitals and educational institutions with hubs in the region.
 - It will **bridge digital divide and bolster their capacity in areas of health and education.**
- **Alternate to Suez Canal:** Euro-Asian inland transport links provides an alternate to the congested Suez Canal to boost the resilience of the inter-continental trade flows.

DO YOU KNOW?

- **The Eurasian Union is an international organization Economic for regional economic integration.**
- **It has international legal personality and is established by the Treaty on the Eurasian Economic Union.**
- **The Member-States are the Armenia, Belarus, Kazakhstan, the Kyrgyz Republic and Russia.**

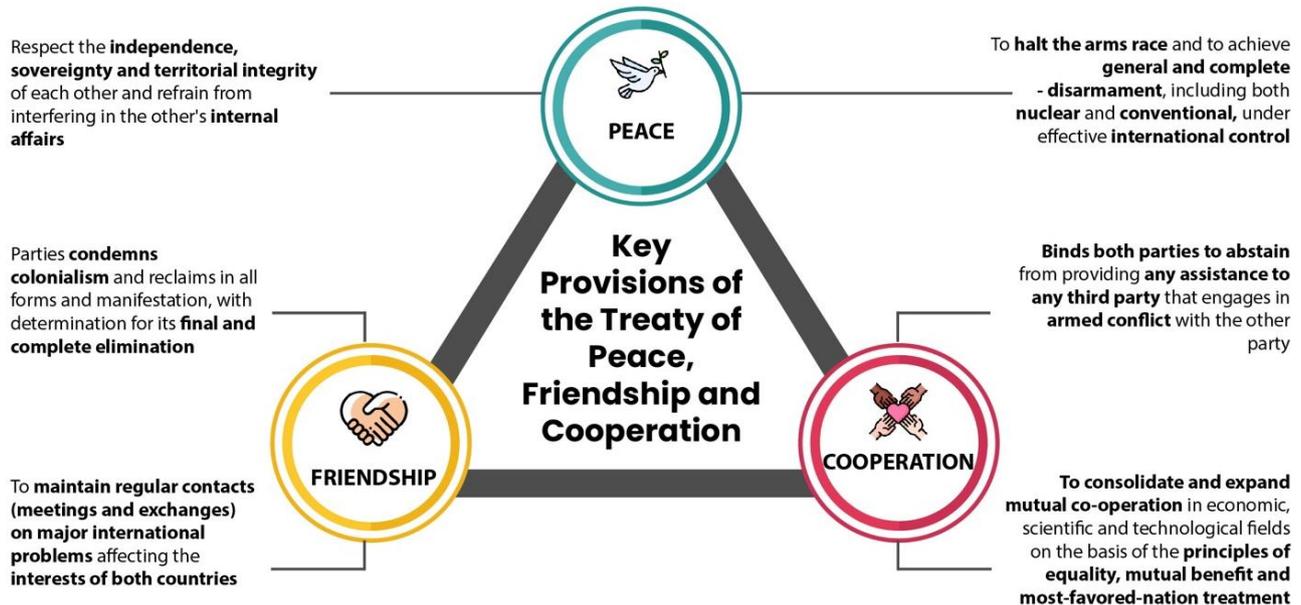
2.5. INDO-RUSSIAN FRIENDSHIP TREATY

Why in News?

Indo-Russian Friendship Treaty completed 30 years.

About Indo-Russian Friendship Treaty

- The **1993 'Treaty of Friendship and Cooperation'** replaced the **1971 Treaty of Peace, Friendship and Cooperation** between India and the Soviet Union.
 - The **1971 treaty** expired as the **Soviet Union or USSR** ceased to exist in 1991.
- A marked departure from **India's non-alignment**, the **1971 treaty** was a **treaty of non-aggression** or a treaty of peace against war.
- It contained **security clause (Article IX)** along with other provisions on **Peace, Friendship and Cooperation** (see image); strengthening **India's strategic autonomy** or the **capacity for independent action**.
- The **1993 treaty** is a **modified version of the treaty**, and it lacks the **security clause** if any party faces aggression from others.



2.6. INITIATIVE ON CRITICAL AND EMERGING TECHNOLOGY (ICET)

Why in news?

India-US initiative on Critical and Emerging Technology (iCET) held its inaugural meeting.

KNOW THE TERM

Critical and Emerging Technologies (CETs) are a **subset of advanced technologies** that are potentially significant to the **national security** of a nation, **expand economic opportunities** and **preserve and promote the socio-cultural values**.

- **This includes a number of fields** with a set of key subfields under them. E.g. Advanced Computing, Artificial Intelligence, Biotechnologies, Space technologies etc.

More on iCET

- iCET was launched during the Quad summit in 2022.
- **iCET aims to:**
 - **Position two countries as trusted technology partners** by building **technology value chains** and support the co-development and co-production of items.
 - **Address regulatory restrictions, export controls and mobility barriers** through a standing mechanism.
- **Potential Benefits of iCET:**
 - **Ease export barriers** to India in critical areas such as **High Performance Computing**.
 - **Strengthen linkages** between the startup ecosystems of India and USA.

Other initiatives announced during inaugural dialogue of iCET



Establishment of **Indo-US Quantum Coordination Mechanism** to facilitate research and industry collaboration and **strengthen Innovation ecosystem**.



Launching a new **Innovation Bridge** to connect defense startups of India and USA.



Readiness Assessment development by a task force involving India's Semiconductor Mission, India Electronics Semiconductor Association (IESA) and the US Semiconductor Industry Association (SIA) to **build Resilient Semiconductor Supply Chains**.

2.7. INDIAN DIASPORA

Why in News?

India hosted the **17th PBD Convention** in Indore, Madhya Pradesh.

More in News

- **Theme of PBD:** "Diaspora: Reliable Partners for India's Progress in Amrit Kaal".
- **Focus country:** Latin America
- **Pravasi Bharatiya Samman Awards** were also conferred in the Convention.

About Pravasi Bharatiya Divas

- The Pravasi Bharatiya Divas (PBD) is observed on **9th January**.
- It **commemorates the return of Mahatma Gandhi from South Africa to India** on 9th January, 1915.
- **1st PBD Convention** was organised on **9 January 2003**.
- Since 2015, PBD Convention **has been organised once every 2 years**.
- **Objective:** To provide a platform for the Indian diaspora across the globe to engage with the government and help strengthen ties.

Pravasi Bharatiya Samman Award

- The Pravasi Bharatiya Samman Award is the **highest honour conferred on**
 - **a Non-Resident Indian, Person of Indian Origin;** or
 - **an organisation or institution** established and run by them.
- It commemorates the contribution of Indian diaspora to create a better understanding of India abroad, support India's causes and work for the welfare of the local Indian community.

Government Initiatives to connect with the Diaspora



Merger of Ministry of Overseas Indian Affairs (created in 2004) with the **Ministry of External Affairs** in 2016 to encourage and provide streamlined support to Indians overseas.



Social security agreements with foreign countries for the protection of the Indian communities abroad.



Know India Programme (KIP) (2003) to provide a unique forum for students and young professionals of Indian origin to visit India, share their views, expectations and experiences and to bond closely with contemporary India.



Representation of the People (Amendment) Bill, 2017: After enactment it allow an overseas voter to cast their vote in person or by proxy.



Other Initiatives: Scholarship Programme for Diaspora Children" (SPDC) (2007), Study India Programme (SIP) (2012), E-Migrate System (2014), Pravasi Kaushal Vikas Yojana (PKVY) (2017), Dedicated Help line for women (2021), etc.

DO YOU KNOW?

- ▶ Indian diaspora refers to **people whose origins can be traced to India or are Indian citizens living abroad**.
- ▶ This includes **Non-Resident Indians (NRIs), Persons of Indian Origin (PIO), and Overseas Citizens of India (OCI)**.

2.8. INDIA AND GLOBAL SOUTH

Why in news?

Voice of Global South summit was hosted by India virtually. It called for a global agenda of 'Respond, Recognize, Respect, and Reform' to re-energise the world.

INDIA AND GLOBAL SOUTH

Global North

Global South

Brandt Line

In the 1980s, the **Brandt Line** geographically split the world into relatively richer and poorer nations.

Global South largely refers to countries in **Asia, Africa and South America** which are relatively **disadvantaged**, have a **history of colonization**, and lack **role in governance** of multilateral institutions etc.

Importance of Global South

Climate change
Fulfil the obligation on climate finance and technology

Energy Common concern of energy security, energy justice, and sustainable energy transition

Poverty and inequality
Countries share their experience to tackle issues like poverty and inequality.

Natural resources Global South is rich in natural resources, such as oil, gas, minerals, and timber.

South-South cooperation
Countries can share their experience to tackle issues like poverty and inequality

Common Links Between India and Global South

01 Colonial Past

02 Socio-economic Issues

03 Under representation

04 Diaspora

Initiatives launched by India to assist the Global South

Aarogya Maitri project to provide medical supplies to any developing country hit by natural disasters or humanitarian crisis.

Global South Science and Technology initiative to share expertise in areas such as space technology and nuclear energy.

Global South Centre of Excellence for research on development solutions to be implemented around the world.

Global-South Young Diplomats Forum, to connect youthful officers of foreign ministries.

Global-South Scholarships for students from developing countries to pursue higher education in India.

2.9. INTERNATIONAL FINANCIAL ARCHITECTURE (IFA)

Why in News?

Global Monetary and Financial Systems

The **International Monetary Fund (IMF)** has called on the **G20 nations** to strengthen **International Financial Architecture (IFA)** at 1st **G20 Finance Ministers and Central Bank Governors (FMCBG)** meeting under the **G20's Indian Presidency**.

About **International Financial Architecture (IFA)**

- IFA refers to 'the collective governance

Lender countries	This includes countries and international groups like G7 and G20 due to their role in international financial management and governance.
IMF	Provides loans (including emergency loans) to member countries experiencing actual or potential balance of payments problems. Monitors international monetary system and global economic developments to identify risks and recommend policies for growth and financial stability. Provides technical assistance and training to governments for capacity development.
World Bank	Provides financial and technical assistance for development .
World Trade Organisation	Operates the global system of trade rules and helps developing countries to build trade capacity .
Bank for International Settlement (BIS)	Supporting central banks' in monetary and financial stability, and acts as a bank for central banks
OECD	Organization for Economic Co-operation and Development promotes economic cooperation, developing global standards and providing policy support

arrangements at the international level for safeguarding the effective functioning of the global monetary and financial systems' (refer image).

- **IFA Objective:** To promote **economic growth** while ensuring **financial stability**.
 - This involves steps to **reduce the probability of a crisis**; **contain the severity of crises** when they occur; and to **insulate the global economy** from **contagion**.

Related News

Common Framework for Debt Treatments

- **First G20 Finance Ministers and Central Bank Governors (FMCBG) Meeting** agreed for the implementation of **Common Framework for Debt Treatments beyond DEBT Service Suspension Initiative (DSSI)** of World Bank (launched in 2020).
- **About Common Framework for Debt Treatments**
 - It is an **agreement of G20 and Paris Club countries** to coordinate and **cooperate on debt treatments** for up to **73 low-income countries** that are eligible for DSSI.
 - ✓ It includes **G20 official bilateral creditors** as well like **China, India, Turkey or Saudi Arabia** that are **not members of Paris Club**.
 - It provides a **deep debt restructuring**, with a reduction in **net present value of debt** sufficient to restore sustainability, if requested by **debtor country**.

2.10. WASSENAAR ARRANGEMENT

Why in News?

At the 26th annual Plenary of the Wassenaar Arrangement (WA), India assumed the **chairmanship** for one year.



Wassenaar Arrangement



About: Wassenaar Arrangement is a **voluntary Multilateral Export Control Regime (MECR)**



Objective: To **promote transparency** and **greater responsibility** in transfers of **conventional arms and dual-use goods and technologies** by facilitating:

- ◆ **Information sharing** among WA participating states.
- ◆ **Standards setting** on export controls of conventional arms and Dual-use goods and technologies.



Members: 42 members.



Other key information:

- ◆ The WA **operates on a voluntary basis** and **decisions are made by consensus**.
- ◆ The WA Plenary is the decision-making body of the WA.
- ◆ Except for China, all the other permanent members of the U.N. Security Council are signatories of the WA.
- ◆ India joined the WA as its **42nd Participating State** in 2017.



2.11. INDIA AND UN PEACEKEEPING

Why in news?

India deployed a women-only platoon of peacekeepers to the UN Mission in Abyei on the border of Sudan and South Sudan as part of the Indian Battalion in the **United Nations Interim Security Force, Abyei (UNISFA)**.

Key facts on India's contribution to UN Peacekeeping

- India has **contributed more personnel than any other country**.

- India served in 49 of the 71 UN Peacekeeping missions established around the world since 1948.
 - Currently, India is the fifth largest troop contributor (TCC) with 5,323 personnel deployed in 8 out of 13 active UN Peacekeeping Missions.
- Indian Peacekeepers provide many services such as medical care, veterinary support, engineering services to the communities

DO YOU KNOW?



The United Nations Interim Security Force for Abyei (UNISFA) was established by the UN Security Council in response to the critical situation in the Abyei area of Sudan in 2011.

- India was the first country to contribute to the Trust Fund on sexual exploitation and abuse, which was set up in 2016.
- Women in Indian Peacekeeping
 - Women peacekeepers from India have served in several countries, including Congo, Liberia, South Sudan, and Haiti.
 - In 2007, India became the first country to deploy an all-women contingent to a UN Peacekeeping Mission.
 - In the year 2014, Indian cop Shakti Devi of the Jammu and Kashmir Police, who was deployed in the UN Assistance Mission in Afghanistan (UNAMA), was awarded the International Female Police Peacekeeper Award.

UN PEACEKEEPING

Key features

- ◆ A global initiative by the United Nations to promote peace and security around the world.
- ◆ The decision to send a peacekeeping mission to a country is made by the UN Security Council and the UN secretariat is then responsible for developing and implementing the detailed strategy for the mission
- ◆ UN member states are requested to contribute military and police personnel under UN command, for which they are paid from UN funds.
- ◆ The U.N. began its Peacekeeping efforts in 1948 when it deployed military observers to West Asia.
- ◆ United Nations peacekeeping Forces were awarded Nobel Peace Prize in 1988.

Principles of UN Peacekeeping

◆ There are three basic principles:

Consent of the parties

Impartiality

Non use of force except in self defence and defence of the mandate.

Key Role of Peacekeeping mission

Build Rule of law & security institutions

Prevent Conflicts

Empower Women

Protect Civilian

Deliver field support

Promote human right

2.12. INTERNATIONAL ORGANISATIONS/INSTITUTIONS

<p>International Seabed Authority (ISA)</p>	<ul style="list-style-type: none"> • International Seabed Authority (ISA) and Ministry of Earth Sciences exchanged PMN (Polymetallic Nodules) exploration extension contract • Contract for same was initially signed in 2002 for a period of 15 years. It was extended by ISA twice for 5 years period, during 2017 and 2022. <ul style="list-style-type: none"> ◦ India has been assigned an area of about 75,000 sq km in Central Indian Ocean Basin (CIOB) for PMN exploration. • PMN refers to small potato-like rounded accretions composed of minerals such as manganese, nickel, cobalt, copper and iron hydroxide <ul style="list-style-type: none"> ◦ These have immense economic and strategic importance.
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Est. 1994

International Seabed Authority

Kingston, Jamaica

About: It is an autonomous international organisation established under 1982 United Nations Convention on the Law of the Sea.

Objectives: It allots 'area' for deep-sea mining, and organize and control all mineral-resources-related activities in the Area.

Members: 167 member States and the European Union.

Composition: India was first country to receive status of a 'Pioneer Investor' in 1987 and was allocated an exclusive area in Central Indian Ocean Basin for exploration of polymetallic nodules from the seabed.

<p>UN Commission for Social Development (CSocD)</p>	<ul style="list-style-type: none"> India has been elected as the Chair of 62nd Session of UN CSocD. 	<p style="text-align: center;">Commission for Social Development (CSocD)</p> <p>About: CSocD is one of the 9 functional commissions of the Economic and Social Council (ECOSOC), established in 1946.</p> <p>Purpose: It advises ECOSOC on social policies of a general character and, in particular, on all matters in social field not covered by specialised inter-governmental agencies.</p> <p>Members: 46 members elected by ECOSOC based on equitable geographical distribution for four-year terms.</p>
<p>International Maritime Organization (IMO)</p>	<ul style="list-style-type: none"> IMO has adopted a new mandatory International Code of Safety for Ships Carrying Industrial Personnel. <ul style="list-style-type: none"> Code will enter into force on 1 July 2024 and enables cargo ships and high-speed cargo craft to transport and accommodate industrial personnel working offshore. 	<p style="text-align: center;">IMO International Maritime Organization (IMO)</p> <p>Est. 1948 HQ London, UK</p> <p>About: IMO is a specialized agency of United Nations.</p> <p>Origin: It was established by means of a Convention adopted under auspices of UN.</p> <p>Purpose: It is responsible for measures to improve safety and security of international shipping.</p> <p>Members: 174 Member States.</p> <div style="text-align: right;"> </div>

2.13. OTHER IMPORTANT NEWS

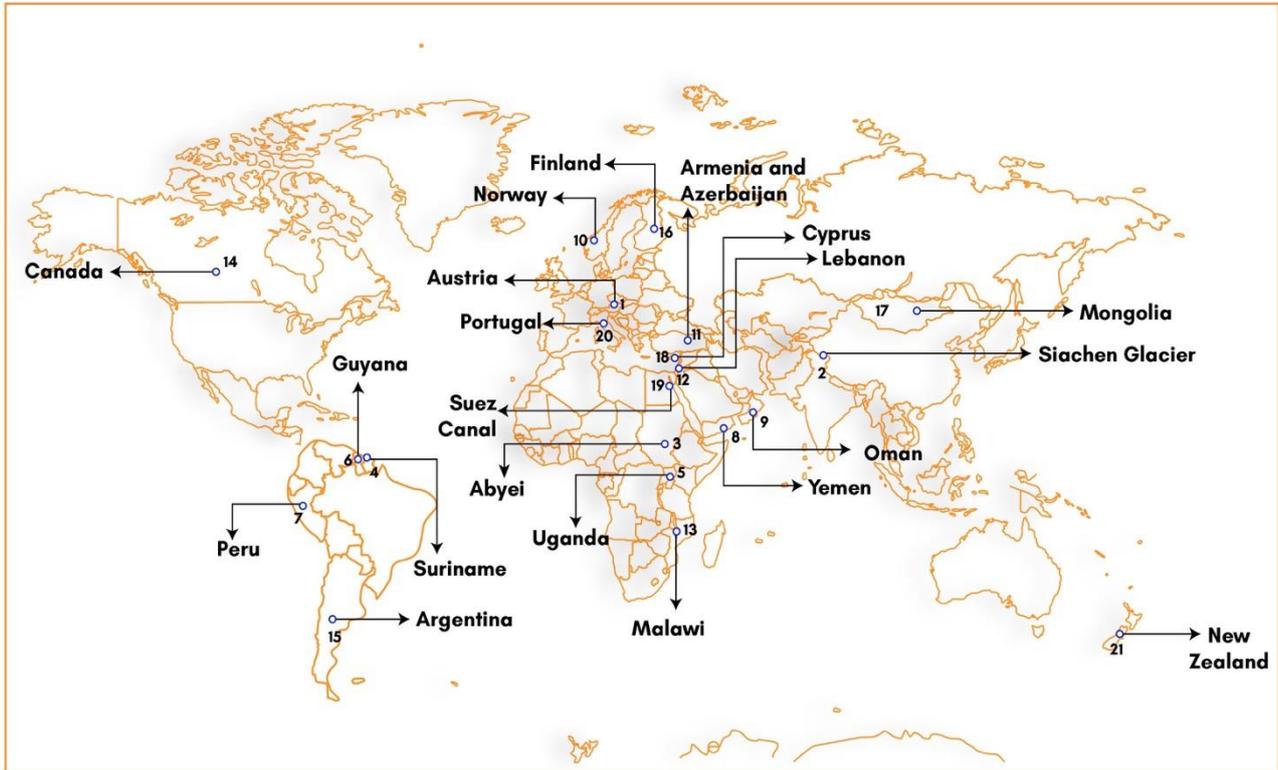
News	Details
<p>13th Amendment (13A) to Sri Lanka's Constitution</p>	<ul style="list-style-type: none"> India's Minister of External Affairs reiterated that full implementation of the 13A is "critical" for achieving reconciliation with the minority Tamil community. 13th A brought in after the Indo-Sri Lankan agreement of 1987, provides for the devolution of power to the Tamil community. <ul style="list-style-type: none"> Sri Lanka has a long history of failed negotiations to end the Tamil claim of discrimination by allowing some form of political autonomy. 13A will facilitate unity among all the communities in Sri Lanka so that they could live as one.
<p>India-ASEAN Digital Work Plan 2023</p>	<ul style="list-style-type: none"> Work Plan was approved at the 3rd ASEAN Digital Ministers meeting. Work Plan includes capacity building and knowledge sharing in emerging areas in Information and Communication Technologies (ICT) such as AI in Cyber Security. It will strengthen collaboration between India and ASEAN in ICT.
<p>Information Fusion Center - Indian Ocean Region (IFC-IOR)</p>	<ul style="list-style-type: none"> Information Fusion Center - Indian Ocean Region (IFC-IOR), established in 2018, is hosted by India Navy at Gurugram to further Maritime Safety and Security in Indian Ocean Region. <ul style="list-style-type: none"> To enable better correlation and timely inputs, IFC-IOR also hosts International Liaison Officers (ILOs) from partner nations including Australia, France, Italy, Japan, US, UK. IFC-IOR has established linkages with several multinational maritime security centres. <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">Initiatives Taken for maritime Security</p> <ul style="list-style-type: none"> Appointment of India's first National Maritime Security Coordinator (NMSC) PM's vision SAGAR ('Security and Growth for all in the Region') Indo-Pacific Oceans' Initiative (IPOI) Joint Maritime Exercises like Malabar, Indo Thai Corpat to increase interoperability of naval forces Defence Acquisition and modernisation like scorpion class submarines and aircraft carrier (INS Vikrant) ★ </div>
<p>Group of 77 (G-77):</p>	<ul style="list-style-type: none"> It was established on 15 June 1964 by seventy-seven developing countries. It provides the means for the countries of the South to articulate and promote their collective economic interests and enhance their joint negotiating capacity on all major international economic issues within the United Nations system, and promote South-South cooperation for development.

Common Framework for Debt Treatments	<ul style="list-style-type: none"> • First G20 Finance Ministers and Central Bank Governors (FMCBG) Meeting agreed for the implementation of Common Framework for Debt Treatments beyond DEBT Service Suspension Initiative (DSSI) of World Bank(launched in 2020). • About Common Framework for Debt Treatments <ul style="list-style-type: none"> ○ It is an agreement of G20 and Paris Club countries to coordinate and cooperate on debt treatments for up to 73 low-income countries that are eligible for DSSI. <ul style="list-style-type: none"> ✓ It includes G20 official bilateral creditors as well like China, India, Turkey or Saudi Arabia that are not members of Paris Club. ○ It provides a deep debt restructuring, with a reduction in net present value of debt sufficient to restore sustainability, if requested by debtor country.
India-EU Trade and Technology Council (TTC)	<ul style="list-style-type: none"> • Three working groups are formed under India-EU TTC on: <ul style="list-style-type: none"> ○ Strategic Technologies, Digital Governance and Digital Connectivity ○ Green and Clean Energy Technologies ○ Trade, Investment and Resilient Value Chains • About TTC <ul style="list-style-type: none"> • TTC is a strategic coordination mechanism to allow both partners to tackle challenges at nexus of trade, trusted technology and security; deepening India-Eu bilateral relationship in these fields. <ul style="list-style-type: none"> ○ It is the first such mechanism for India and second for EU, after US-EU TTC. ○ India-EU TTC was launched in April 2022.
India-U.S. Trade Policy Forum (TPF)	<p>Recently, 13th Ministerial Meeting of the India-U.S. Trade Policy Forum (TPF) was organised.</p> <ul style="list-style-type: none"> • A new working group on “Resilient Trade” was launched that’ll provide a structured framework for trade-focused bilateral discussion. • About Trade Policy Forum (TPF) <ul style="list-style-type: none"> ○ TPF was established in 2005. ○ It is a platform for continuous engagement between two countries in the area of trade and to further the trade and investment relations. ○ Under the TPF, there are working groups on five broad areas including agriculture, non-agriculture goods, services, investment, and intellectual property. ○ TPF is co-Chaired by Ministry Commerce and Industry on Indian side and USTR on American side.
Hanley Passport Index	<ul style="list-style-type: none"> • Index ranks the passports of countries according to the number of destinations their holders can visit without a prior visa. <ul style="list-style-type: none"> ○ Prepared by Henley and Partners, a London-based global citizenship and residence advisory firm. ○ Rankings are based on the analysis of data provided by the International Air Transport Association (IATA). • India improved its position by 2 spots from last year, and is currently ranked 85th. <ul style="list-style-type: none"> ○ Japan topped the index.
Mutual Legal Assistance Treaty (MLAT)	<ul style="list-style-type: none"> • India and Saudi Arabia are in talks to sign MLAT to obtain formal assistance from each other in investigations related to criminal cases. • MLAT is a mechanism whereby countries cooperate with one another to provide and obtain formal assistance in investigations related to criminal cases. • It ensures that criminals do not escape or sabotage the due process of law for want of evidence available in different countries. • India has so far signed MLATs with 45 countries, recently with Poland. • Ministry of Home Affairs is the nodal Ministry for concluding MLAT in Criminal Matters.
New START (Strategic Arms Reduction Treaty)	<ul style="list-style-type: none"> • Russia suspended New START treaty, last remaining major military agreement with US. <ul style="list-style-type: none"> ○ Russia claimed that the USA had not complied with the treaty's provisions and had attempted to undermine Russia's national security. • About New START <ul style="list-style-type: none"> ○ New START is a treaty between US and Russia for reduction and limitation of Strategic Offensive Arms. ○ It entered into force in 2011 and placed verifiable limits on intercontinental-range nuclear weapons. ○ It replaced the previous START treaty (between US and erstwhile USSR) that had expired in 2009. ○ 2002 Strategic Offensive Reduction Treaty (SORT, or Moscow Treaty) entered into force in 2003, followed New START. ○ Under the agreement, both sides are committed to the following:

	<ul style="list-style-type: none"> ✓ Deploying no more than 1,550 strategic nuclear warheads and a maximum of 700 long-range missiles and bombers. ✓ A limit of 800 intercontinental ballistic missiles in deployment. ✓ Each side can conduct up to 18 inspections of strategic nuclear weapons sites yearly to ensure the other has not breached the treaty's limits. ✓ In 2021, United States and the Russian agreed to extend the treaty till 2026.
UNSC (United Nations Security Council) Sanctions Committee	<ul style="list-style-type: none"> • ISIL and Al Qaida Sanctions Committee of the UNSC has placed Lashkar-e-Taiba's (LeT) Makki on its sanctions list. • UNSC Sanctions Committee is subsidiary organ of UNSC to support or implement UNSC decisions. <ul style="list-style-type: none"> ○ UN Charter authorizes UNSC to use a variety of measures to enforce its decisions. <ul style="list-style-type: none"> ✓ E.g. The ISIL and Al Qaida Sanctions Committee was established pursuant to UNSC resolutions 1267 (1999), 1989 (2011) and 2253 (2015). <p>It can also use Panels/Groups of Experts or other mechanisms to monitor implementation of the sanctions.</p>
Operation Dost	<ul style="list-style-type: none"> • It was launched by Indian Army to extend humanitarian aid to Syria and Turkey which are recently hit by massive earthquake.
Chicago Convention	<p>Cabinet approved ratification of three Protocols relating to amendments in Chicago Convention.</p> <p>About Chicago Convention</p> <ul style="list-style-type: none"> • Chicago Convention, 1944 established core principles permitting international transport by air. • Articles of Convention establish privileges and obligations of all contracting States and promote International Civil Aviation Organization (ICAO) Standards and Recommended Practices adoption that regulate international air transport. <ul style="list-style-type: none"> ○ It has 193 state parties including all UN members except Liechtenstein. • Protocols ratified are: <ul style="list-style-type: none"> ○ Protocol to insert Article 3 b is to refrain member States from use of weapons against civil aircraft in flight. ○ Protocol to amend Article 50 (a) for raising strength of International Civil Aviation Organization (ICAO) Council from 36 to 40. ○ Protocol to amend Article 56 raising strength of Air Navigation Commission from 18 to 21. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p style="text-align: center;">International Civil Aviation Organization (ICAO)</p> <p style="text-align: right; font-size: small;">Montreal (Canada)</p> <p>Genesis: A special UN agency came into being in 1947 and The Convention on International Civil Aviation (Chicago Convention) set forth the purpose of ICAO.</p> <p>Objective: To coordinate the principles and techniques permitting international transport by air.</p> <p>Membership: 193 member states </p> <p>Other key information :</p> <ul style="list-style-type: none"> ✦ ICAO works closely with the UN Economic and Social Council. ✦ The development of international civil aviation Standards and Recommended Practices (SARPs) and Procedures for Air Navigation Services (PANS) follows a structured, transparent and multi-staged process – often known as the ICAO 'amendment process' or 'standards-making process'. ✦ ICAO is not an international aviation regulator. </div>
Fab 4 or Chip 4 Alliance	<ul style="list-style-type: none"> • U.S.-led Fab 4 semiconductor alliance held its first meeting. • It is an alliance of world's top producers of semiconductors: Taiwan, United States, Japan and South Korea. • Chip 4 alliance was proposed by US in 2022 to enhance the "security" and "resilience" of semiconductor supply chains, including by reducing the world's reliance on chips made in China.
International Union of Railways (UIC)	<ul style="list-style-type: none"> • 18th UIC World Security Congress, jointly organized by Railway Protection Force (RPF) and International Union of Railways (UIC), concluded with adoption of 'Jaipur Declaration'. <ul style="list-style-type: none"> ○ Declaration outlines an actionable agenda for UIC to explore innovative approaches that can help global Railway organizations to achieve their long-term goal of safety and security. ○ It also highlighted the commitment of UIC to provide safe and secure rail network across globe, by activating Asia-Pacific, Latin America and African regional assemblies by 2025. <p>About UIC</p> <ul style="list-style-type: none"> • UIC is worldwide professional association representing railway sector for research, development & promotion of rail transport. • Headquarter: Paris
Doomsday Clock	<ul style="list-style-type: none"> • Bulletin of the Atomic Scientists (BAS) moved Doomsday clock to 90 seconds to midnight largely because of mounting nuclear warfare in Ukraine.

	<ul style="list-style-type: none"> ○ BAS was founded in 1945 by Albert Einstein and University of Chicago scientists who worked on Manhattan Project to build first atomic bomb. ● Doomsday Clock, created in 1947, is a design that warns the public about how close we are to destroying our world with dangerous technologies of our own making. <ul style="list-style-type: none"> ○ Since its debut, minute hand has been reset 25 times.
SPRINT scheme	<ul style="list-style-type: none"> ● Indian Navy has signed an agreement with Sagar Defence Engineering Pvt. Ltd for armed autonomous boat swarms under 'SPRINT' scheme. ● SPRINT stands for Supporting Pole-vaulting In R&D through Innovations for Defence Excellence (IdeX), Naval Innovation and Indigenisation Organisation (NIIO) and Technology Development Acceleration Cell (TDAC). <ul style="list-style-type: none"> ○ It aims at development of 75 indigenous technologies by industry for Navy.

2.14. PLACES IN NEWS



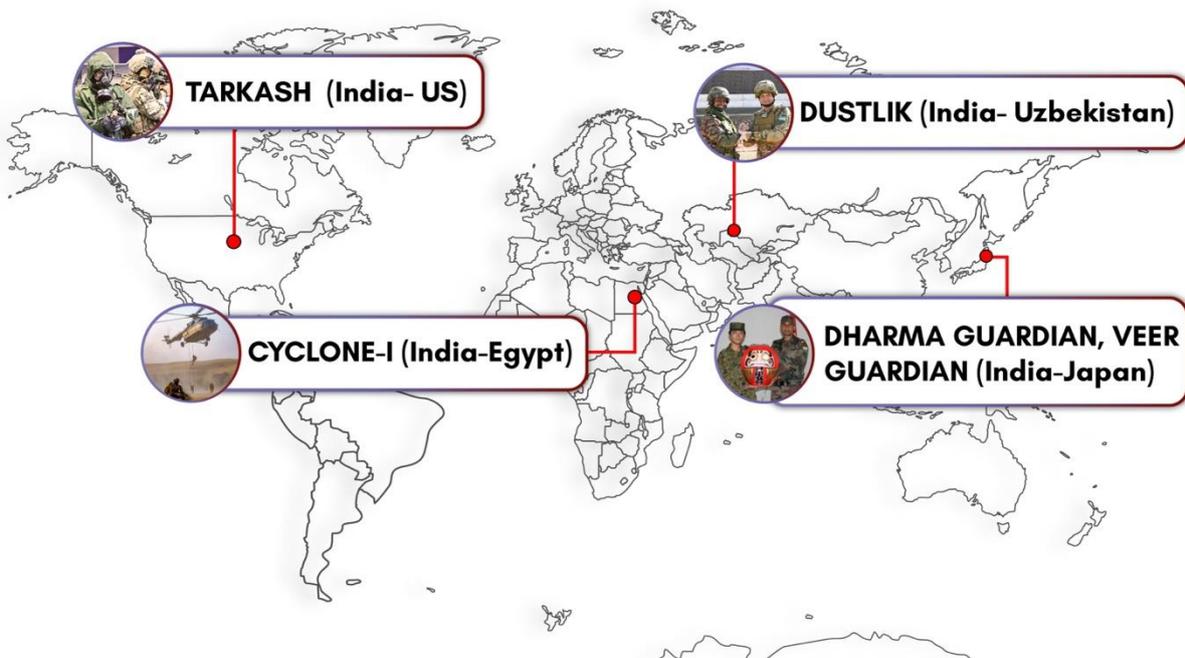
1.	<p>Austria (Capital: Vienna) Context: India will sign a Comprehensive Migration and Mobility Partnership Agreement (MMPA) with Austria.</p> <ul style="list-style-type: none"> ● Croatia is a mountainous landlocked country of south-central Europe. ● It is the leading producer of natural magnesite, magnesium carbonate used extensively in chemical industry.
2.	<p>Siachen Glacier (Karakoram, Ladakh) Context: Indian Army has deployed its first woman officer at Siachen.</p> <ul style="list-style-type: none"> ● Siachen Glacier is the world's highest and coldest battlefield lying between Saltoro Ridge (a subrange of Karakorams) to west and main Karakoram Range to east. ● It is the second longest (76 km) non-polar glacier of the world, after Fedchenko Glacier in Tajikistan. ● It demarcates central Asia from the Indian subcontinent. ● It is the source for the Nubra River, a tributary of the Shyok, which is part of the Indus River system. ● In 1984, India took its control under Operation Meghdoot.
3.	<p>ABYEI (AFRICA) CONTEXT: INDIAN ARMY HAS DEPLOYED ITS LARGEST CONTINGENT OF WOMEN PEACEKEEPERS IN A UN MISSION AT ABYEI. Abyei is contentious region that is oil-rich near the demarcation line which divides Sudan and the South Sudan.</p>
4.	<p>Suriname (Capital: Paramaribo) Context: At the 17th Pravasi Bhartiya Divas event, Suriname President suggested setting up a Hindi language training institutions in Caribbean region.</p> <ul style="list-style-type: none"> ● Suriname, formerly known as Dutch Guiana, is situated on northern edge of South America.
5.	<p>Uganda (Capital: Kampala)</p>

	<p>Context: Uganda declares end to deadly Ebola outbreak.</p> <ul style="list-style-type: none"> • Uganda is the world's second most populous landlocked country, in east-central Africa.
6.	<p>Guyana (Capital: Georgetown)</p> <p>Contexts:</p> <ul style="list-style-type: none"> • Recently Cabinet approved Air Services Agreement between India and Guyana. • India and Guyana agreed to cooperate in oil and gas sector. <ul style="list-style-type: none"> ○ Guyana is located on the north-eastern coast of South America and is part of Guianas, an old stable geological formation that forms a portion of the northern coast. <ul style="list-style-type: none"> ✓ Guianas includes Guyana, Suriname, and French Guiana.
7.	<p>Peru (Capital: Lima)</p> <p>Context: Peru has declared a state of emergency in Lima and several other regions.</p> <ul style="list-style-type: none"> • It is located on West Coast of South America, bordered by Pacific Ocean, Bolivia, Brazil, Chile, Colombia, and Ecuador.
8.	<p>Yemen (Capital: Sana'a)</p> <p>Context: UN Yemen envoy highlighted the current absence of major fighting and its use to advance their talks towards peace.</p> <ul style="list-style-type: none"> • Yemen is a desert country on the Southern tip of Arabian Peninsula, with Red Sea and Bab-el-Mandeb on its west while Gulf of Aden, Arabian Sea, and Guardafui Channel on South.
9.	<p>Oman (Capital: Muscat)</p> <p>Context: India and Oman have agreed to jointly fight all manifestations of terrorism collectively.</p> <ul style="list-style-type: none"> • Oman is oldest independent state in Arab World situated at southeastern edge of Arabian Peninsula.
10.	<p>Norway (Capital: Oslo)</p> <p>Context: Norway has discovered substantial levels of metals and minerals ranging from copper to rare earth metals on seabed of its extended continental shelf.</p> <ul style="list-style-type: none"> • Political & Boundaries <ul style="list-style-type: none"> ○ It has Barents Sea (north), Norwegian Sea and North Sea to (west), and Skager Strait to (south). ○ Norway has land borders only to east—with Sweden, Finland, and Russia.
11.	<p>Armenia (Capital: Yerevan)</p> <p>Context: Azerbaijan appealed to United Nations' highest court to urgently order Armenia to stop the laying of land mines.</p> <ul style="list-style-type: none"> • Armenia is a landlocked country on the crossroad between Europe and Asia. <p>Azerbaijan (Capital: Baku)</p> <ul style="list-style-type: none"> ○ Azerbaijan includes within its borders the Armenian occupied enclave of Nagorno-Karabakh, which is the focus of intense conflict between them.
12.	<p>Lebanon (Capital: Beirut)</p> <p>Context: Lebanon has devalued its official exchange rate by 90%.</p> <ul style="list-style-type: none"> • Lebanon is a mountainous nation in the Levant region, located on the eastern coastline of the Mediterranean Sea.
13.	<p>Malawi (Capital: Lilongwe)</p> <p>Context: Malawi is seeing its worst cholera outbreak with more than 1,000 deaths.</p> <ul style="list-style-type: none"> • Malawi is landlocked and located in Southern Africa in the Great Rift Valley.
14.	<p>Canada (Capital: Ottawa)</p> <p>Context: Canada's House of Commons has unanimously passed a motion to take in 10,000 Uyghur and other Turkic Muslims who have left China.</p> <ul style="list-style-type: none"> • Located in North America, Canada is the second largest country in the World after Russia. • Boundaries: Its southern and western border with the USA is the longest border in the world not patrolled by military forces.
15.	<p>Argentina (Capital: Buenos Aires)</p> <p>Context: Argentina seeks India's support to deploy technologies for facilitating entrepreneurs in Argentina.</p> <ul style="list-style-type: none"> • Located in southern part of South America and shares maritime borders with Falkland Islands. • Divided into four regions: Andes, North, Pampas, and Patagonia.
16.	<p>Finland (Capital: Helsinki)</p> <p>Context: India and Finland are looking to expand ties across a range of cutting-edge technologies including quantum computing and nuclear technology.</p> <ul style="list-style-type: none"> • Finland is a Nordic Country located in northern Europe. • Gulf of Bothnia and Gulf of Finland are its main water bodies, leading to shared maritime borders with Estonia. • Part of Finland lies north of Arctic Circle, known as Upland Finland. • It is known as land of a thousand lakes (largest is lake Saimaa).

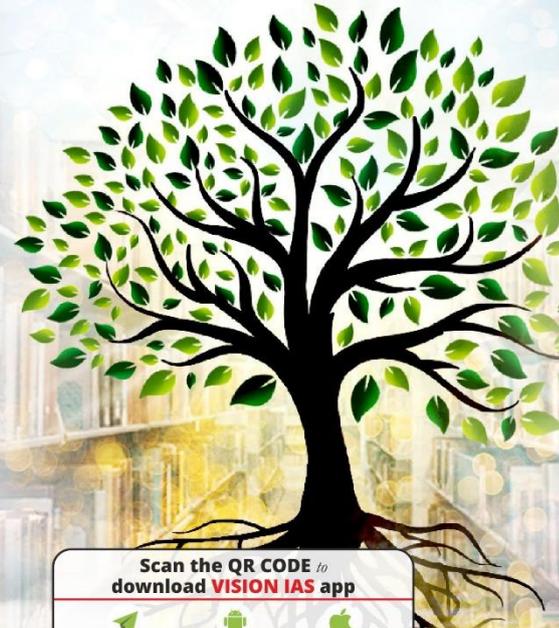
17.	<p>Mongolia (Capital: Ulaanbaatar) Context: 11th meeting of India-Mongolia Joint Working Group was held.</p> <ul style="list-style-type: none"> • Mongolia is a landlocked East Asian Country surrounded by Russia in the North and China in South. • It is also known as "Land of the Eternal Blue Sky" and as "Land of the Horse". <p>Gobi Desert is in the south-central region.</p>
18.	<p>Cyprus (Capital: Nicosia) Context: Nikos Christodoulides was elected as Cyprus's president.</p> <ul style="list-style-type: none"> • Cyprus is situated at north-eastern corner of Mediterranean • It is the third large island in Mediterranean Sea after Sicily and Sardinia.
19.	<p>Suez Canal (Africa) Context: World's biggest shipping company is suing its rival, seeking compensation for delays caused by a 2021 blockage of the Suez Canal.</p> <ul style="list-style-type: none"> • Suez Canal is a human-made waterway. • It connects Mediterranean to Indian Ocean via Red Sea and provides shortest sea link between Asia and Europe. <ul style="list-style-type: none"> ○ It was opened for navigation in 1869 and Egypt nationalized it in 1956. • It is one of the world's most heavily used shipping lanes, carrying over 12% of world trade by volume, 8% of Liquefied Natural gas and 1 billion barrels of oil (everyday).
20.	<p>Portugal (Capital: Lisbon) Context: Independent Committee for Study of Child Abuse in Catholic Church, set up by Portuguese bishops, have reported abuse of over 4,800 children since 1950.</p> <ul style="list-style-type: none"> • Portugal is a South Western European country situated mostly on Iberian Peninsula. <p>It also has small archipelagos of Madeira and the Azores in the Atlantic Ocean.</p>
21.	<p>New Zealand (Capital: Wellington) Context: New Zealand has declared an emergency as cyclone Gabrielle causes widespread flooding and landslides.</p> <ul style="list-style-type: none"> • It is an island country in South Pacific Ocean, south- westernmost part of Polynesia. • It is a remote land and lies more than 1,600 km southeast of Australia, its nearest neighbour. • Its two main islands, North and South Islands, are separated by Cook Strait. • It is a part of Ring of Fire -the circum-Pacific seismic belt

2.15. MILITARY EXERCISES IN NEWS

Bilateral Defence Exercises in News



Nature of exercise	Name of exercise	Countries involved
Domestic	<ul style="list-style-type: none"> TROPEX- Indian Navy's major maritime exercise AMPHEX 2023- joint training of elements of all three services. Topchi 2023 - to showcase indigenous capabilities and strides made in achieving self-reliance in defense sector 	NA
Bilateral	Dustlik	India and Uzbekistan
	DHARMA GUARDIAN, Veer Guardian	India and Japan
	TARKASH	India and US
	Cyclone - I	India and Egypt
Multilateral	Desert flag VIII	UAE, India, France, Kuwait, Australia, UK, Bahrain, Morocco, Spain, Republic of Korea, and USA



फाउंडेशन कोर्स

सामान्य अध्ययन

प्रारंभिक एवं मुख्य परीक्षा 2024

इनोवेटिव क्लासरूम प्रोग्राम

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन

- सीसैट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसैट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करेंट अफेयर्स मैगजीन

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DELHI	JAIPUR	LUCKNOW	BHOPAL
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लाइव / ऑनलाइन कक्षाएं भी उपलब्ध

3. ECONOMY

3.1. GROWTH, DEVELOPMENT AND POVERTY ALLEVIATION

3.1.1. MAHILA SAMMAN SAVINGS CERTIFICATE

Why in News?

In the recent budget, the government announced the new small savings scheme “Mahila Samman Savings Certificate” for women.

Importance of Small Savings Schemes

- **Providing a safety net for vulnerable sections of society**, such as senior citizens, widows, and disabled individuals.
- **Resource Mobilization for Government:** Contributing around 20% of the Centre's borrowing requirement.
- **Transfer to States:** Around 75% of net small saving collections, are transferred to states as part of their loans from the Centre.
- **Market Implications:** The effective return on these schemes can influence the fund flow into capital and secondary markets.

MAHILA SAMMAN SAVINGS CERTIFICATE	
	It is a one-time small savings scheme that will be made available for a period of two years, from April 2023 to March 2025.
	It is intended to provide female empowerment through financial independence.
	ELIGIBILITY Women and Girl Children
	DEPOSIT LIMIT AND TENURE Maximum limit of Rs 2 Lakhs and eligible for 2 years
	PREMATURE WITHDRAWAL AND RATE OF INTEREST Partial withdrawal can be done and Interest provided is 7.5% ★

Categories of Small Savings Schemes in India



National Small Savings Fund (NSSF)

- The money deposited in Small Savings schemes by individuals is **directly sent to the government and deposited in the NSSF.**
- **NSSF was established in 1999** within the **Public Account of India** and is currently administered by **Ministry of Finance under National Small Savings Fund Rules, 2001**, which is derived from **Article 283(1) of the Constitution.**
- Objective for the formation of a dedicated fund for small savings is to **de-link small savings transactions from the Consolidated Fund of India.**
- Since NSSF operates in the Public Account, **its transactions do not impact the fiscal deficit of the Centre directly.**
- The money in the account is generally used by the Centre and States to finance their fiscal deficit and the balance is invested in Central and State Government Securities.
- **The balances under NSSF are direct liabilities of the Centre.** The NSSF flows affect the cash position of the Central Government.

3.1.2. NATIONAL RURAL LIVELIHOOD MISSION (NRLM)

Why in News?

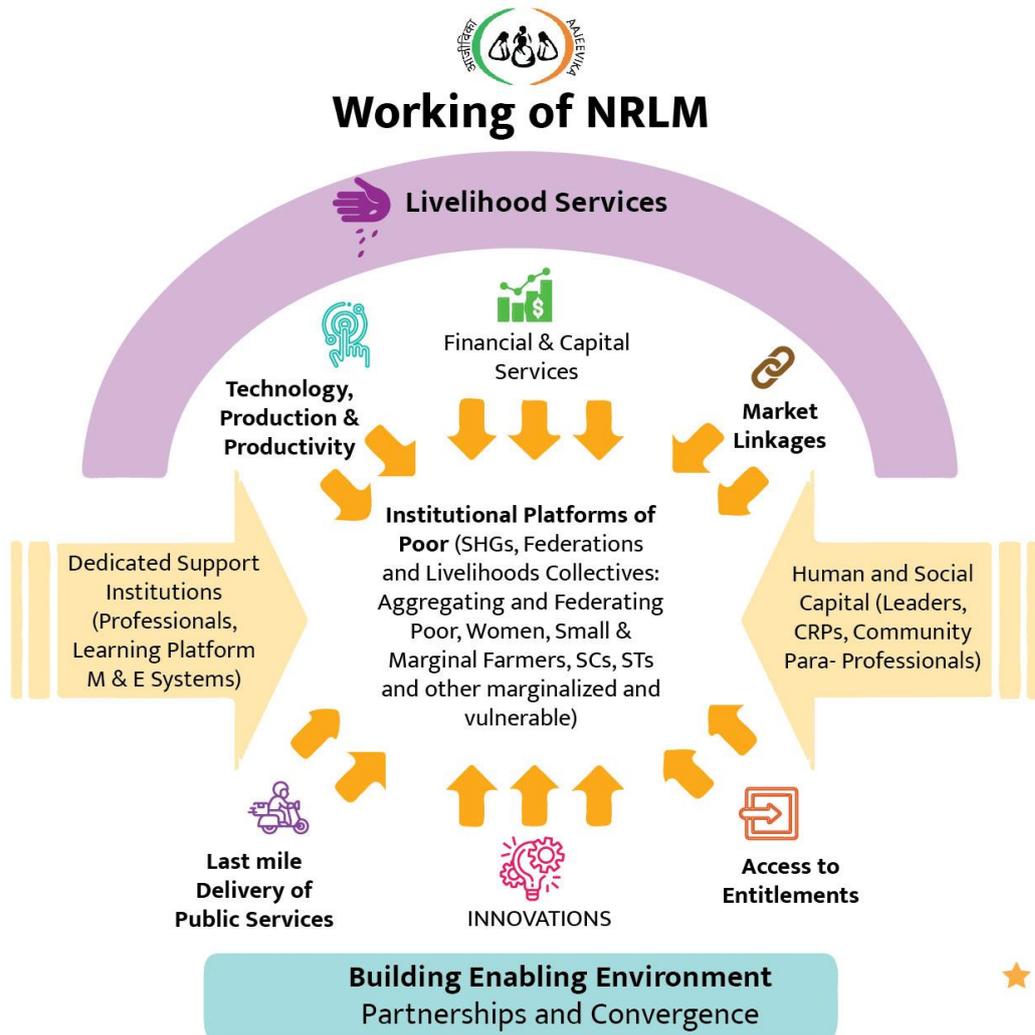
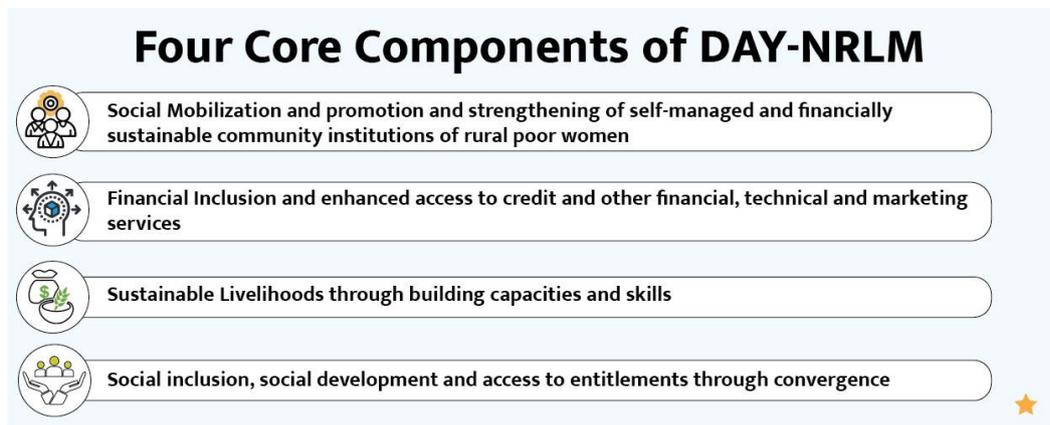
Recently, the Union Minister for Rural Development and Panchayati Raj asserted that the **target of having 10 Crore SHG members by 2024** will be achieved.

More on News

- The ministry has also signed an agreement with Meesho - an e-commerce platform - to help in marketing of products made by SHGs under the **Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM).**
- NRLM and State Rural Livelihood Missions (SRLMs) have taken several steps to **promote curated products from SHGs** through multiple channels such as **Saras Gallery, State specific retail outlets, e-Commerce platforms like GeM, Flipkart, Amazon.**

Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM)

- **Genesis:** NRLM was launched in 2011 by restructuring the erstwhile Swarnajayanti Grameen Swarojgar Yojana (SGSY). It was renamed as DAY-NRLM in 2015.
- **Nodal Ministry:** The Ministry of Rural Development is implementing DAY-NRLM.
- **Aim:** Alleviating poverty and reach out to around 10 crore poor households by way of mobilizing rural women into community institutions such as SHGs.
- **Basis of the program:** DAY-NRLM is improving rural livelihoods through the SHG ecosystem.
 - SHGs are the basic unit, along with higher order structure like SHG federations, FPOs planned for last mile service delivery and market access.



- **Status of Implementation:** As of January 2023, it has mobilized a total of 8.79 Crore women into 81.61 lakhs SHGs.

3.1.3. KEY TERMS AND CONCEPTS IN GROWTH AND DEVELOPMENT

<p>“Survival of the Richest: The India story” report</p>	<ul style="list-style-type: none"> • “Survival of the Richest: The India story” report is released by Oxfam India. • Key highlights of the report: <ul style="list-style-type: none"> ○ Richest 1% in India own 40% of the country’s total wealth. ○ Indirect nature of GST and fuel taxes make them regressive. • Measurement: The most widely cited measure of inequality of outcomes - is typically measured by Gini coefficient.
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	<ul style="list-style-type: none"> ○ Gini coefficient is a measure of inequality where a rating of 0 represents total equality, with everyone taking an equal share, and a rating of 1 (or sometimes 100) would mean that one person has everything. ○ Distribution of inequality in economy represented by Lorenz curve and degree of income inequality measured through Gini Coefficient. 	<p>Lorenz Curve</p> <p>The graph shows a square with the x-axis labeled '% of Population' and the y-axis labeled 'Proportion of Income', both ranging from 0 to 100. A straight diagonal line from (0,0) to (100,100) is labeled 'Line of Equality'. A curve below it is labeled 'Lorenz Curve'. The area between the two lines is divided into two regions, A and B.</p>
<p>Prajjwala Challenge</p>	<ul style="list-style-type: none"> • It was launched, by Ministry of Rural Development, to invite ideas, solutions and actions that can transform rural economy. • It is launched under Deenday Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM). <ul style="list-style-type: none"> ○ DAY-NRLM aims at mobilizing rural poor households into SHGs and provide them long-term support such that they diversify their livelihoods, improve their incomes etc. 	

3.2. FISCAL POLICY

3.2.1. STATE FINANCES

Why in News?

RBI has released its **annual publication** titled **“State Finances: A Study of Budgets of 2022-23”** with the theme **“Capital Formation in India - the Role of States”**.

Key Findings of Report and Future trends

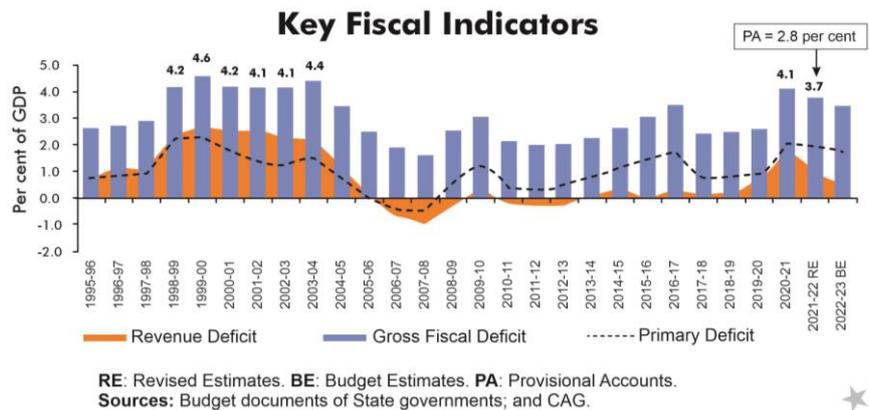
- **Aggregate Revenue Receipts** of State Governments and UTs was **14.9% of the GDP**, out of which **55% was from own taxes**.
- **Aggregate Expenditure** of State Governments and UTs was **18.5% of the GDP**, out of which **83% was revenue expenditure** and **capital expenditure was 17%**.
- **Improved fiscal health of States** on the back of a **broad-based economic recovery** after a sharp pandemic-induced deterioration in 2020-21.
 - **States’ gross fiscal deficit (GFD)** is budgeted to decline in **2022-23** due to **high revenue collections**.

Gross fiscal deficit = Total Expenditure - (Revenue Receipts + Non-Debt creating capital receipts).

- **States’ debt** is budgeted to **ease in 2022-23** as against **31.1% in 2020-21**. (Although improved, but it is still higher than **20%** as recommended by FRBM Review Committee.)
- **Higher Budgeted Capital Outlay** from states in **2022-23**.

Recent Initiatives to Improve State’s Fiscal health

- **Scheme for “Special Assistance to states for Capital Investment”**, providing ₹1,00,000 crore interest free loan for 50-years.



KNOW THE TERM



- **Fiscal Deficit:** It is the difference between **total revenue (excluding borrowings)** and **total expenditure of government**.
- **Revenue Deficit:** Excess of Government’s **revenue expenditure over revenue receipts** constitutes revenue deficit.
- **Debt-to-GDP ratio:** It is the ratio of a **country’s debt to its gross domestic product (GDP)**.

- **Reform-linked additional borrowing** space to state government, allowing additional borrowing of 0.5% GSDP for power sector reforms.
- **Ways and Means Advances (WMA)** limit for State Governments/UTs is reduced.
- **Inclusion of off-budget borrowings in state debt positions**, i.e., the borrowings from state public sector undertakings or their special purpose vehicles (SPVs).

3.2.2. GOVERNMENT SECURITIES (G-SECS)

Why in news?

RBI issued draft norms for lending and borrowing of **government securities (G-Secs)**.

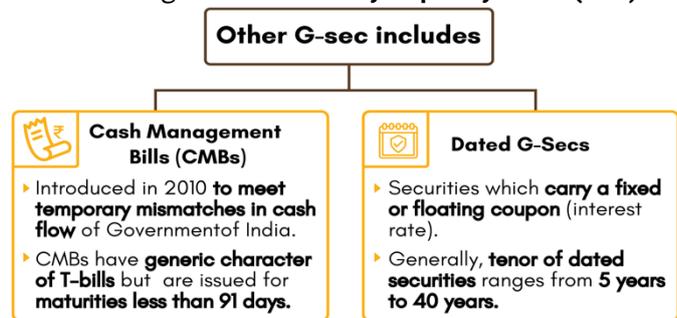
More about news

- Aim is to **facilitate wider participation in Government Securities Lending (GSL) Market**.
- **Key highlights of draft norms**
 - **Eligibility:** G-Secs issued by **Centre** (except treasury bills (T-bills)) are eligible for **lending and trading** in GSL, whereas G-Sec of **both Centre and States** (including T-bills) shall be used **as collateral** under a GSL.
 - **Eligible Participants:** Entities eligible to undertake Repo transactions and those approved by RBI.
 - **Tenure:** Minimum one day and a maximum of ninety days.
 - **Securities borrowed under a GSL transaction** shall be eligible for **Statutory Liquidity Ratio (SLR)** for borrower (not for lender).

About Government Securities (G-Sec)

G- Sec is a **tradeable instrument issued by Central or state Governments**. It acknowledges government's debt obligation.

- **Such securities are short term** (usually called T-Bills, with maturities of less than one year) **or long term** (usually called Government bonds or dated securities with maturity of one year or more).
- **Central Government issues both**, T-bills and bonds or dated securities while **State Governments issue only bonds or dated securities**, called State Development Loans (SDL).
- G-Secs carry practically **no risk of default** and, hence, are called **risk-free gilt-edged instruments**.



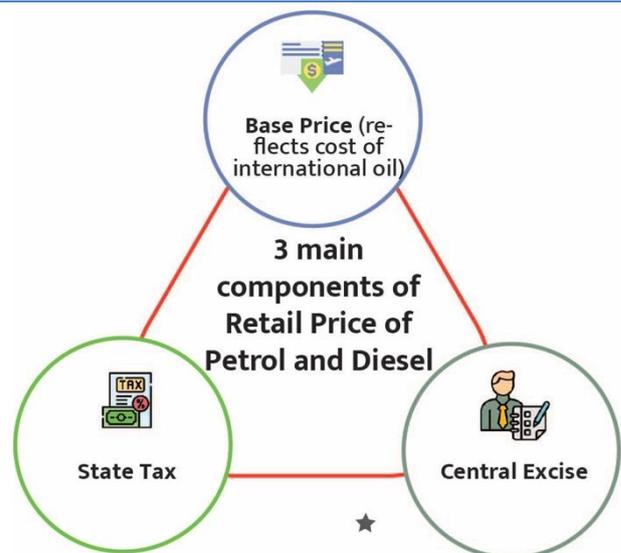
3.2.3. FUEL TAX RATE

Why in News?

The Centre and some states have been in conflict over petrol and diesel prices.

Petrol/Diesel Pricing in India

- **Public sector Oil Marketing Companies (OMCs) revise the retail prices of petrol and diesel in India on a daily basis**, according to the changes in the price of crude oil at global level.
 - Price charged to dealers includes the **base price set by OMCs and the freight price**.
- **States apply an ad valorem VAT or sales tax** on the base price, freight charges, excise duty and dealer commission on petrol and diesel.
 - In fact, Central and state taxes form a major chunk of the price of petrol and diesel in India.
- **Central government taxes the production of petroleum products (Excise Duty)** while **states tax their sale {Sales Tax/ Value Added Tax (VAT)}**.
 - While **excise duty rates are uniform across the country**, states levy **sales tax/ VAT which varies across states**.



- **Excise duty consists of two broad components:** tax component (i.e., basic excise duty), and cess and surcharge component.
- Of this, **only revenue generated from tax component is devolved to states.** Revenue generated by Centre from any cess or surcharge is not devolved to states.
- Excise duty and VAT on fuel **constitute an important source of revenue for both the Centre and the states.** As per the RBI's Study of Budgets 2020-21:
 - Excise duty on fuel **makes up about 18.4% of the Centre's gross tax revenues.**
 - Petroleum and alcohol, on an average, **account for 25-35% of states' own tax revenue.**

KNOW THE TERM

Ad valorem tax: An ad valorem tax is a tax based on the assessed value of an item, such as real estate or personal property. ★

3.3. BANKING, ASSET QUALITY, RESTRUCTURING AND MONETARY POLICY

3.3.1. MICROFINANCE SECTOR

Why in News?

A joint study from Price Waterhouse Coopers (PwC) and the Association of Microfinance Institutions of India has highlighted leading role of Microfinance Institutions (MFIs) in India's economic growth.

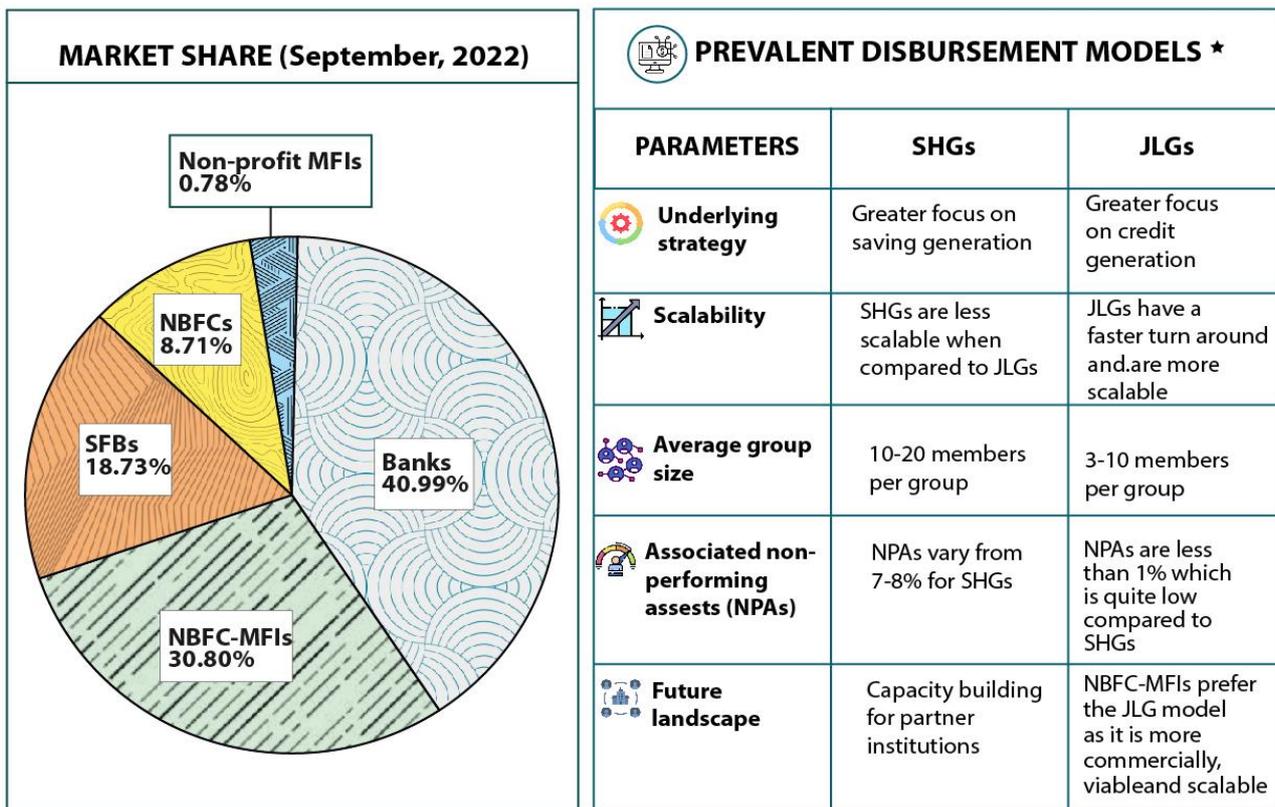
India's Microfinance Sector and MFIs

Microfinance is a **form of financial service** which provides **small loans** and **other financial services** to **poor** and **low-income households**.

DO YOU KNOW?

Nobel Laureate Muhammad Yunus is credited with laying the foundation of the modern MFIs through establishment of **Grameen Bank in Bangladesh in 1976.**

MICRO FINANCE SECTOR IN INDIA





REGULATORY FRAMEWORK ★ ★



The **Reserve Bank of India (RBI)** is the main regulatory body for banks, **NBFCs and SFBS**

- Based on the **Malegam Committee**, RBI introduced a comprehensive regulatory framework for NBFC-MFIs.
- Also, RBI recognized **Sa-Dhan**, an **association of Impact Finance Institutions**, as **Self-Regulatory Organization (SRO)** for MFIs.



SEBI (Securities and Exchange Board of India) can monitor listed MFIs.



Some **States** also have **own laws** to regulate micro-lenders.



GOVERNMENT INITIATIVES FOR MFIs



India Micro Finance Equity Fund, operated through Small Industries Development Bank of India (SIDBI).



Micro Units Development finance Agency (MUDRA), a refinancing institution for Pradhan Mantri MUDRA Yojana (PMMY) loans.



E-Shakti Project to map existing SHGs and uploading financial and non-financial information on a dedicated website.

- ★ **SHG (Self-Help Group and JLG (Joint Liability Group)** are the **two major loan disbursement models** used by majority of MFIs in India. Other major channels SCBs (including Small Finance Banks and RRBs), NBFCs and MFIs registered as NBFCs.
- ★★ **The Micro Finance Institutions (Development and Regulation) Bill of 2012**, based on the Malegam Committee recommendations, for statutory framework to regulate Micro Finance Sector is still pending with standing committee. ★

3.3.2. INSOLVENCY AND BANKRUPTCY CODE (IBC)

Why in News?

To strengthen the functioning of the **Insolvency and Bankruptcy Code (IBC)**, the **Ministry of Corporate Affairs (MCA)** has released proposed changes to IBC for public comments.

About IBC and its features

- In force since 2016, IBC is India's comprehensive law for a **time-bound, market mechanism** to address the insolvency of corporate persons, partnership firms and individuals.
- IBC is based on **four pillars** of institutional infrastructure with:
 - **Insolvency Professionals (IPs)**, members of IP Agency (IPA), to carry out the resolution process.
 - **Information Utilities (IUs)** to store details on lenders, lending terms etc. in an electronic database to facilitate insolvency resolution (e.g., **National E-Governance Services Limited**).
 - The **Insolvency and Bankruptcy Board of India (IBBI)** to regulate functioning of IPs, IPAs and IUs.
 - **Adjudicating Authority** {**National Company Law Tribunal (NCLT)** and **Debt Recovery Tribunal (DRT)**}. NCLT adjudicates insolvency resolution for companies while DRT adjudicates for individuals.
 - ✓ **National Company Law Appellate Tribunal (NCLAT)** is the **Appellate Authority** for hearing appeals against the orders passed by NCLT.
- Based on the **assets value** and **debtor type**, IBC provides for different corporate insolvency resolution processes as:

KNOW THE TERM



• **Insolvency:** It refers to a situation where **companies or individuals** are **not able to repay the debts** they owe.



• **Bankruptcy:** It is a **legal proceeding** initiated when an **individual or entity** is unable to **repay outstanding debts** or obligations. ★

KNOW THE TERM



• **Insolvency Professional (IP):** These are **enrolled with an insolvency professional agency (IPA)** and are involved in **dissolution process** of an insolvent.

★ These professionals are **authorized to act on behalf of such insolvent individual, companies** etc.



• **Insolvency Professional Agency (IPAs):** IPA is frontline regulator that **enroll and regulate the members practising as an IP** in accordance with IBC, 2016. IPA is also responsible for **capacity building** of IPs. ★

- Corporate Insolvency Resolution Process (CIRP).
- Pre-Packaged Insolvency Resolution Process (PPIRP), and
- Fast Track Corporate Insolvency Resolution Process (FIRP), refer image for further details on each resolution process.

CIRP	PRIIP	FIRP
<ul style="list-style-type: none"> • It is a creditor-in-control model to resolve the corporate insolvency of a corporate debtor. • It can be initiated by a financial creditor, an operational creditor and corporate applicant of corporate debtor for defaults of minimum amount of ₹1 crore. • It is to be completed within a period of 180 days (with a maximum of 270 days). 	<ul style="list-style-type: none"> • It is a debtor-in-possession model for speedier insolvency resolution of MSMEs • It allows for a Swiss challenge to the resolution plan submitted by a CD in case operational creditors are not paid 100% of outstanding dues. • It is to be completed within a period of 120 days. 	<ul style="list-style-type: none"> • Similar to CIRP, it differs in terms of time and value, i.e. • It covers Small-sized companies, Start-Ups and Unlisted Companies with a total asset value of below ₹1 crore. • It is to be completed within a period of 90 days.

Key Changes Proposed in the IBC Framework

Area	Proposed Changes
Technology	<ul style="list-style-type: none"> • Developing an e-platform to handle multiple processes under IBC.
Admission of CIRP Applications	<ul style="list-style-type: none"> • Financial Creditors (FCs) to ascertain default or dispute occurrence at Information Utilities before CIRP application. • Adjudicating Authority (AA) to mandatorily admit application and initiate CIRP, if default is established.
Streamlining of Insolvency Resolution Process	<ul style="list-style-type: none"> • Expanding the Pre-packaged Insolvency Resolution Framework (PRIIP) applicability to a broader range of companies. • Limiting real estate cases outcomes to default projects only, formally recognizing the project-wise CIRP or reverse CIRP* • Appointment of administrator in specific CIRP by the Central government etc.
Liquidation Process	<ul style="list-style-type: none"> • Recasting liquidation process to enable Committee of Creditors (CoC) to request AA for direct dissolution if liquidation is not feasible. • CoC to supervise and support the liquidator's functioning, and take all decisions in liquidation by simple majority etc.

*- Reverse CIRP allows promoters to infuse funds into stalled projects for resolution.

3.3.3. LOAN-LOSS PROVISIONS (LLPS)

Why in News?

The Reserve Bank of India (RBI) has floated a discussion paper (DP) that seeks to move banks towards an **expected loss-based approach** or **Expected Credit Loss (ECL)** regime for provisioning.

About Loan Loss provisions (LLPs)

- To take potential loan defaults into account, **banks set aside a proportion of the loan** described as **Loan-Loss Provisions (LLPs)**.
 - LLPs, therefore, are an **income statement expense** set aside by banks to cover the **loan losses** either completely or partially.
 - Since not all loans become impaired, LLPs (as a credit risk management tool) **are used by banks to mitigate expected losses** on bank loan portfolio.

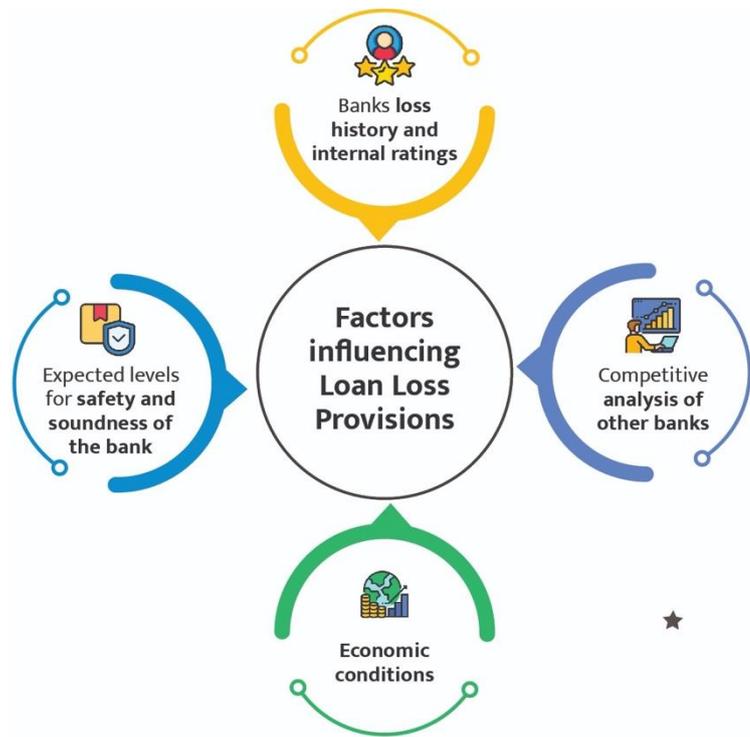
Approaches for LLPs

- **Current Approach:** Presently, in India, banks are required to make loan loss provisions based on an **'incurred loss' approach**.

KNOW THE TERM

- **Procyclical:** Procyclic refers to a condition of a positive correlation between the value of a good, a service, or an economic indicator and the overall state of the economy.

- It is a **pro-cyclical prudential regime** in which banks need to provide for losses that have occurred/incurred.
 - ✓ Here the coverage increases with specific provision when loans start deteriorating and become nonperforming.
 - ✓ As an accounting reference, it is promoted by **International Accounting Standard - IAS 39** Financial Instruments: Recognition and Measurement.
 - ✓ In 2014, the **IAS 39 was superseded by IFRS 9 (International Financial Reporting Standards)** – changing the banks’ loan loss provisioning practices to **expected loss-based approach**.



- **Proposed approach:** The expected loss-based approach is a **countercyclical or dynamic forward-looking framework**

designed to **build up reserves of provisions** during the **good economic times** through higher LLPs and use them in the **economic downturn** by reporting lower LLPs.

International Financial Reporting Standards (IFRS)

- IFRS are ‘a set of accounting standards that govern how particular types of transactions and events should be reported in financial statements’.
- They are developed and maintained by the **International Accounting Standards Board (IASB)** – one of the **two standard setting boards** of IFRS Foundation.
 - **International Sustainability Standards Board (ISSB)** is the second board to set the IFRS Sustainability Disclosure Standards.
- The **IAS**, issued by the antecedent **International Accounting Standards Council (IASC)**, are endorsed, and amended by the **IASB**.
 - **IASC** was formed in **1973** and in **2001** it was replaced by **IFRS**.

- It has a **smoothing effect** at the **individual bank level** and on the **overall business cycle** as well, helping to **avoid any systemic issues**.

Potential Benefits and Concerns over ECL regime	
Benefits	Concerns
<ul style="list-style-type: none"> ● Enhanced Bank Solvency ● Increased Resilience of Banking System as it is likely to result in excess provisions to smooth out loan losses in downturns. ● Align India’s credit-loss provisions with global regulatory framework. ● Increased Transparency in credit-loss provisions. 	<ul style="list-style-type: none"> ● High impact of increased provisions on Bank’s capital. ● Yet to be tested at a larger level i.e., ECL research is limited to few countries such as Spain, Chile etc. ● Its ability to generate sufficient provisions depends on the severity and time lag of the existing crisis. ● Business cycle developments, i.e., upswing and downturn are hard to detect.

3.3.4. SECURITIZATION OF STRESSED ASSETS FRAMEWORK (SSAF)

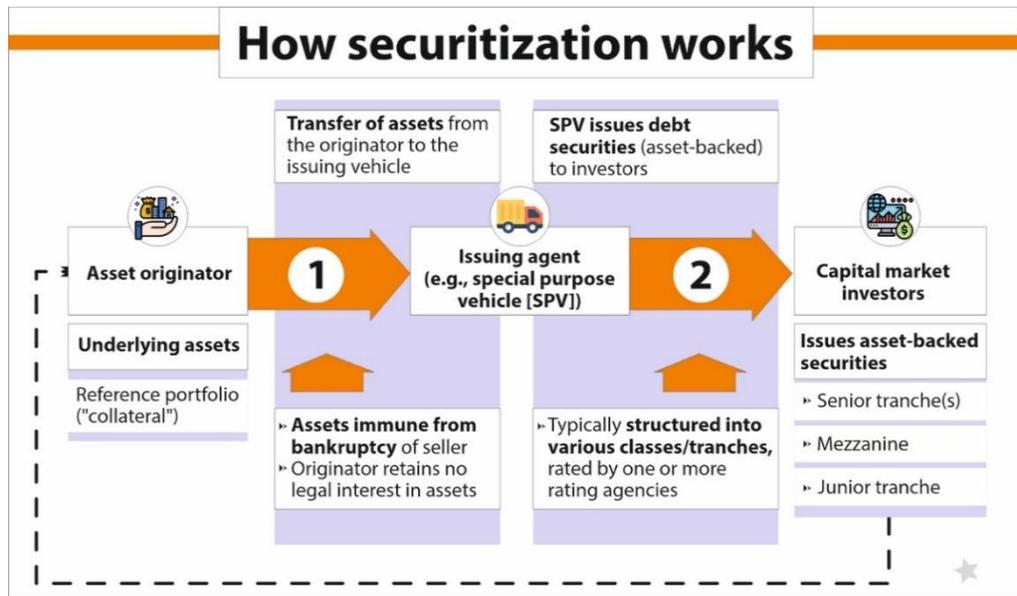
Why in News?

Recently, RBI floated a discussion paper on **Securitization of Stressed Assets Framework (SSAF)**.

About Securitization and SSAF

- **Securitization** refers to a process that involves **pooling of loans** and then **selling them** to a **Special Purpose Entity (SPE)**, which then **issues securities** backed by the **loan pool**.
 - SPE, also called as Special Purpose Vehicle (SPV) represents a **company, trust or other entity** organized for a specific purpose.
- Securitization involves transactions which **redistribute credit risk in assets** by repackaging them into **tradable securities** with **different risk profiles** (see image on how securitization works).

- These assets can be-
 - **Standard assets**, i.e., loans which are not classified as **non-performing asset (NPA)** or assets with a delinquency up to 89 days, and
 - **Stressed assets**, i.e., loans classified as **NPA**.



- **SSAF aims to enable securitization of NPAs through the SPE route, on the lines of securitisation of standard assets.**
 - Currently, in India, the **Securitization of Standard Assets** is allowed through the SPE route in accordance with **Basel guidelines** that came into force from January 1, 2018.
 - The securitization of **Stressed Assets** is done by licensed **Asset Reconstruction Companies (ARCs)** under the **SARFAESI Act**.
 - In 2019, the **Task Force on Development of Secondary Market for Corporate Loans** decided to introduce **SSAF** in addition to the ARC route, similar to the framework for securitisation of standard assets.
- Under SSAF, the **NPAs originator will sell them to an SPE by issuing securitization notes.**
 - The SPE, in turn, will appoint a **servicing entity to manage stressed assets**, typically with a **fee structure that incentivizes them to maximize recoveries of NPAs.**
- Investors who buy **securitization notes** are **paid based on recovery from the underlying assets using the waterfall mechanism** depending upon the seniority of the tranches.

KNOW THE TERM

- **Waterfall Payment Mechanism:** It allows **higher-tiered investors** to be paid principal and interest **ahead of lower-tiered investors.**
- **Senior Tranche:** It means a tranche which is effectively **backed or secured by a first claim** on the entire amount of the assets in the underlying securitized pool.

3.3.5. RBI RELATED DEVELOPMENTS

<p>Climate Risk and Sustainable Finance</p> <ul style="list-style-type: none"> • RBI released a discussion paper on Climate Risk and Sustainable Finance highlighting climate-related risks which can impact financial sector through: <ul style="list-style-type: none"> ○ Physical risks (economic costs and financial losses from floods, heatwaves etc.) ○ Transition risks (arising from process of adjustment towards a low-carbon economy). 	<p>Potential effect of such risks</p> <table border="1" style="width: 100%;"> <tr> <td style="text-align: center;"> Credit risk Impairing value of assets held by banks' customers, or impact supply chains affecting customers' operations and profitability </td> <td style="text-align: center;"> Market risk Decline in valuation and increased volatility on underlying economic activity. </td> <td style="text-align: center;"> Liquidity risk Increased demand for liquidity to respond to extreme weather events. </td> <td style="text-align: center;"> Operational risk Disruption in business continuity due to impact on bank's infrastructure, processes etc. </td> </tr> </table>	 Credit risk Impairing value of assets held by banks' customers, or impact supply chains affecting customers' operations and profitability	 Market risk Decline in valuation and increased volatility on underlying economic activity.	 Liquidity risk Increased demand for liquidity to respond to extreme weather events.	 Operational risk Disruption in business continuity due to impact on bank's infrastructure, processes etc.
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<p>Payment Aggregator</p>	<ul style="list-style-type: none"> RBI introduced a PA framework in 2020, for regulating PA and Payment Gateways (PGs), under which eligible entities were required to apply for seeking authorisation under Payment and Settlement Systems Act, 2007. <ul style="list-style-type: none"> o PAs and PGs are intermediaries facilitating payments in the online space. 	<table border="1"> <tr> <th> Payment Aggregator </th> <th> Payment Gateways </th> </tr> <tr> <td> <p>Entities that facilitate e-commerce sites and merchants to accept various payment instruments (cash/cheque, online payments) from customers for completion of their payment obligations.</p> </td> <td> <p>Entities that provide technology infrastructure to route and facilitate processing of an online payment transaction.</p> </td> </tr> <tr> <td> <p>PA receive payments from customers, pool and transfer them on to the merchants after a time period.</p> </td> <td> <p>PGs do not have any involvement in handling of funds.</p> </td> </tr> </table>	Payment Aggregator	Payment Gateways	<p>Entities that facilitate e-commerce sites and merchants to accept various payment instruments (cash/cheque, online payments) from customers for completion of their payment obligations.</p>	<p>Entities that provide technology infrastructure to route and facilitate processing of an online payment transaction.</p>	<p>PA receive payments from customers, pool and transfer them on to the merchants after a time period.</p>	<p>PGs do not have any involvement in handling of funds.</p>
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<p>Utkarsh 2.0</p>	<ul style="list-style-type: none"> Reserve Bank of India's Medium-term Strategy Framework – Utkarsh 2.0- for period 2023- 2025 was launched. <ul style="list-style-type: none"> o First strategy framework (Utkarsh 2022) covered period 2019-2022. Vision in Utkarsh 2.0 that will guide RBI are- <ul style="list-style-type: none"> o Excellence in performance of its functions; o Strengthened trust of citizens and Institutions in RBI; o Enhanced relevance and significance in national and global roles; o Transparent, accountable and ethics-driven internal governance; o Best-in-class and environment-friendly digital and physical infrastructure; o Innovative, dynamic and skilled human resources. 							
<p>Fraud Registry</p>	<ul style="list-style-type: none"> RBI is working on setting up a fraud registry to blacklist perpetrators of online frauds and prevent use of the banking system to stash digitally defrauded amounts. Fraud registry mechanism would entail identifying and collecting IP addresses, email IDs and mobile numbers that are routinely used to commit online frauds and blacklist them. <ul style="list-style-type: none"> o Payment system participants will be provided access to this registry for near-real-time fraud monitoring. It will ensure that perpetrators can't open accounts in multiple banks to park ill-gotten money. 							
<p>First loan default guarantee (FLDG)</p>	<ul style="list-style-type: none"> In absence of clarity from RBI, Banks and non-banking financial companies (NBFCs) have almost paused tie-ups with fintech players/digital lending apps, under FLDG structure. FLDG is a lending model, a credit-risk sharing agreement, between a fintech and a regulated entity. In FLDG, a third party guarantees to compensate up to a certain percentage of default in a loan portfolio of regulated entities. 							

3.4. PAYMENT SYSTEMS AND FINANCIAL MARKETS

3.4.1. MUNICIPAL BONDS

Why in News?

NSE Indices Ltd., an NSE (National Stock Exchange) arm has introduced the country's first ever municipal bond index.

About Nifty India Municipal Bond Index

- Role of the index:** The new Nifty India Municipal Bond Index will track the performance of municipal bonds issued by Indian Municipal Corporations (MCs) across maturities and having investment grade credit rating.

NSE National Stock Exchange (NSE)

Genesis: Established in 1992 on the recommendation of the High-Powered Study Group of Government of India.

Objective: Simplify participation in the stock market and make it more accessible.

Other key information:

- o In 1994, the NSE introduced electronic trading in the Indian stock exchange market.
- o NIFTY 50 is its benchmark index.

Related News

- SEBI has launched information database on municipal bonds.
- Database contains a wide range of information in form of statistics and regulations, circulars etc. issued by Sebi and information to be obtained by an Issuer to tap Municipal Bond Market.

- **Index constituents:** Presently, the index has **28 municipal bonds issued by 10 issuers** all having credit rating in the AA category.
 - The index constituents are assigned weights based on their outstanding amount.
- **Base for Index:** The index has a **base date of January 1, 2021, and a base value of 1,000.**
- **Review:** The index will be **reviewed quarterly.**

Two Forms of Municipal Bonds in India



These are utilized to **fund projects that do not necessarily make a profit** but benefit the communities they serve, such as building parks or improving schools.

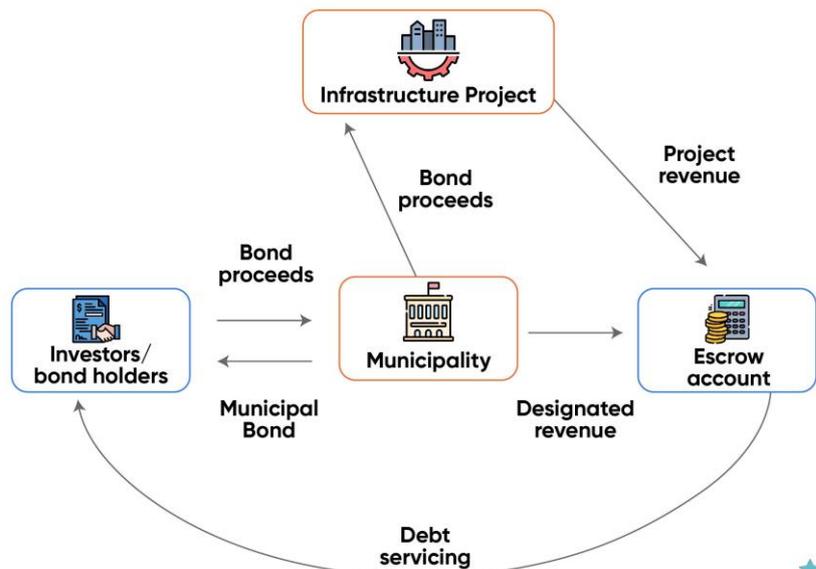


These are issued to **finance revenue generating projects**, such as toll roads and concert halls. ★

Municipal Bonds

- **Municipal bonds are issued by local government bodies, and do not carry any government guarantee.**
- **Structured payment mechanism:** The interests and principal repayment for these bonds is done via an escrow account.
 - The municipal corporation has to **periodically move a fixed sum of money (for these payments) from its revenues into the escrow account.** This provides some assurance on the bonds being serviced on time.

How Municipal Bonds Work



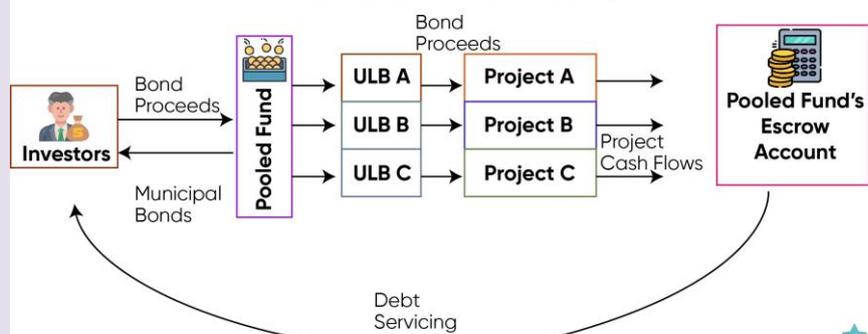
Municipal Bond Market in India

- Municipal Bond Market is **regulated by the Securities and Exchange Board of India (SEBI) in India.**
 - The Indian municipal bond market has seen a resurgence of issuances after **SEBI's Issue and Listing of Municipal Debt Securities Regulations, 2015** came into effect.
- **Financial Incentives:** The Government of India has also provided **incentives in the form of a lump-sum grant-in-aid for municipal bond issuances.**
- **Largely investment-grade rating:** **59% of municipal bonds** issued received a **rating of investment grade or above**, highlighting the underutilized potential for bond financing by Indian municipalities.
- **Pooled Financing:** There have been debates regarding use of pooled financing to encourage use of municipal bonds.

Pooled Financing

- **Pooled financing** essentially involves **creation of a State Pooled Finance Entity (SPFE)**, which can be registered either as a trust or a Special Purpose Vehicle (SPV).
- **This mechanism has precedence in India**, with many states issuing such bonds.
- **The Central government also provided a thrust to pooled financing** by launching the **Pooled Finance Development Fund (PFDF) Scheme in 2006** to provide credit enhancement to ULBs through a State-level pooled finance mechanism.

Pooled Finance Mechanism



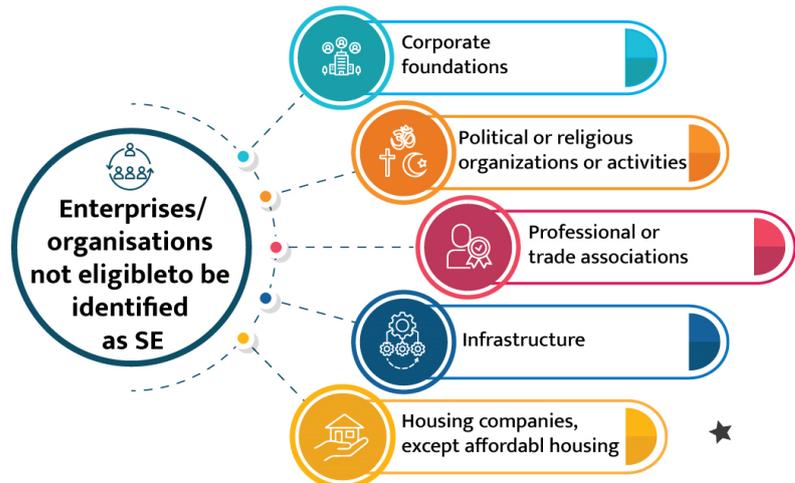
3.4.2. SOCIAL STOCK EXCHANGE

Why in news?

National Stock Exchange (NSE) has got the final approval from the Securities and Exchange Board of India (SEBI) to launch a Social Stock Exchange.

About Social Stock Exchange (SSE)

- SSE is a separate segment of the existing Stock Exchange that can help Social Enterprise(s) to raise funds from public through the stock exchange mechanism.
 - SSE identifies social enterprises as the ones engaged in creating positive impact in the society. These are the following two forms of social enterprises:
 - ✓ Not-for-profit organization
 - ✓ For profit social enterprise
- Eligibility conditions for being identified as social Enterprises-
 - Predominance of any of the following:



Social Enterprises		
Revenue	Expenditure	Customer base/beneficiaries
At least 67% of its revenue of the immediately preceding 3-year average of revenues comes from providing eligible activities to members of the target population.	At least 67% of the immediately preceding 3-year average of expenditure has been incurred for providing eligible activities to members of the target population	Members of target population to whom eligible activities have been provided constitute at least 67% of immediately preceding 3-year average of total customer base and/or beneficiaries

- Target population refers to underserved or less privileged population segments or regions which have recorded lower performance in the development priorities of central or state governments.
- **Governing council:** Every SSE shall be required to have a SSE Governing Council to have an oversight on its functioning.
 - Governing Council shall have a balanced representation and shall comprise of individuals with expertise in concerned field.
- **Eligible activities:** Eligible activities for demonstrating primacy of Social Impact include, inter alia:
 - Eradicating hunger, poverty, malnutrition and inequality;
 - Promoting education, employability and livelihoods;
 - Disaster management, including relief, rehabilitation and reconstruction activities;
 - Protection of national heritage, art and culture etc.

Parameters	NPO	FPE
Registration on SSE	Required (Minimal annual reporting requirement)	Not required
Mechanism to raise funds	<ul style="list-style-type: none"> ▶ Issuance of Zero Coupon Zero Principal Instruments [through private placement or public issuance] ▶ Donations through Mutual Fund Schemes ▶ Any other means that SEBI may specify in future 	<ul style="list-style-type: none"> ▶ Issue of Equity Shares ▶ Issue of Debt Instruments ▶ Any other means that SEBI may specify in future

3.4.3. KEY TERMS AND CONCEPTS IN FINANCIAL MARKETS

Future Contracts on Corporate Bond Indices	<ul style="list-style-type: none"> • SEBI has allowed futures contracts on corporate bond indices rated AA+ and above. • Benefits: Enhanced liquidity in the bond market, and Hedging opportunities for investors. • Corporate Bond is a type of debt security issued by a firm to raise capital. <ul style="list-style-type: none"> ○ Corporate bond index measures the changes in select corporate bonds over a period of time.
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	<ul style="list-style-type: none"> • Future Contract is a legal agreement between two parties where both parties agree to buy and sell a particular asset of specific quantity and at a predetermined price, at a specified date in future. 						
Credit Default Swaps (CDS)	<ul style="list-style-type: none"> • SEBI has allowed Alternative Investment Funds (AIFs) to participate in CDS. • AIF refers to any privately pooled investment fund, (whether from Indian or foreign sources), in form of a trust or a company or a body corporate or a Limited Liability Partnership (LLP). • CDS is a financial derivative that allows an investor to swap or offset their credit risk with that of another investor. <ul style="list-style-type: none"> ○ In this buyer pays an ongoing premium. In exchange, seller agrees to pay security's value and interest payments if a default occurs. • CDS is used for speculation, hedging or as a form of arbitrage. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <h3 style="text-align: center;">ALTERNATIVE INVESTMENT FUNDS</h3> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; padding: 5px;"> <p style="text-align: center;">Category I</p> <p style="text-align: center;">Investment in Startups, SMEs and projects which are socially and economically viable</p> </td> <td style="width: 33%; padding: 5px;"> <p style="text-align: center;">Category II</p> <p style="text-align: center;">Investment in Equity and Debt Securities</p> </td> <td style="width: 33%; padding: 5px;"> <p style="text-align: center;">Category III</p> <p style="text-align: center;">Investment aimed at short-term returns achieved by employing complex trading strategies</p> </td> </tr> <tr> <td style="width: 33%; padding: 5px;"> <ul style="list-style-type: none"> • Venture Capital Fund • Infrastructure Fund • Angel Fund • Social Venture Fund </td> <td style="width: 33%; padding: 5px;"> <ul style="list-style-type: none"> • Private Equity (PE) Fund • Debt Fund • Fund of Funds </td> <td style="width: 33%; padding: 5px;"> <ul style="list-style-type: none"> • Hedge Fund • Private Investment in Public Equity Fund (PIPE) </td> </tr> </table> </div>	<p style="text-align: center;">Category I</p> <p style="text-align: center;">Investment in Startups, SMEs and projects which are socially and economically viable</p>	<p style="text-align: center;">Category II</p> <p style="text-align: center;">Investment in Equity and Debt Securities</p>	<p style="text-align: center;">Category III</p> <p style="text-align: center;">Investment aimed at short-term returns achieved by employing complex trading strategies</p>	<ul style="list-style-type: none"> • Venture Capital Fund • Infrastructure Fund • Angel Fund • Social Venture Fund 	<ul style="list-style-type: none"> • Private Equity (PE) Fund • Debt Fund • Fund of Funds 	<ul style="list-style-type: none"> • Hedge Fund • Private Investment in Public Equity Fund (PIPE)
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AT1 Bonds	<ul style="list-style-type: none"> • AT1 bonds are a type of perpetual bonds having maturity of 100 years and offer relatively higher rates. • They are considered quasi-equity instruments with a larger risk of investment. • They were introduced under Basel accord and banks issue them to shore up their core capital base to meet the Basel-III norms. • If the capital ratios of the issuer fall below a certain percentage or in the event of an institutional failure, the rules allow the issuer to stop paying interest or even write down these bonds, as happened in the Yes Bank case. • These bonds are subordinate to all other debt and senior only to equity. • Other bonds in news: <ul style="list-style-type: none"> ○ Yellow bonds: Comprises funds raised for solar energy generation and upstream industries and downstream industries associated with it. ○ Transition bonds: Comprises funds raised for transitioning to a more sustainable form of operations, in line with India's Intended Nationally Determined Contributions. 						
Gold Exchange Traded Funds (Gold ETFs)	<ul style="list-style-type: none"> • Gold ETFs inflow has plunged by 90% in 2022 due to rising gold prices, interest rates and inflation. • Gold ETF is an ETF to track domestic physical gold price. <ul style="list-style-type: none"> ○ ETF is a basket of securities that trades on an exchange just like a stock does. • It tracks a particular index, sector, commodity, or other assets. • Gold ETF are passive investment instruments that are based on gold prices and invest in gold bullion. • Backed by physical gold, Gold ETFs are listed and traded on NSE and BSE. 						
American depositary receipt (ADR) and Global depositary receipt (GDR)	<ul style="list-style-type: none"> • Recent data suggests that several Indian Companies have terminated their ADRs and GDRs. • Depositary Receipt (DR) is an instrument used by domestic companies to raise money outside the country. <ul style="list-style-type: none"> ○ Both GDR and ADR are used to raise funds from foreign market. ○ However, ADRs are traded on US stock exchanges while GDRs are traded mostly on European Exchanges. ○ Typically, ADRs are bought by retail investors while GDRs are bought by institutional investors. • These shares are held by a foreign bank that provides DRs to companies in return for shares. 						
Follow-on Public Offer (FPO)	<ul style="list-style-type: none"> • Recently, the Adani group called off its FPO. • Purpose: To diversify equity base, raise additional capital for expansion or pay off debt. • Types of FPOs: <ul style="list-style-type: none"> ○ Dilutive FPO, i.e., issuance of additional fresh shares to the public to raise capital. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 5px;"> <p style="text-align: center;">IPOs</p> <p style="text-align: center;">The first ever offering of subscription to the public is called an Initial Public Offering (IPO)</p> </td> <td style="width: 50%; padding: 5px;"> <p style="text-align: center;">FPOs</p> <p style="text-align: center;">Any subsequent invitation to invest in the same business is known as Follow-on Public Offering (FPO)</p> </td> </tr> </table> </div>	<p style="text-align: center;">IPOs</p> <p style="text-align: center;">The first ever offering of subscription to the public is called an Initial Public Offering (IPO)</p>	<p style="text-align: center;">FPOs</p> <p style="text-align: center;">Any subsequent invitation to invest in the same business is known as Follow-on Public Offering (FPO)</p>				
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	<ul style="list-style-type: none"> ○ Non-Dilutive FPO, i.e., issuance of existing private shares by largest shareholders. ● At-the-Market FPO, allowing companies to raise funds on the current market price of the shares in real-time.
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3.5. EXTERNAL SECTOR

3.5.1. WTO: NEW AGREEMENT ON FISHERIES SUBSIDIES

Why in News?

Recently, Switzerland became the first WTO member to formally submit its acceptance of the WTO's new Agreement on Fisheries Subsidies.

More about News

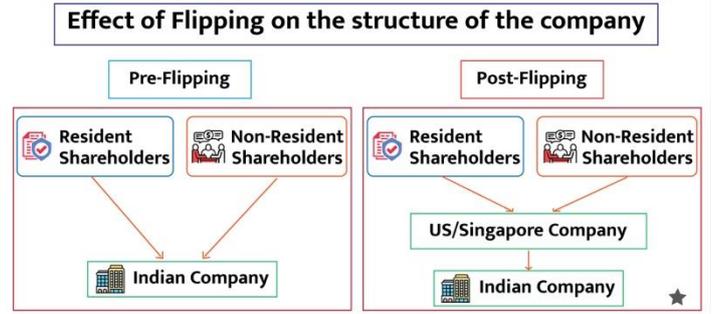
- Agreement was adopted during the **12th Ministerial Conference of WTO** in 2022 held in Geneva, Switzerland under '**Geneva Package**'.
- Acceptances from **two-thirds** of WTO members are needed for the Agreement to come into effect.

ABOUT NEW AGREEMENT ON FISHERIES SUBSIDIES UNDER WTO

	<p>Prohibition on subsidies contributing to IUU (illegal, unreported and unregulated) fishing (Article 3)</p> <ul style="list-style-type: none"> ● Under the Special and Differential Treatment (S&DT), provides for a 2 year "peace clause" for developing country and LDC members within their EEZs.
	<p>Prohibition on subsidies for fishing or fishing related activities regarding overfished stocks(Article 4)</p> <ul style="list-style-type: none"> ● Responsibility for recognizing that a stock is overfished rests with the coastal state for areas under its jurisdiction ● Regional Fisheries Management Organization or Arrangement (RFMO/A) for areas and species under its competence.
	<p>Prohibition on all subsidies to fishing and fishing related activities in areas outside the jurisdiction of coastal members and non-members (Article 5.1)</p> <ul style="list-style-type: none"> ● Two "due restraint" clauses: <ul style="list-style-type: none"> ○ One for subsidies provided to vessels not flying the subsidizing member's flag ○ The other for subsidies for fishing when the status of the stock is unknown
	<p>Notification and Transparency</p> <ul style="list-style-type: none"> ● Members will be required to notify the type or kind of fishing activity being subsidized and, to the extent possible, to provide information on stock status, conservation measures, fleets and vessels being subsidized, along with catch data.

3.5.2. KEY TERMS AND CONCEPTS IN EXTERNAL SECTOR

Board of Trade	<ul style="list-style-type: none"> ● It was constituted in 2019 by merging Council for Trade Development and Promotion with Board of Trade. ● Members- Board includes participants from states, union territories, and senior officials from public and private sectors. ● Function: To advise Government on policy measures connected with the Foreign Trade Policy in order to achieve the objectives of boosting India's trade; and provide a platform to state governments and UTs for articulating state-oriented perspectives on Trade Policy.
US becomes India's top trading partner	<ul style="list-style-type: none"> ● As per the latest data from Ministry of Commerce, US was India's top trading partner in 2021-22, surpassing China. <ul style="list-style-type: none"> ○ UAE was the third largest trading partner of India followed by Saudi Arabia, Iraq and Singapore.
Open Access (OA) movement	<ul style="list-style-type: none"> ● OA is a movement that makes online publications immediately available free of charge and free of most copyright and licensing restrictions. ● It is supported and put into practice by several countries and institutions, as demonstrated by number of institutional signatories of Budapest Open Access Initiative (BOAI) and Berlin Declaration on OA to Knowledge. ● UNESCO supports unrestricted OA which promotes the principle of openness, an essential element of progress.
Reverse flipping	<ul style="list-style-type: none"> ● Economic Survey 2022-23 states that start-ups are exploring "reverse-flipping". ● Flipping is the process of transferring entire ownership of an Indian company to an overseas entity. <ul style="list-style-type: none"> ○ It is generally accompanied by a transfer of all intellectual property and data owned by an Indian company. ○ It effectively transforms an Indian company into a 100% subsidiary of a foreign entity.



<p>Angel tax</p>	<ul style="list-style-type: none"> • Reverse Flipping is the process of shifting the domicile of those companies back to India who flipped earlier. • The government has proposed to bring foreign investors under the ambit of the angel tax which hitherto applied to Indian residents. • About Angel tax: <ul style="list-style-type: none"> ○ It was introduced in 2012 is levied on the capital raised by startups from angel investors. <ul style="list-style-type: none"> ✓ Angel investors are wealthy private investors focused on financing small business ventures in exchange for equity. • It aims to deter the generation and use of unaccounted money through the subscription of shares of a closely held company at a value that is higher than the fair market value of the firm's shares.
<p>Society for Worldwide Interbank Financial Telecommunications (SWIFT)</p>	<ul style="list-style-type: none"> • Recently, Russia has proposed RBI for usage of "The System for Transfer of Financial Messages" (SPFS) as an alternative to SWIFT. • SPFS is the Russian equivalent of SWIFT developed in 2014, after the US government threatened to disconnect Russia from the SWIFT system. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;"> What is SWIFT?</p> <p>ABOUT SWIFT: The Society for Worldwide interbank Financial Telecommunication (SWIFT) is a global financial organisation that:</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Has the authority to record IBAN and BIC banking codes BIC: Bank Identifier Code IBAN: International Bank Account Number</p> </div> <div style="text-align: center;"> <p>Connects over 11,000 financial institutions around the world</p> </div> <div style="text-align: center;"> <p>Transmits more than 5 billion financial messages each year</p> </div> </div> <hr/> <p style="text-align: center;"> HOW DOES IT WORK?</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Connects Connects banks when clients make transactions</p> </div> <div style="text-align: center;"> <p>Via Intermediary Organization If two organisations are not partners, SWIFT can connect them through an intermediary organisation</p> </div> <div style="text-align: center;"> <p>Secure & Reliable Describes itself as a secure and reliable system with exchanges only between banking partners</p> </div> </div> </div>
<p>Export-Import Bank of India (EXIM Bank)</p>	<ul style="list-style-type: none"> • Recently, Minister of Finance announced the setting up of a subsidiary of EXIM Bank at GIFT City in Gujarat. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;"> EXPORT-IMPORT BANK OF INDIA (EXIM BANK) Mumbai</p> <p>Genesis:</p> <ul style="list-style-type: none"> • Established in 1982 as a specialized export credit agency for India with the passing of the Export-Import Bank of India Act in 1981. <p>Objective:</p> <ul style="list-style-type: none"> • Providing financial assistance to exporters and importers, and functioning as the principal financial institution for coordinating the working of institutions engaged in financing export and import of goods and services with a view to promoting the country's international trade. <p>Legal Status:</p> <ul style="list-style-type: none"> • It is wholly owned by the Government of India and is regulated by the Reserve Bank of India (RBI). <p>Functions:</p> <ul style="list-style-type: none"> • It lays special emphasis on extension of Lines of Credit to overseas entities, national governments, regional financial institutions and commercial banks. • It extends Buyers' credit and Suppliers' credit to support India's exports. • It supports MSMEs and rural enterprises to reach international markets. </div>
<p>International IP Index</p>	<ul style="list-style-type: none"> • India ranked 42nd on International IP Index released by US Chambers of Commerce. • Annual Index evaluates protection of Intellectual Property (IP) rights in 55of world's leading economies, together representing around 90% of global GDP. <ul style="list-style-type: none"> ○ U.S topped the index. • Key Findings for India

	<ul style="list-style-type: none"> ○ Improved enforcement against copyright-infringing content and provides a best-in-class framework to promote better understanding and utilisation of IP assets. ● Concerns: Dissolution of IP Appellate Board (2021), under-resourced and overstretched judiciary, limited framework for the protection of biopharmaceutical IP rights etc.
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3.6. LABOUR AND EMPLOYMENT

3.6.1. E-SHRAM PORTAL

Why in news?

e-Shram portal has highlighted the plight of unorganised/informal sector in India as well as the sharp social disparities.

About e-Shram Portal

- It was **launched** by the **Union Ministry of Labour and Employment (MoLE)** in 2021 for the welfare of unorganized sector workers who are not members of the EPFO or ESIC.

Objectives of e-Shram Portal

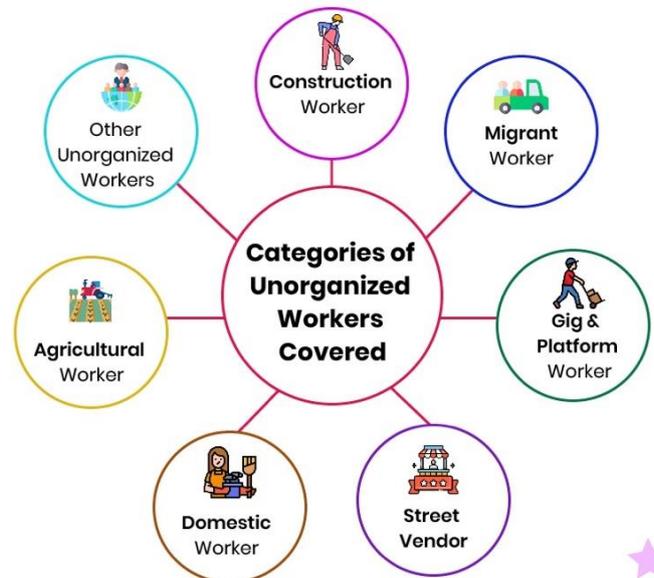
- **Creation of a centralized database of all unorganized workers (UWs)** including Construction Workers, Migrant Workers, Gig and Platform workers, Street Vendors, Domestic Workers, Agriculture Workers, etc., to be seeded with Aadhaar.
- **Improve implementation efficiency of the social security services** for the UWs.
- **Sharing of information in respect of registered UWs with various stakeholders** such as Ministries/ Departments/ Boards/ Agencies/ Organisations of the Central & State Governments through APIs for delivery of various social security and welfare schemes being administered by them.
- **Portability of the social security and welfare benefits** to the migrant and construction workers.
- Providing a comprehensive database to Central and State Governments for **tackling any National Crises like COVID-19 in future**.

Other features of e-Shram portal

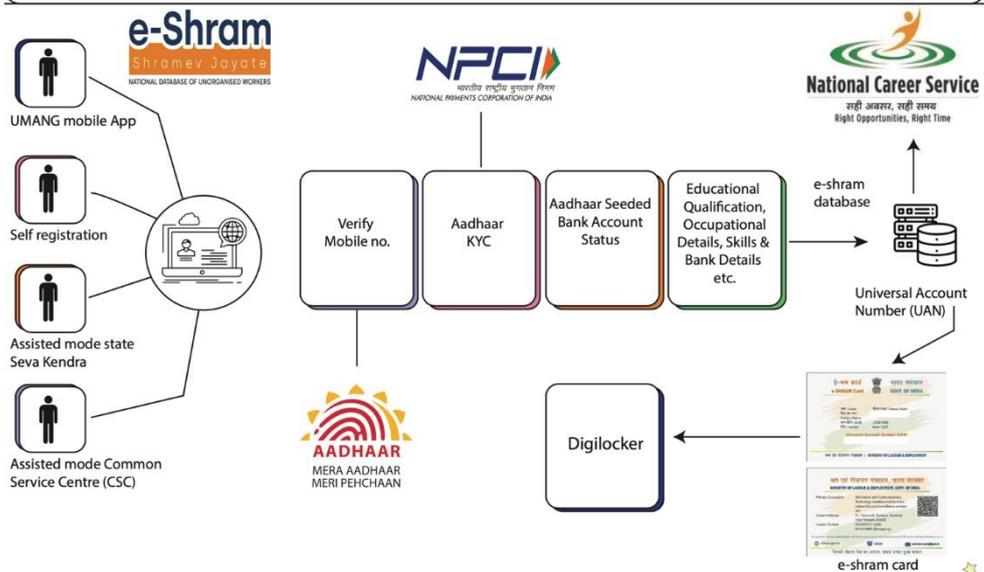
- **Any UW aged between 16 to 59** is eligible to register on the e-Shram portal.
- **Universal Account Number (UAN)** containing a 12-digit unique number is issued to each UW after registration on e-Shram portal.

KNOW THE TERM

Unorganized worker: Any worker who is a **home based-worker, self-employed worker or a wage worker in the unorganised sector** including a worker in the organised sector who is not a member of ESIC or EPFO or not a Government employee is called an Unorganized Worker.



Integration of e-Shram system



- Registration on e-Shram portal is free.
- **Accidental Insurance cover of 2 Lacs** for registered workers under **Pradhan Mantri Suraksha BimaYojana (PMSBY)** and premium for the first year will be borne by MoLE.
- ✓ **The person should be between 18 – 59 years to be eligible for PMSBY** through e-Shram registration.

3.6.2. INTERNATIONAL LABOUR ORGANIZATION (ILO)

Why in news?

Recently, ILO's Monitor on the World of Work was released.



International Labour Organization (ILO)



Genesis: Created in 1919 as part of the Treaty of Versailles.



Relation with UN: In 1946, ILO became a specialized agency of the United Nations.



Flagship reports:

- ◆ Global Wage Report
- ◆ World Social Protection Report
- ◆ World Employment and Social Outlook
- ◆ Social Dialogue Report
- ◆ Global Employment Trend for Youth
- ◆ Working Time and Work-Life Balance Around the World

Key Findings

- **Number of hours worked globally dropped**, which is equivalent to **deficit of 112 million full-time jobs**.
- **Informal women workers have been hit harder** than their male counterparts.



Eight Fundamental Conventions of ILO

Convention Name	India's Status	Convention Name	India's Status
Freedom of Association and Protection of the Right to Organise Convention, 1948		Minimum Age Convention, 1973	
Right to Organise and Collective Bargaining Convention, 1949		Worst Forms of Child Labour Convention, 1999	
Forced Labour Convention, 1930		Equal Remuneration Convention, 1951	
Abolition of Forced Labour Convention, 1957		Discrimination (Employment and Occupation) Convention, 1958	
Four Governance (Priority) Conventions of ILO			
Labour Inspection Convention, 1947		Labour Inspection (Agriculture) Convention, 1969	
Employment Policy Convention, 1964		Tripartite Consultation (International Labour Standards) Convention, 1976	★

3.6.3. PERIODIC LABOUR FORCE SURVEY (PLFS)

Why in News?

The **National Statistical Office** (under the Ministry of Statistics and Implementation) has released **5th annual PLFS**, covering the period from July 2021 to June 2022.

About PLFS

- It was launched in 2017 with twofold objective of:
 - Estimating the **key employment and unemployment indicators** (viz. Worker Population Ratio (WPR), Labour Force Participation Rate (LFPR), Unemployment Rate (UR)) **in the short time interval of three months** for the urban areas only in the 'Current Weekly Status' (CWS).
 - To **estimate employment and unemployment indicators in both 'Usual Status'** (principal activity status + subsidiary economic activity status) **and CWS in both rural and urban areas annually.**
- PLFS **categorizes the workforce into Self-employed, regular wage/salaried workers and casual labourers.**

Definition of Key Indicators

 LFPR	LFPR is defined as the percentage of persons in labour force (i.e., working or seeking or available for work) in the population. <div style="border: 1px solid red; padding: 5px; margin: 10px 0;"> $\text{Labour force Participation Rate (LFPR):} \frac{\text{no. of employed persons} + \text{no. of unemployed persons}}{\text{total population}} * 100$ </div>	55.2% in 2021-22 from 54.9% in 2020-21
 WPR	WPR is defined as the percentage of employed persons in the population. <div style="border: 1px solid red; padding: 5px; margin: 10px 0;"> $\text{Worker Population Ratio (WPR)} \frac{\text{no. of employed persons}}{\text{total population}} * 100$ </div>	52.9% in 2021-22 from 52.6% in 2020-21
 UR	UR is defined as the percentage of persons unemployed among the persons in the labour force. <div style="border: 1px solid red; padding: 5px; margin: 10px 0;"> $\text{Unemployed Rate (UR):} \frac{\text{no. of Unemployed persons no.}}{\text{of employed persons} + \text{no. of unemployed persons}} * 100$ </div>	4.1% in 2021-22 from 4.2% in 2020-21

Activity Status

Activity status of a person is determined on the basis of the activities pursued by the person during the specified reference period.

 USUAL STATUS Reference period of last 365 days preceding the date of survey	 CURRENT WEEKLY STATUS (CWS) Reference period of last 7 days preceding the date of survey
 PRINCIPAL ACTIVITY STATUS The activity status on which a person spent relatively long time (major time criterion) during 365 days preceding the date of survey	 SUBSIDIARY ECONOMIC ACTIVITY STATUS The activity status in which a person in addition to his/her usual principal status, performs some economic activity for 30 days or more for the reference period of 365 days preceding the date of survey

3.7. INNOVATION, SKILL DEVELOPMENT AND ENTREPRENEURSHIP

3.7.1. VOCATIONAL EDUCATION IN INDIA

Why in News?

National Institute of Transforming India (NITI) Aayog in its report 'Transforming Industrial Training Institutes' proposed to set-up a separate **central board for recognition of vocational education.**

More on News

- The **proposed central board will be on the lines of an education board such as the Central Board of Secondary Education (CBSE).**

About Vocational Education (VE)

- VE is formally known as Vocational Education and Training (VET) or Career and Technical Education (CTE).**

The **Kothari Commission** report of **1966** emphasized on **diversifying the curriculum at higher secondary levels through vocational courses.**

The **National Education Policy, 1986**, also focused on **improving the organisational and management structure of vocational education.**

VOCATIONAL EDUCATION IN INDIA

An assessment by the **National Institute of Open Schooling** highlights that only **2% of the total population** in **between 15-29 years of age** have **received formal vocational training**, and only **8% have received non-formal vocational training.**

As per estimate of 12th Five-Year Plan (2012-2017), fewer than 5% of the Indian workforce between the age of **19-24 received formal vocational education.** Where as in **USA the number is 52%**, in **Germany 75%**, and **South Korea is 96%.**

- It prepares learners for jobs that are based in manual or practical activities, traditionally non-academic and totally related to a specific trade, occupation or vocation.
- It also has a component of **Recognition of Prior Learning (RPL)**.
 - It **evaluates and recognises skills and knowledge acquired outside the classroom** (informal learning or learning through work).
 - It is a **component of PMKVY in India**.

New Education Policy (NEP), 2020 on Vocational Education

- The NEP states that “at least 50% of learners” going through the school and higher education system “shall have exposure to vocational education”.
- **Concerted curricular and pedagogical initiatives**, including the introduction of contemporary subjects, such as **Artificial Intelligence, Design Thinking, Holistic Health, Organic Living**, etc. at relevant stages shall be undertaken to develop these various important skills in students at all levels.
- Every student will take a fun year-long course, during Grades 6-8, that gives a survey and **hands-on experience** of a **sampling of important vocational crafts**, such as carpentry, electric work, metal work, gardening, pottery making, etc.
- ‘**LokVidya**’, i.e., important vocational knowledge developed in India, will be made accessible to students through integration into vocational education courses.
- MoE will constitute a **National Committee for the Integration of Vocational Education (NCIVE)**.

3.8. AGRICULTURE

3.8.1. FERTILISER SECTOR IN INDIA

Why in News?

Ministry of Chemicals and Fertilizers launched **Pradhan Mantri Bhartiya Jan Urvarak Pariyojana - One Nation One Fertiliser** scheme.

About the scheme

- ONOF aims at **marketing fertilisers in the country under ‘Bharat’ brand name**.
- Under the scheme, all **subsidised soil nutrients** - urea, di-ammonium phosphate (DAP), Muriate of Potash (MOP), and NPK - will be **marketed under the single brand Bharat**.
 - The **uniform design** of **bags** across the **country** will now mention them as **'Bharat Urea', 'Bharat DAP', 'Bharat MOP', 'Bharat NPK'** and so on.
 - It is applicable to all **fertiliser companies, State Trading Entities and Fertiliser Marketing Entities**.

Related News

Pradhan Mantri Kisan Samruddhi Kendras (PM-KSK)

- Government plans to develop more than **3.25 lakh fertiliser shops across the country as PM-KSK** under **Ministry of Chemicals & Fertilizers**.
- PM-KSK will help in:
 - **Catering to a wide variety of needs of the farmers** and provide agri-inputs (fertilisers, seeds, implements),
 - **Testing facilities** for soil, seeds, and fertilisers;
 - **Generate awareness** among farmers;
 - Provide information regarding various government schemes.

India's Fertilizer Sector

2nd largest fertilizer consumer after China	3rd largest fertilizer producer	One of the largest importer of fertilizer	One of the eight core industries.
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3 basic types of fertilizer used in India

- ▶ **Urea:** Urea is the most produced consumed and imported fertilizer.
- ▶ **Diammonium Phosphate (DAP)**
- ▶ **Muriate of Potash (MOP):** Potash is a source of potassium.
 - ◊ It is used both for direct application as MOP and in combination with 'N' and 'P' nutrients in NPK fertilizers.
 - ◊ India meets almost 100% of its Potash needs through imports.

Regulation

Government decides where manufacturers can sell their products under the **Fertiliser (Movement) Control Order, 1973** issued under the **Essential Commodities Act, 1955**.

Fertilizer Subsidy

Nutrient Based Subsidy (NBS) Scheme

Introduced in 2010 , in continuation of erstwhile Concession Scheme (1992)	Covers fertilizers with primary nutrients (N, P, K and S) as well as any variant of fertilizers with secondary and micronutrients (except S)	Subsidy is released directly to fertilizer companies at approved rates (based on Inter-Ministerial Committee)
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Urea subsidy

Central Sector Scheme	Urea is provided to the farmers at a statutorily notified Maximum Retail	The difference in market price and this MRP is given as subsidy (to manufacturers)	From 2018, under new direct benefit transfer (DBT) system only upon the sale getting registered on the e-Urvarak platform can a company claim subsidy
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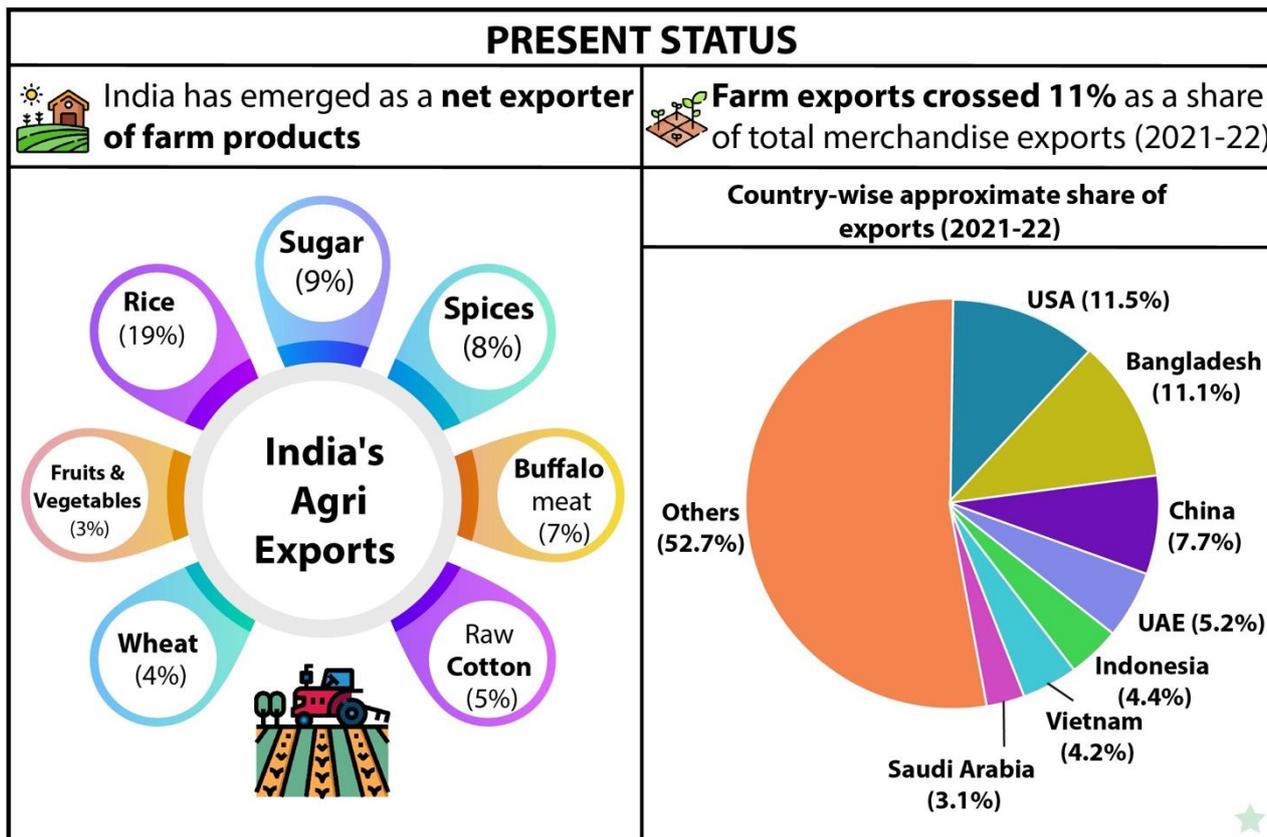
- Scheme outlines the **specifications** of the **new packaging** for companies-
 - The new **“Bharat”** brand name and **PMBJP logo** will cover **2/3rd** of the front of the fertiliser packet.
 - **Manufacturing brands** can display their name, logo, and other information on the **remaining 1/3rd** space.

3.8.2. AGRICULTURAL EXPORTS

Why in News?

Exports of agricultural produce through the Agricultural and Processed Food Products Export Development Authority (APEDA) touched a record high.

AGRI-EXPORTS



Updated Classroom Study Material

3.8.3. KEY TERMS AND CONCEPTS IN AGRICULTURE

Breed-Wise Report of Livestock and Poultry	<ul style="list-style-type: none"> • Based on 20th Livestock Census, the report was released by the Union Minister of Fisheries, Animal Husbandry and Dairying. • It highlights the significance of upgradation of livestock and stresses on its utility. <ul style="list-style-type: none"> ○ Livestock as well as poultry birds were counted according to their breeds as recognized by National Bureau of Animal Genetic Resources (NBAGR). ○ For the first time breed wise data was collected by using digital modes. • Key highlights of the report <ul style="list-style-type: none"> ○ The Exotic and Crossbred animals contribute nearly 26.5% of the total cattle population whereas 73.5% are Indigenous and Non-descript cattle. <ul style="list-style-type: none"> ✓ Census defines “Exotic” cattle as “the animals which have their origin in other countries”. ○ Crossbred Jersey has the highest share in total Exotic/Crossbred cattle and Gir, Lakhimi and Sahiwal breeds have major contributions in total Indigenous Cattle.
J-Form	<ul style="list-style-type: none"> • Punjab will be the first state in the country to provide “digitized form J” in real-time to farmers from this Rabi procurement season. • ‘J form’ is the sale receipt of a farmer’s agricultural produce in mandis (grain market) which acts as an income proof for a farmer who sells his crop.

	<ul style="list-style-type: none"> Earlier issued manually by arthiyas (commission agents), the J-Forms act as a record of land under cultivation for wheat and paddy crops. It can be used for raising finance, IT waivers, subsidy claims, farmers' insurance etc. and can be stored in DigiLocker.
Tractorisation	<ul style="list-style-type: none"> The National Council of Applied Economic Research's (NCAER) report on "Making India a Global Powerhouse on Farm Machinery Industry" was recently released. The report highlighted that Farm mechanisation in India is marked by 'tractorisation'. <ul style="list-style-type: none"> India's farm equipment market is 7% of the global market, with more than 80% of the value contribution coming from tractors. The report insisted the need to focus on the non-tractor farm machinery development. <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"> <p>Related Term</p> <ul style="list-style-type: none"> Package of Practice (PoP): PoP refers to process of increasing agricultural output by implementing scientific farming methods in place of conventional farming practices. </div>
Agriculture Extension System	<ul style="list-style-type: none"> Ministry of Agriculture & Farmers Welfare signed a MoU with Digital Green enterprise to build a national level digital extension platform. <ul style="list-style-type: none"> Platform will host a digital library of curated multi-format multi-lingual content and will help deliver curated content to farmers on time. Agriculture extension system bridges the gap between research labs to a farmer's field. It offers advice and information to help them solve their problems, increase the efficiency of the family farm, increase production etc..
Climate smart varieties of wheat	<ul style="list-style-type: none"> Indian Agricultural Research Institute (IARI) scientists have developed three climate-smart varieties of wheat. <ul style="list-style-type: none"> These varieties are characterised by "mild vernalisation requirement" i.e., need for a certain minimum period of low winter temperatures for initiation of flowering. Three varieties are: HDCSW-18 (officially notified in 2016), HD-3410 and HD-3385. <ul style="list-style-type: none"> HD-3410 (released in 2022), has higher yield potential (7.5 tonnes/hectare) with lower plant height (100-105 cm). Among these, HD-3385 is least lodging-prone and most amenable for early sowing. Lodging refers to permanent displacement of aboveground parts of a crop from its upright position.

3.9. INDUSTRY

3.9.1. TECHNICAL TEXTILES

Why in news?

Recently the **Ministry of Textiles** issued two guidelines under the Flagship Programme of **National Technical Textiles Mission (NTTM)**.

About the Guidelines

- Two Guidelines included:**
 - General Guidelines for **Enabling of Academic Institutes in Technical Textiles- for Private & Public Institutes**.
 - General Guidelines for **Grant for Internship Support in Technical Textiles (GIST)**.
- Under Education, Training, and skilling component of NTTM**, goal is to enhance the level of **education and exposure** to prospective **Indian Engineers/Professionals in Technical Textiles**.
- General Guidelines for Enabling of Academic Institutes in Technical Textiles- for Private & Public Institutes-**
 - It will enable **New Technical Textiles Degree Programme (UG & PG)** and **updating of existing conventional degree programmes with new papers of Technical Textiles**.
 - Funding provision**

National Technical Textile Mission (NTTM)

- Launched by:** Ministry of Textiles.
- Aim:** To make **India as a global leader in Technical Textiles** and increase the use of technical textiles in the domestic market.
- Target:** Domestic market size of technical textile to **\$ 40-50 Billion by 2024** with average growth rate of 15-20% per annum.
- Focus**
 - Develop usage** of technical textiles in various **flagship missions, programmes**.
 - To facilitate market development, market promotion,** international collaborations, investment promotion.

4 COMPONENTS OF NTTM



- ✓ **Assistance for introducing full course** in technical textiles up to 20 crores in PG course and up to 10 Crores at UG level.
- **General Guidelines for Grant for Internship Support in Technical Textiles (GIST)-**
 - **Grant of up to INR 20,000 per student per month** shall be provided to the empanelled companies for providing internships to B.Tech students of relevant Departments/Specializations in Public/ Private Institutes.

Technical Textiles

- Textiles materials and products **manufactured primarily for technical performance and functional properties** rather than aesthetic characteristics.

Technical Textiles and India

- India 5th largest market** for technical textile in world.
- India's **current share is around \$20 Billion (around 8%)** of world market size of \$250 Bn.
- 8% is annual average growth** rate of this sector in India.
- 5-10% is penetration level** of technical textiles in India at against 30-70% in advanced countries

12 different categories

<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Meditech Diapers, Sanitary Napkins, Disposables, Contact Lens, Artificial Implants</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Mobiltech Airbags, Helmets, Nylon Tyre Cords, Airline Disposables</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Oekotech Recycling, Waste Disposal, Environmental Protection</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Packtech Wrapping Fabrics, Polyolefin Women Sacks, Leno Bags, Jute Sacks</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Protech Bullet Proof Jackets, Fire Retardant Apparels, High Visibility Clothing</p> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <p>Sportech Sports Net, Artificial Turf, Parachute Fabrics, Tents, Swimwear</p> </div>	<div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Agrotech Shadenets, Fishing Nets, Mulch Mats, Ant - hail Nets</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Buildtech Cotton Canvas Tarpaulins, Floor and Wall Coverings, Canopies</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Clothtech Zip Fasteners, Garments, Umbrella Cloth, Shoe Laces</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Geotech Geogrids, Geonets, Geocomposites</p> </div> <div style="border: 1px solid #ccc; padding: 5px; margin-bottom: 10px;"> <p>Homotech Mattress and Pillow Fillings, Stuffed Toys, Blinds, Carpets</p> </div> <div style="border: 1px solid #ccc; padding: 5px;"> <p>Indutech Conveyer Belts, Vehicle Seat Belts, Bolting Cloth</p> </div>
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3.10. INFRASTRUCTURE

3.10.1. INLAND WATERWAYS IN INDIA

Why in news?

Recently, Prime minister unveiled inland waterways projects worth over ₹1000 crore to increase transport, trade & tourism in eastern India.

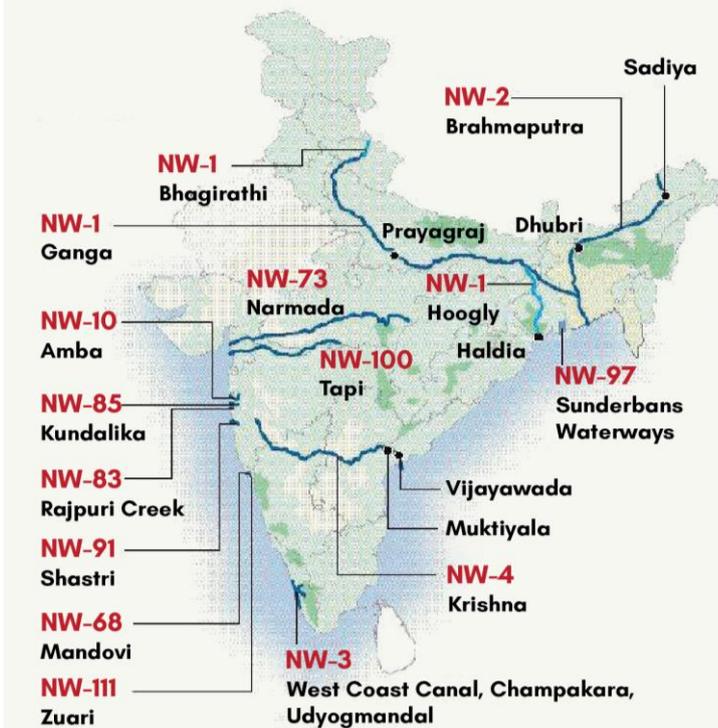
More in news

- **Haldia Multi-Modal Terminal** in West Bengal was **inaugurated under Jal Marg Vikas Project** with cargo handling capacity of around over 3 Million Metric Tonnes Per Annum (MMTPA).
- **Maritime Skill Development Centre** for the Northeast was inaugurated in **Guwahati**.
- Foundation stone for a **ship repair facility** and an elevated road at **Pandu Terminal** in Guwahati was laid.
- More than **60 community jetties** are being constructed along the river **Ganga** to boost economic activities and improve the livelihoods of local communities in the region.

Jal Marg Vikas project (JMVP).

- **Implemented by:**
 - Ministry of Ports, Shipping and Waterways.
 - **Inland Waterways Authority of India (IWAI)** with support of the **World Bank**.
- **Aims:** To develop the stretch between **Varanasi to Haldia** (on National Waterway 1) for navigation of large vessels weighing up to 1500-2000 tonnes.
- **Other features:**
 - **IWAI** came into **existence in 1986**, primarily for the **development and regulation** of inland waterways for shipping and navigation.
 - Multi-Modal Terminals are a part of **Jal Marg Vikas project (JMVP)**.
 - **Haldia MMT** is one of the three Multi-Modal Terminals being constructed on Ganga, 2 other MMTs constructed in **Sahibganj and Varanasi under the project**.

THE 13 NATIONAL WATERWAYS NOW IN OPERATION

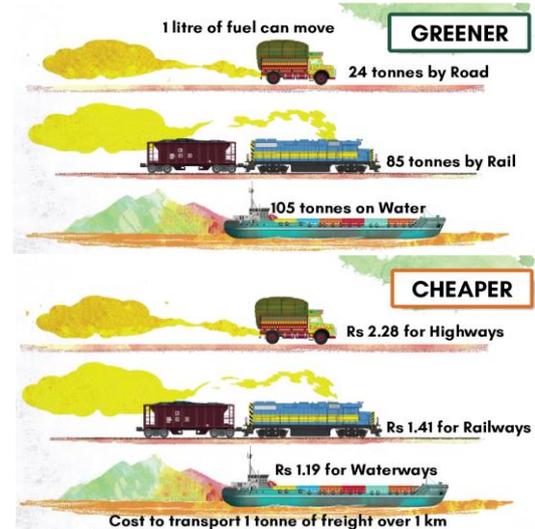


THE LINKS AND THE LENGTHS

Waterway No.	Link	Length (KM)
NW-1	Ganga-Bhagirathi-Hooghly (Haldia-Prayagraj)	1,620 KM
NW-2	Brahmaputra river	891 KM
NW-3	West Coast Canal-Champakara Canal-Udyogmandal Canal	205 KM
NW-4	Krishna (Muktiala-Vijayawada)	82 KM
NW-10	Amba river	45 KM
NW-83	Rajpuri Creek	31 KM
NW-85	Revadanda Creek-Kundalika river	31 KM
NW-91	Shastri river-Jaigad Creek System	52 KM
NW-68	Mandovi river (Usgaon Bridge- Arabian Sea)	41 KM
NW-111	Zuari river (Sanvordem Bridge-Marmugao Port)	50 KM
NW-73	Narmada river	226 KM
NW-100	Tapi river	436 KM
NW-97	Sunderbans Waterways	172 KM

Potential of Inland Water Transport (IWT)

- National Waterways Act 2016 declares a total of 111 National Waterways.
- Inland Water Transport in India has **only 0.5% of total transport**; compared to 42% in Netherlands, China 8.7%; USA 8.3% and Europe 7%.
 - Road has freight movement around 65% and Rail has around 27%.
- As per Maritime India Vision (MIV) 2030 document, **cargo movement on National Waterways is targeted as 200 MMT by 2030.**



3.10.2. DIGITAL PUBLIC INFRASTRUCTURE

Why in news?

Bank for International Settlements (BIS) endorsed India's **Data Empowerment Protection Architecture (DEPA)**.

About DEPA

- DEPA is a **joint public-private effort for an improved data governance** approach. It creates a digital framework that **allows users to share their data on their own terms** through a third-party entity, Consent Managers.
- DEPA's **first application has been in the financial sector**, for greater inclusion and economic growth.
 - It is being tested in the health sector, as well as others.
 - It forms the **final layer of India Stack**, a set of APIs that allows governments, businesses, startups, and developers to utilise a unique digital infrastructure aimed at presence-less, paperless, and cashless service delivery.

BIS BANK FOR INTERNATIONAL SETTLEMENT (BIS)


Basel, Switzerland



Genesis:

- Established in **1930**, the BIS is **owned by 63 central banks**, representing countries from around the world that together account for **about 95% of world GDP**.
 - o **Reserve Bank of India (RBI)** is one of the shareholders of the BIS.



Objective:

- To support central banks' pursuit of **monetary and financial stability** through international cooperation, and to **act as a bank for central banks**.



Functions:

- It provides member banks with a **forum for dialogue, international cooperation, responsible innovation, and knowledge sharing**.
- It also provides **in-depth analysis, insights on core policy issues, and competitive financial services** to its members.



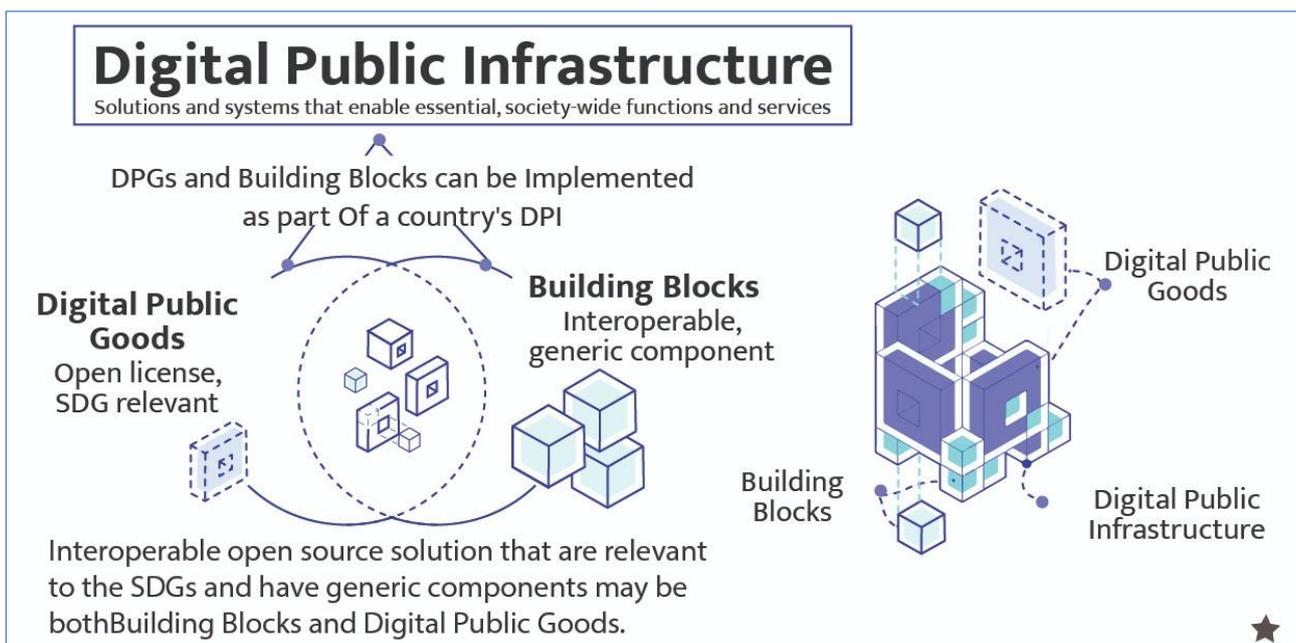
Other key facts:

- It has **two representative offices**: in Hong Kong SAR and in Mexico City, as well as Innovation Hub Centres around the world.
- BIS Committees include:**
 - o Basel Committee on Banking Supervision
 - o BIS Committee on Payments and Market Infrastructures
 - o Committee on Global Financial System



About Digital Public Infrastructure (DPI)

- Digital Public Infrastructure (DPI) are **solutions and systems that enable the provision of essential society-wide functions and services in public and private sectors**.
 - o This includes digital forms of identification and verification, civil registration, payment (digital transactions and money transfers), data exchange, and information systems.
 - o DPI was **introduced in India in 2009** when Aadhaar was first launched.

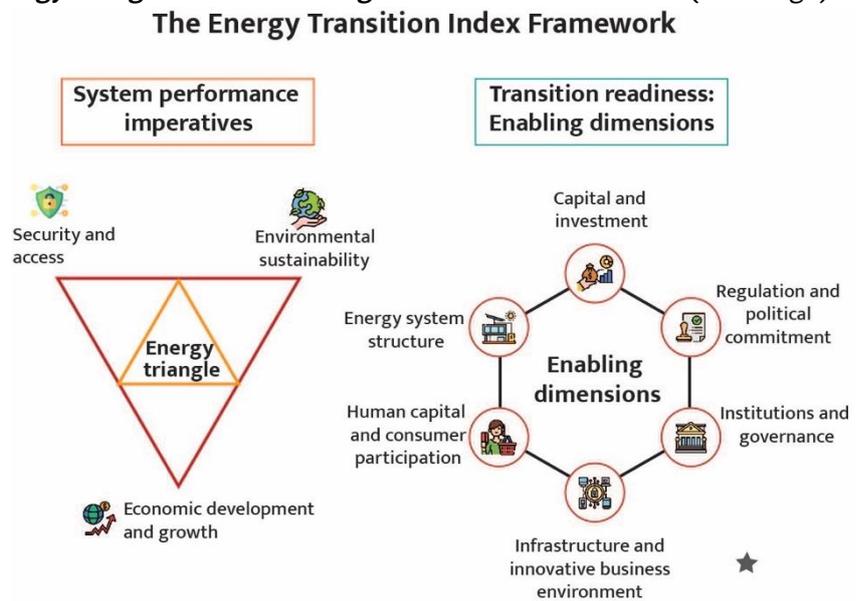


- Digital public goods (DPGs)** are types of open-source software, models and standards that countries can use to operationalise their DPI. **Examples of DPGs include India Stack, UPI, Aadhaar etc.**

3.11. KEY REPORTS IN NEWS

3.11.1. FOSTERING EFFECTIVE ENERGY TRANSITION REPORT

- **Released by:** World Economic Forum (WEF)
- **About the report:**
 - The report uses 'Energy Transition Index' to benchmark countries' energy transition progress annually on the **three dimensions of energy triangle** and the **enabling dimensions for transition** (see image).
 - Energy transition refers to **shift from fossil-based systems** of energy production and consumption to **renewable energy sources** like wind and solar.
- **Key Findings of the report**
 - Energy transition not keeping pace with growing climate urgency.
 - **Lack of access to an affordable energy supply** has emerged as a key threat to a just transition.
 - **Dual diversification** (of supply source and supply mix) is key to **strengthening countries' energy security**.



3.11.2. GLOBAL RISK REPORT 2023

- **Released by:** World Economic Forum (WEF).
- **About the report:**
 - Report is published annually based on **Global Risks Perception Survey**.
 - It highlights key risks across **five categories: Economic, Environmental, Geopolitical, Societal and Technological**.
 - Global risk is defined as **possibility of occurrence of an event or condition** which, if it occurs, would **negatively impact a significant proportion of global GDP, population, or natural resources**.
- **Key findings**
 - **Top 5 risks for India** are Digital inequality, Geopolitical contest for resources, Cost-of-living crisis, Debt crises, Natural disasters, and Extreme weather events over short and medium term.
 - **Cost of living dominates global risks** in next 2 years while climate action failure dominates next decade.
 - **Technology** such as AI, quantum computing and biotechnology, etc. will **exacerbate inequalities and digital divide**.

3.11.3. GLOBAL ECONOMIC PROSPECTS REPORT

- **Released by:** World Bank
- **About the report:**
 - **Flagship report** (issued twice a year) **examines global economic developments and prospects**, with a **special focus on emerging markets and developing economies (EMDEs)**.
- **Key Projections:**
 - **Global GDP Growth: 1.7% in 2023 - third-weakest pace** since 1993, overshadowed only by **2009 and 2020 global recessions**.
✓ **India is expected to grow at 6.6% in 2023.**
 - **Reasons for slowdown:** Elevated Inflation, Higher interest rates, reduced investment and disruptions caused by Russia-Ukraine war.

- Any **additional adverse shocks** could push the global economy into **recession**.
- ✓ Recession is a **significant, pervasive, and persistent decline** in economic activity – at least for **two consecutive quarters** of negative GDP for most analysis.

3.11.4. WORLD ECONOMIC SITUATION AND PROSPECTS 2023 REPORT

- **Produced by:** United Nations Department of Economic and Social Affairs (UN-DESA), in partnership with UN Conference on Trade and Development (UNCTAD) and five UN regional economic commissions.
- **Key highlights**
 - COVID-19 pandemic and war in Ukraine battered world economy in 2022.
 - **World output growth is projected to decelerate.**



United Nations Department of Economic and Social Affairs (UN DESA)



About: Rooted in UN Charter and guided by transformative 2030 Agenda for Sustainable Development, it upholds the development pillar of UN.



Objective: It works closely with governments and stakeholders to help countries meet their economic, social and environmental goals.

◆ UN DESA's work programme can be categorized into three areas: norm-setting, analysis, and capacity-building



Other key information:

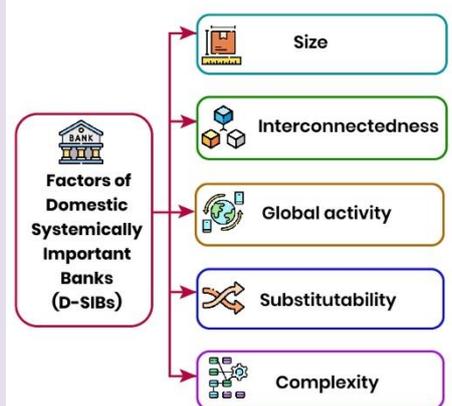
◆ **Important reports published by UN DESA:** World Population Prospects 2022, World Youth Report, World Social Report, World Economic Situation and Prospectus Report etc.

3.11.5. WORLD ECONOMIC OUTLOOK (WEO)

- **Released by:** International Monetary Fund (IMF)
- **About the report:** The IMF releases the **WEO twice every year**, in April and October, apart from updating it twice — in January and July.
 - Other reports by IMF: **Global Financial Stability Report**
- **Key findings**
 - World economy to grow **2.9% in 2023**.
 - **Recession risks have subsided**, and central banks are making progress in controlling inflation.
 - India will stay the **world's fastest growing major economy** in 2023 and 2024.
 - Growth in India is set to decline from 6.8 percent in 2022 to 6.1 percent in 2023.

3.12. MISCELLANEOUS

<p>Central Committee on Pharma Marketing</p>	<ul style="list-style-type: none"> • A five-member committee, led by V K Paul (member NITI Aayog), is formed by the government to review pharma marketing practices. <ul style="list-style-type: none"> ○ It will examine the provisions government departments have to regulate pharmaceutical marketing practices. ○ It will also recommend 'legally enforceable' mechanisms to regulate the marketing practices. • Currently, the Universal Code of Pharmaceutical Marketing Practices (UCPMP) of 2015 governs the conduct of pharmaceutical companies on various aspects such as: • Medical representatives, textual and audio-visual promotional materials, samples, gifts, etc.
<p>Domestic Systemically Important Banks (D-SIBs)</p>	<ul style="list-style-type: none"> • SBI, ICICI Bank, HDFC Bank have continued to remain Domestic Systemically Important Banks (D-SIBs). • D-SIBs are those interconnected entities, whose failure can impact the whole of the financial system and create instability i.e., they are 'too big to fail'. <ul style="list-style-type: none"> ○ Concept of D-SIBs was adopted in aftermath of 2008 financial crisis. ○ In order to be listed as D-SIB, a bank needs to have assets that exceed 2 percent of national GDP. • RBI first issued the framework for dealing with D-SIBs in 2014. <ul style="list-style-type: none"> ○ D-SIBs framework requires RBI to disclose the names of banks designated as D-SIBs starting



	<p>from 2015 and place these banks in appropriate buckets depending upon their Systemic Importance Scores (SISs).</p> <ul style="list-style-type: none"> Based on bucket in which D-SIB is placed, additional common equity (CE) requirement has to be applied to it.
Purchasing Manager's Index (PMI)	<ul style="list-style-type: none"> According to S&P Global India Manufacturing PMI, India's manufacturing sector recorded highest output in December 2022, since February 2021. PMI is an economic indicator, which is derived after monthly surveys of different companies. <ul style="list-style-type: none"> It shows trends in both manufacturing and services sector. PMI is a number from 0 to 100. PMI above 50 represents an expansion, under 50 represents a contraction, and reading at 50 indicates no change. PMI Data is published by Japanese firm Nikkei but compiled and constructed by Markit Economics.

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4. ENVIRONMENT

4.1. CLIMATE CHANGE

4.1.1. ARTICLE 6.2 MECHANISM OF PARIS AGREEMENT

Why in news?

Union government has finalised a list of activities to facilitate transfer of emerging technologies and mobilise international finance in India.

More on the news

- Earlier, National Designated Authority for Implementation of Paris Agreement (NDAIAPA) was notified.
- NDAIAPA is mandated to decide type of projects that may take part in international carbon market under Article 6 mechanisms.

About Article 6

- Article 6 of Paris Agreement allows countries to voluntarily cooperate with each other to achieve emission reduction targets set out in their Nationally Determined Contributions (NDCs).
 - Under this, countries will be able to transfer carbon credits earned from reduction of greenhouse gases (GHG) emissions to help countries meet climate targets.
 - Article 6.2 creates basis for trading in GHG emission reductions.

13 activities finalised, initially for 3 years, under three heads

	GHG Mitigation Activities Renewable energy with storage, Solar thermal power, Off-shore wind, Green Hydrogen, Compressed bio-gas, Tidal energy, Ocean Thermal Energy etc.
	Alternate Materials Green Ammonia (Process of making ammonia is 100% renewable and carbon-free).
	Removal Activities Carbon Capture Utilization and Storage (CCUS).

4.1.2. INITIATIVES IN NEWS

Initiative	Details
Giving to Amplify Earth Action (GAEA)	<ul style="list-style-type: none"> • Launched by: World Economic Forum • Aim: To help unlock \$3 trillion of financing needed each year to reach net-zero, reverse nature loss and restore biodiversity by 2050. • Global initiative is to fund and grow new and existing public, private and philanthropic partnerships (PPPPs) and is supported by more than 45 partners (including India's HCL Technologies).
Glasgow Financial Alliance for Net Zero (GFANZ)	<ul style="list-style-type: none"> • According to a report, GFANZ members are continuing to finance expansion of coal, oil and fossil gas industries. • GFANZ is the world's largest coalition of financial institutions committed to transitioning global economy to net-zero greenhouse gas emission. • Aim: To coordinate efforts across all sectors of the financial system to accelerate the transition to a net-zero global economy. • Launched in 2021 by UN Special Envoy on Climate Action and Finance and COP26 presidency, in partnership with UNFCCC Race to Zero campaign. • It has over 550 members from 50 jurisdictions.
Global Climate Resilience Fund (GCRF)	<ul style="list-style-type: none"> • Former US secretary of state Hillary Clinton announced GCRF in partnership with Self Employed Women's Association (SEWA). <ul style="list-style-type: none"> ○ GCRF will work to tackle challenges faced due to rising temperatures due to climate change. • SEWA is the single largest women worker's Central trade union in India founded in 1972, in Ahmedabad by Elaben Bhatt. <ul style="list-style-type: none"> ○ It has been working to improve the livelihoods of poor self-employed women workers from informal economy through various initiatives using technology, technical training, etc.
International Energy Forum (IEF)	<ul style="list-style-type: none"> • India hosted 9th Asian Ministerial Energy Roundtable in association with IEF in Bengaluru. <ul style="list-style-type: none"> ○ Theme for this roundtable was "Mapping new pathways for energy security, inclusive growth and energy transitions".



	<ul style="list-style-type: none"> IEF is world's largest international organization of energy ministers from 72 countries (including India) and includes both producing and consuming nations. <ul style="list-style-type: none"> Member countries are signatories to IEF Charter, which outlines framework of global energy dialogue through this inter-governmental organization. HQ: Riyadh, Saudi Arabia.
Inclusive Forum on Carbon Mitigation Approaches (IFCMA)	<ul style="list-style-type: none"> Inaugural meeting of IFCMA (India also participated) was held recently. IFCMA is a new forum by Organisation for Economic Co-operation and Development (OECD). Aim: To help improve global impact of emissions reduction efforts through better data and information sharing, evidence-based mutual learning etc. Objective of IFCMA is to take stock of mitigation policy instruments that countries use to reduce greenhouse gas emissions and estimate emissions that these instruments relate to. It will also develop a methodology to assess effects of mitigation policies on emission reductions at the country level.
Environment and Climate Sustainability Working Group (ECSWG)	<ul style="list-style-type: none"> First G20 ECSWG meeting concluded in Bengaluru with all G20 countries. Group has committed to work towards objective of priority areas of: <ul style="list-style-type: none"> Arresting Land Degradation Accelerating Ecosystem Restoration and Enriching Biodiversity Promoting a Sustainable and Climate Resilient Blue Economy and Encouraging Resource Efficiency and Circular Economy ECSWG aims to collectively define a new development paradigm that supports stable and sustainable climate, environment, and biodiversity.

4.2. POLLUTION

4.2.1. FLY ASH UTILIZATION

Why in News?

Recently the Union Ministry of Environment, Forests and Climate Change (MoEFCC) has **released notification on fly ash utilization**.

More on news

- The amendments are made under the power conferred on the central government under **Environmental Protection Act 1986**.
- There have been various notifications for Fly Ash Utilization. **Starting with 1999, the most recent ones being in the year 2021 and 2020.**

Key Highlights of 2021 Notification

- Introduction of Polluter Pays Principle** with a fine for non-achievement of targets.
- Role of CPCB to review ways** to utilise fly ash.
- Earlier, a 4-year cycle was present for utilisation of fly ash. This notification **reduced it to 3 years.**

Key Highlights of the Amendments

- Compliance of fly ash utilization targets extended to new thermal power plants** established on or after the publication of fly ash utilization rules 2021.
 - New Thermal Power Plants (TPP) to achieve 100% fly ash utilization in a time period of 4 years.**
 - It is similar to the targets of thermal power plants operating at 60% of their capacity which is to be calculated from 1st April 2022.
- Definition of legacy ash:** All ash stored in ash ponds/dykes other than currently operational ones shall be treated as legacy ash.
- Legacy ash stored with the TPPs have to be fully utilized within a period of 10 years.**
 - This period is to be calculated from 1st April 2022 and such utilization is over and above the fixed utilization targets for that year.
- Reclamation activity allowed in solar and wind power plants** as per the guidelines issued by the Central Pollution Control Board (CPCB).
 - Earlier it was only allowed in green belts and plantations.
- Time period for carrying out stabilization and reclamation activities increased** to three years (earlier only one year).
 - A certificate needs to be obtained from CBCP for the same.
- Permits existing TPPs** (earlier only newly established TPPs were allowed) to **set up a temporary ash pond of the size (0.1 hectare per MegaWatt).**

- This provision is not applicable to TPPs established before 3rd November 2009.
- **Competent Authority for Certification: CPCB along with Central Electricity Board** shall provide guidelines for safe management and certification of all existing and new, operational and reclaimed and stabilized ash ponds.
 - This is to be done within three months from the date of **publication of ash utilization policy 2021**.
 - **2021 rules did not clarify which ash ponds were to be certified** which is now being clarified by this amendment.
- **Ban on establishing or designating any new operational ash ponds** by any coal and lignite based TPPs from.
- **Mandatory usage of fly ash based construction material** for both public and private construction lying within a radius of 300 Kms from a coal or lignite based TPPs.,
 - This is to be at a rate not more than the price specified by
 - ✓ Central Public Works Department (CPWD)
 - ✓ Concerned Public Works Department (PWD)
 - ✓ Price of alternative products, if not mentioned in the Schedule of Rates.

Fly ash

<ul style="list-style-type: none"> ● Particulate material produced from the combustion of coal in thermal power plants. ○ Indian coal has much more ash content than other countries. 	<ul style="list-style-type: none"> ● Composed of: Silica, aluminum, iron, calcium, and oxygen. ○ Arsenic and lead can be found at trace levels.
<p>ADVERSE IMPACTS OF FLY ASH</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid red; padding: 5px; text-align: center;"> <p>Increase in the concentration of particulate matter.</p> </div> <div style="border: 1px solid green; padding: 5px; text-align: center;"> <p>Reduce the rate of photosynthesis and transpiration in the plants.</p> </div> </div>	<p>BENEFITS OF FLY ASH UTILISATION</p> <div style="display: grid; grid-template-columns: repeat(3, 1fr); gap: 5px;"> <div style="border: 1px solid teal; padding: 5px; text-align: center;"> <p>Cost Effective substitute for Portland cement.</p> </div> <div style="border: 1px solid red; padding: 5px; text-align: center;"> <p>Durable as it increases the life of concrete roads and structures.</p> </div> <div style="border: 1px solid yellow; padding: 5px; text-align: center;"> <p>Environmentally Sustainable as it can be utilized for carbon sequestration.</p> </div> <div style="border: 1px solid orange; padding: 5px; text-align: center;"> <p>Has potential in wastewater treatment owing to its chemical composition.</p> </div> <div style="border: 1px solid blue; padding: 5px; text-align: center;"> <p>Effective for the removal of mercury.</p> </div> </div>
<p>FLY ASH UTILIZATION IN INDIA</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>10% in 1996</p> </div> <div style="text-align: center;"> <p>92% 2020-21</p> </div> </div> <p>Increase in Fly ash utilization in India</p>	<p>INITIATIVES FOR FLY ASH UTILISATION IN INDIA</p> <ul style="list-style-type: none"> ● In 2009 it was made a saleable commodity. ● ASH TRACK Mobile App has been launched by the Ministry of Power. ● The National Green Tribunal (NGT) directed the constitution of a 'Fly Ash Management and Utilisation Mission'. ● Rationalizing the GST on fly ash bricks and blocks at concessional GST rate of 5%.

4.2.2. 1ST ALL INDIA ANNUAL STATES' MINISTERS CONFERENCE

Why in news?

1st All India Annual States' Ministers Conference on "Water Vision@2047" was recently held in Bhopal.

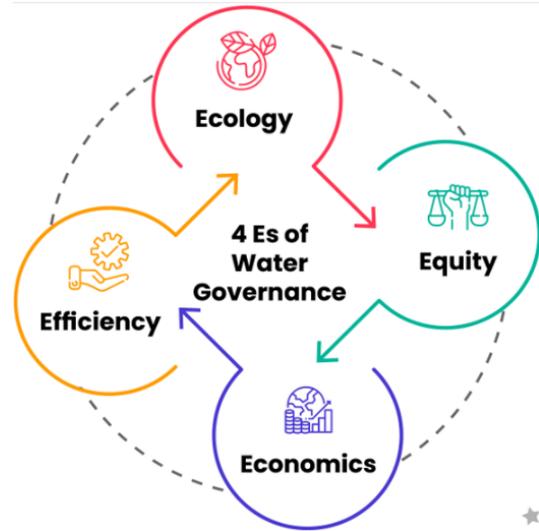
More about news

- Following initiatives were launched during it:
 - National Framework on Reuse of Treated Wastewater.
 - National Framework for Sedimentation Management.

Constitutional provisions for water governance

	<p>State list: Entry 17 (Water supplies, irrigation and canals, drainage etc).</p>
	<p>Union list: Entry 56 (Regulation and development of inter-State rivers and river valleys)</p>

- ✓ Sedimentation management enables **optimal utilization of reservoir capacity**. It focuses on Adaptive **structural and functional** measures.
- Best practices under **Jal Shakti Abhiyan: Catch the Rain**
 - ✓ ‘Catch the rain’ aims to **nudge** Rainwater Harvesting Structures with **people’s active participation**.
- **Inauguration of a sub-portal of ‘Jal Itihas’ under WRIS portal.**
 - ✓ Jal Itihas showcases **selected water heritage structures** more than 100 years old.
 - ✓ **India- Water Resources Information System (WRIS)** provides a **single window solution** for all water resources data and standardized information.
- **‘Water Vision Park’** was proposed to be established to promote **idea of afforestation** to achieve goal of **water conservation**.
- Also, key features of **Water and Allied Resources Information and Management (WARMIS)** were highlighted like Unified data repository, Intelligent Insight into data etc.
- These initiatives will bring in **synergies between different government programmes /schemes in terms of planning, process, and implementation.**



Related news

Sponge City

- Recently, Urban flooding seen in Auckland and sponge city concept can avoid such future disasters.
- Sponge city: A city that is designed to passively absorb, clean, and use rainfall in an ecologically friendly way that reduces dangerous and polluted runoff.
 - In early 2000s, Chinese architect Kongjian Yu created the concept of “sponge city”.
 - Concept incorporates **green roofs, rain gardens, and permeable pavements to absorb and filter water.**

River Cities Alliance (RCA)

- **DHARA 2023 (Driving Holistic Action for Urban Rivers)**, annual meeting of RCA members, was held.
 - DHARA provides a **platform to co-learn and discuss solutions** for managing local water resources.
- RCA is a **dedicated platform for river cities to ideate, discuss and exchange information** for sustainable management of urban rivers.
 - It focuses on **three broad themes- Networking, Capacity Building and Technical Support.**
- RCA includes cities from **both Ganga basin and non- Ganga basin states.**
- RCA is a **successful partnership of Ministry of Jal Shakti and Ministry of Housing and Urban Affairs.**

Rejuvenating Watershed for Agricultural Resilience through Innovative Development (REWARD) scheme

- Officers from **Sub-Saharan countries will visit Karnataka to learn from its experience** of REWARD Scheme.
- REWARD Scheme was **launched to help national and state institutions adopt improved watershed management practices.**
 - Scheme is an agreement **between World Bank, Government of India, Karnataka and Odisha.**
- Watershed is **geographical area drained by a watercourse** and is considered an useful planning unit **for integrated water and land resource management.**
- Effective watershed management **can help enhance livelihoods in rainfed areas, while building a more resilient food system.**

4.2.3. TRADITIONAL WATER CONSERVATION

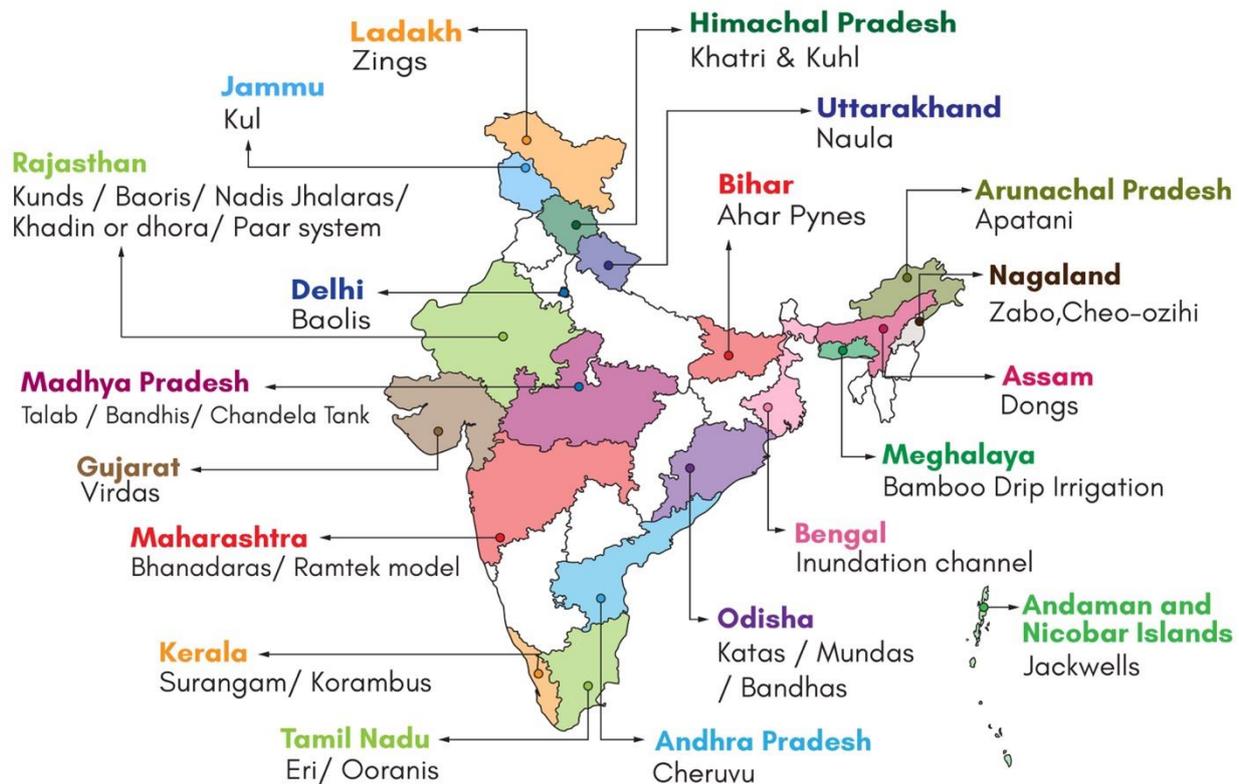
Why in news?

Traditional Water conservation paper was released by Economic Advisory Council to Prime Minister.

More on the news

- Paper highlights **need for revival of water conservation in India** as
 - **Annual water availability per person has decreased** from 5200 cubic metres in 1951 to 1486 cubic metres in 2021.
 - India is now **top groundwater extractor in world, accounting for 25% of the worldwide total.**
 - **Over 70% of our water sources are contaminated.**

Traditional water conservation methods in India



4.2.4. E-WASTE (MANAGEMENT) AMENDMENT RULES, 2023

Why in news?

Ministry of Environment, Forest and Climate Change (MoEF&CC) has notified E-waste (management) Rules 2023, in the exercise of the powers conferred by the Environment (Protection) Act, 1986.

Key Provisions mentioned in E-waste (management) Rules 2023

- Seek amendment to E-waste (management) Rules 2022 which shall come into force from the 1st April, 2023.
- Adds two substances to the exemptions listed in Schedule II of E-waste (management) Rules 2022 as follows:
 - Cadmium and lead in Solar panels/cells, solar Photovoltaic panels/cells/ modules.
 - Lead in Medical Devices (with the exception of all implanted and infected products).
- Every producer shall provide the detailed information on the constituents of the equipment and their components or consumables or parts or spares.
 - This information would be provided along with a declaration of conformance to the reduction of hazardous substances provisions as and when required by the Central Pollution Control Board.

Do YOU KNOW?

• India's first E-waste clinic opened in Bhopal that enables segregation, processing and disposal of waste from both household and commercial units.

Toxic/ Hazardous substances found in e-waste

Pollutant	Found in
Lead (Pb)	Cathode ray tube
Cadmium (Cd)	Chip resistors and semiconductors
Mercury (Hg)	Relays and switches, printed circuit boards, CFL
Beryllium (Be)	Motherboard
Hexavalent chromium (Cr) VI	Corrosion protection of untreated and galvanized steel plates, decorator or hardner for steel housings.

4.2.5. OTHER POLLUTANTS IN NEWS

Pollutant	Detail
Vinyl Chloride	<ul style="list-style-type: none"> Cash of a train carrying toxic chemicals including Vinyl Chloride in Ohio, US has sparked health and environmental concerns. Vinyl chloride is a carcinogenic gas mostly used to make Polyvinyl Chloride (PVC). It is associated with increased risk of liver cancer and oral cancers. Burning Vinyl Chloride releases phosgene and hydrogen chloride (HCL) into the air. <ul style="list-style-type: none"> Phosgene is a highly toxic, colourless gas with a strong odour that can cause vomiting and breathing troubles. It was used as a chemical weapon in World War I. HCL is a gas with strong odour and causes skin, eye, nose and throat irritation.
Uranium	<ul style="list-style-type: none"> A recent report by Central Groundwater Board highlighted that 12 states have uranium levels beyond permissible limits in their groundwater. <ul style="list-style-type: none"> Safe levels prescribed by World Health Organization is 30 parts per billion (ppb). Punjab is worst-affected state followed by Haryana. Causes of uranium contamination: Natural uranium content in aquifer rocks, overexploitation of groundwater, bicarbonates used to bring uranium out of source rocks etc. Adverse health Effects of uranium contamination: Impaired renal function and kidney disease, bone toxicity etc.
Bisphenol A (BPA) Chemical	<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <ul style="list-style-type: none"> Recent study has highlighted accelerated breeding in mosquitoes due to presence of Bisphenol A in urban drains. Bisphenol A or BPA is a chemical produced in large quantities for use primarily in production of polycarbonate plastics. <ul style="list-style-type: none"> It is commonly used in shatterproof windows, eyewear, water bottles, and epoxy resins. It can leach into food and beverages as well, exposing adults to ill effects of it such as high blood pressure, diabetes and cardiovascular disease. <ul style="list-style-type: none"> It can disrupt the endocrine system by interfering with hormones and affects brain and prostate gland of foetuses, infants and children. </div> <div style="width: 65%; text-align: center;"> <h3>PLASTICS QUICKEN MOSQUITO LIFE CYCLE</h3> <p>A bisphenol A (BPA) concentration of 1 mg/L in wastewater can shorten the life cycle of mosquitoes from 13 to 10 days</p> <p>HOW BPA FAST-TRACKS THE LIFE CYCLE OF SOUTHERN HOUSE MOSQUITOES</p> <p>A Egg raft: Hatching time reduced by 18 hours due to enhanced embryonic development</p> <p>B Larva: The time between larva and pupa stages reduced by 10-15 hours due increased secretion of 20HE, a steroid hormone, and phospholipase A2 enzyme</p> <p>C Pupa: No effect on pupal development</p> <p>D Adult: No effect on egg hatching</p> </div> </div>
Mercury in skin lightening products	<ul style="list-style-type: none"> Gabon, Jamaica, and Sri Lanka unite to remove mercury from hazardous skin lightening products. Minamata Convention on Mercury has set a limit of 1mg/1kg (1ppm) for mercury in skin lightening products. <ul style="list-style-type: none"> Mercury is a shiny, silver-white metal, referred to as quicksilver, and is liquid at room temperature. Mercury is a hidden and toxic ingredient in skin lightening creams. Exposure to mercury may cause: irritation to the eyes, skin, and stomach; cough, chest pain, or difficulty breathing, insomnia, irritability, indecision, headache, weakness or exhaustion, and weight loss. Other heavy metal in cosmetics: Aluminium compounds are colorants in lip glosses, and nail polishes; Lead in lipsticks etc.

4.3. BIODIVERSITY

4.3.1. ASIAN WATERBIRD CENSUS (AWC)

Why in news?

Asian Waterbird Census (AWC) 2023 is being conducted in India.

About AWC

- An annual event, it is a **citizen science programme** supporting conservation and management of **wetlands and waterbirds**.
 - AWC is part of global **International Waterbird Census (IWC)** coordinated by **Wetland International (WI)**. It was initiated in 1987 in Indian subcontinent.
- In India, AWC is jointly coordinated by **Bombay Natural History Society (BNHS)** and **WI** (global not-for-profit organisation).
 - BNHS, formed in 1883, is a **non-governmental organization** engaged in conservation of biodiversity research.
 - BNHS has been designated as a **Scientific and Industrial Research Organization (SIRO)** by Department of Science & Technology.

Conservation activities in which AWC contributes

Convention on Migratory Species (CMS) or Bonn Convention, provides a global platform for conservation of migratory animals and their habitats.

Implementation of East Asian-Australasian Flyway Partnership Initiative (EAAFP)
EAAFP is an **informal and voluntary initiative**, to protect migratory waterbirds.

Implementation of Central Asian Flyway (CAF) Action Plan
CAF covers area of Eurasia **between Arctic and Indian Oceans and** associated island chains. Geographically it **covers 30 countries of North, Central and South Asia and Trans-Caucasus**.

BirdLife International's **Important Bird Area Programme**.

IUCN/BirdLife International's **Global Species Programme (Red List)**.

Wetlands International's **Waterbird Population Estimates programme**.

4.3.2. FIRST SYNCHRONIZED VULTURE SURVEY

Why in News?

Recently, **Kerala, Tamil Nadu, Karnataka** began the first **synchronised vulture survey** in select regions of the Western Ghats.

More about News

- A tripartite coordination meeting in the **Mudumalai Tiger Reserve** in Tamil Nadu, decided to organise the first synchronised vulture survey in the Western Ghats to **avoid duplications**.
- It will be conducted after dividing the **Wayanad landscape**, where the bird species are frequently sighted, into **10 locations**.
 - The Wayanad Wildlife Sanctuary, contiguous to the tiger reserves of **Nagarhole** and **Bandipur** of Karnataka and **Mudumalai** of Tamil Nadu, is the lone region where vultures thrive in the State.

DO YOU KNOW?

► The Parsees ritualized the practice of putting out the dead for scavengers by building **'towers of silence'** to limit access to corpses exclusively to airborne scavengers like Vulture. ★



Related information

Vulture Conservation and Breeding Centre (VCBC), Pinjore

- Recently, Union Minister for Environment, Forest and Climate Change paid his maiden visit to vulture conservation and breeding centre, Jatayu, situated in **Bir Shikargah Wildlife Sanctuary** near Pinjore in **Panchkula**.
- VCBC** is a joint project of the **Haryana Forest Department** and the **Bombay Natural History Society (BNHS)**, a NGO.
 - It is a collaborative initiative to save the three species of vultures, the **White-backed, Long-billed and Slender-billed**, from looming extinction.
 - The funding for running this centre is also received from international conservation bodies like **UK Royal Society for Protection of Birds** and the **Darwin Initiative of Survival of Species**.
- Other such initiatives have also been taken like “**vulture restaurants**” in **Gadchiroli, Nashik and Thane** circles in the **Maharashtra**, where carcasses free of diclofenac are provided.

Diclofenac

- Diclofenac is toxic to vultures even in small doses**, causing **kidney failure**.
- It **results in uric acid accumulating in the birds' blood** and crystallizing around their internal organs—a condition called **visceral gout**.

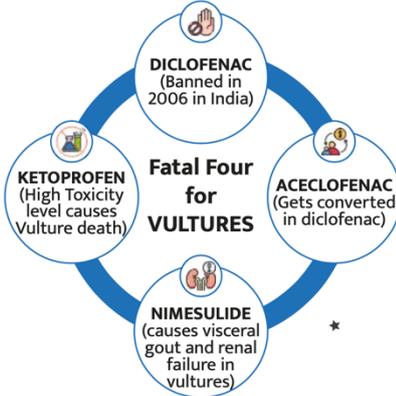
Vultures in India

9 species of vultures are recorded from India.

Four species of vulture are found in southern India and are concentrated in the Nilgiris Biosphere Region—**Long Billed Vulture, Red Headed Vulture and Egyptian Vulture and White-Rumped Vulture**.

Role of Vultures in Ecosystem

- Provides the stability of ecosystems and food webs.
- Efficient, cost-effective and environmentally beneficial carcass disposal service.
- Helps in preventing livestock borne diseases such as tuberculosis and anthrax by disposing of infected carcasses.



Factors behind the fall of population include Food Contamination of vulture food supplies with non-steroidal anti-inflammatory drugs; Habitat degradation etc.

Species	Conservation Status		
Oriental White-backed Vulture or White-rumped vulture Genus: Gyps			CR
Long-billed Vulture Genus: Gyps			
Slender-billed Vulture Genus: Gyps			
Red-headed Vulture Genus: Monotypic	Wildlife Protection Act appendix II	Schedule I Schedule IV	EN
Bearded Vulture Genus: Monotypic			NT
Cinereous Vulture Genus: Monotypic			
Himalayan Vulture Genus: Gyps			
Eurasian Griffon Genus: Gyps			LC

Action Plan for Vulture Conservation 2020-2025

- Prevention of poisoning of cattle carcasses, the principal food of vultures
- Enhancement of Conservation Breeding Programme in the country
- Regular monitoring of vultures across the country
- Enhancing the vulture safe zone network by creating at least one vulture safe zone in each state and continuing to work on the existing efforts of vulture safe zone.
- Determining and preventing other causes of mortality in vultures

4.3.3. MANGROVES ECOSYSTEM

Why in news?

Union Budget 2023-24 announced **MISHTI (Mangrove Initiative for Shoreline Habitats & Tangible Incomes)** scheme.

More about news

- MISHTI scheme aims at **mangrove plantation** along the **coastline and on salt pan lands**.
- Mangrove plantations** will be taken up through the **convergence of job guarantee scheme MGNREGS, Compensatory Afforestation Fund, and other funding sources**.

Mangroves

- Characteristic littoral plant formations of tropical and subtropical sheltered coastlines.
- Described as 'coastal woodland', 'tidal forest', and 'mangrove forest'.

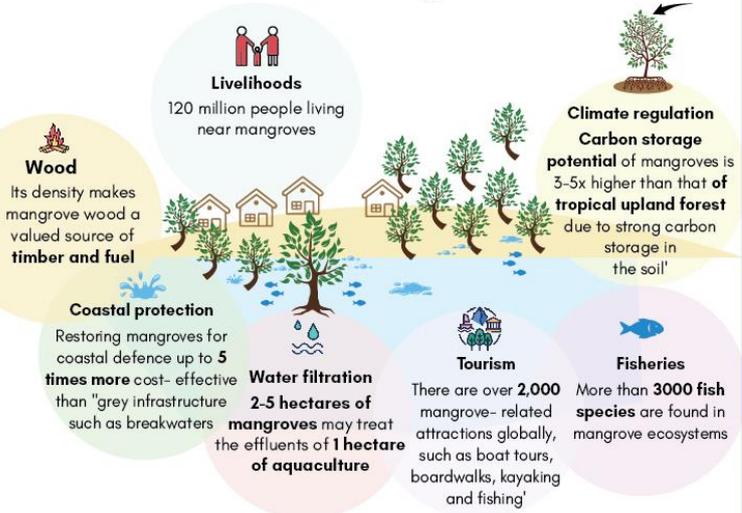
Characteristics of Mangroves

Appearance Is a small shrub that does not grow tall

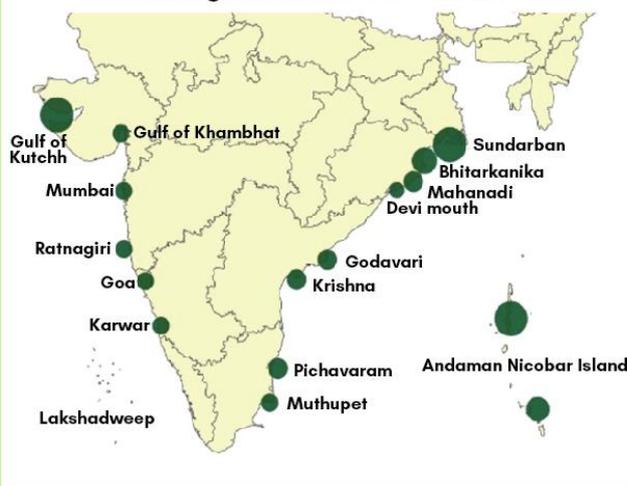
Habitat Grows in brackish or coastal saline water

Adaptations Has a complex root system and a complex salt filtration system which enables them to withstand wave action, saltwater immersion and also makes them survive in waterlogged mud and low oxygen conditions

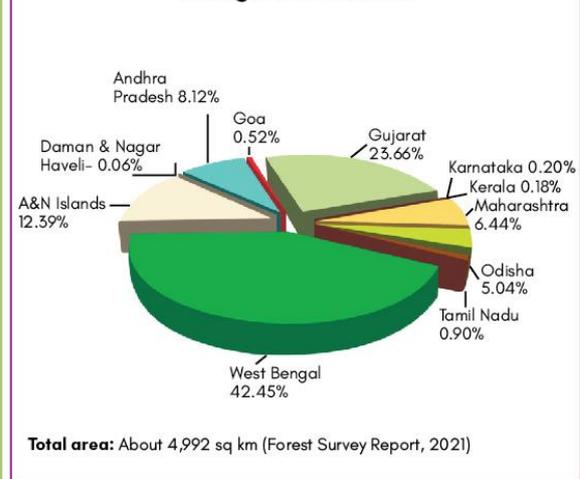
Benefits of Mangroves



Mangrove distribution in India



Mangroves in India



Related news: Sustainable Aquaculture in Mangrove Ecosystem (SAIME) Initiative

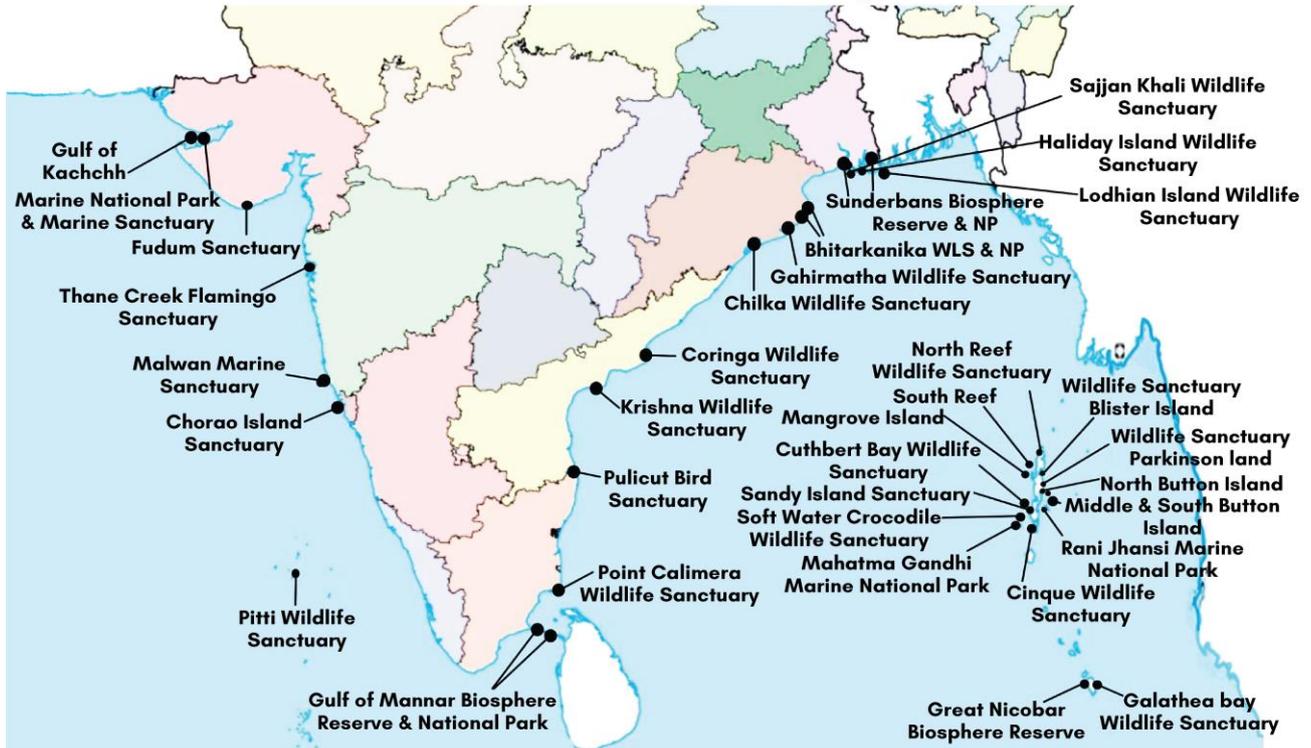
- New initiative of sustainable shrimp cultivation provides hope for mangrove restoration in Sundarbans.
- SAIME is a community-based pilot project in West Bengal under which farmers are planting mangrove trees around shrimp ponds.
 - Generally, mangrove forests are cleared to cultivate shrimps in the areas.
 - It is being conceived by Nature Environment and Wildlife Society (NEWS), Global Nature Fund and others.

4.3.4. FIFTH INTERNATIONAL MARINE PROTECTED AREAS CONGRESS

Why in news?

Fifth International Marine Protected Areas Congress (IMPAC5) concluded in Vancouver, Canada.

MARINE PROTECTED AREAS (MPAs)



About IMPAC5

- A global forum that brings together ocean conservation professionals and high-level officials to inform, inspire and act on Marine Protected Areas (MPAs)
 - Aims to protect 30 percent of global ocean by 2030.
 - Supported Kunming-Montreal Global Biodiversity Framework, “Our Ocean, Our Future, Our Responsibility” Call for Action and Ocean Conservation Pledge.
 - Was jointly hosted by Host First Nations (Musqueam, Squamish and Tsleil-Waututh) together with International Union for Conservation of Nature (IUCN), Canadian Parks and Wilderness Society (CPWS) and Province of British Columbia.
- MPA is a section of ocean where a government has placed limits on human activity.
 - Currently, an estimated 7.65% of ocean is covered by MPAs.
 - Important MPAs (coastal or marine) of India are as given in image.
 - ✓ They are notified as either ‘national parks’ or ‘wildlife sanctuaries’ under Wildlife (Protection) Act, 1972.

Related news: Marine Spatial Planning (MSP) Framework

- Country’s first Marine Spatial Planning framework was launched in Puducherry.
- MSP Framework, part of a pact under Indo-Norway Integrated Ocean Initiative, was launched to balance growth alongside sustainable management of ocean resources and coastal environment preservation.
 - Framework is a collaboration between Norwegian Environment Agency, Ministry of Earth Sciences, National Centre for Coastal Research and UT of Puducherry.
- MSP is a process of analysing and allocating spatial and temporal distribution of human activities in marine areas to achieve ecological, economic, and social objectives.
 - Intergovernmental Oceanographic Commission of UNESCO help countries by providing a step-by-step guide for ecosystem-based MSP.

4.3.5. DRAFT GEO-HERITAGE SITES AND GEO-RELICS (PRESERVATION AND MAINTENANCE) BILL

Why in news?

The draft Bill was published by Ministry of Mines in December 2022, provides for declaration, preservation, protection and maintenance of geo-heritage sites and geo-relics of national importance for geological studies, education, research etc.

Key Highlights of the Draft Bill

- **Authorising Central Government to:**
 - **Declare a geo-heritage site to be of national importance.**
 - **Acquire area under a geo-heritage site** under provisions of Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013.
 - **Declare area** around each geo-heritage site **as prohibited area and regulated area.**
- **Penalties for destruction, removal, defacement, misuse of geo-heritage sites and geo relics.**

IMPORTANCE OF GEOHERITAGE PROTECTION AND PRESERVATION



Stimulate the local economy through tourism and job creation



It is a **non-renewable asset of India** with role in geological studies, education, research etc.



Protect India's geological heritage which is threatened by natural decay as well as by population pressure and changing Socio-economic conditions



To **confirm UNESCO Convention on the Protection of the World Cultural and Natural Heritage**, adopted in 1972; ratified by India in 1977



About Geo-heritage sites

- **Sites of rare and unique geological and geomorphologic significance** having geomorphological, mineralogical, petrological, paleontological, and stratigraphic significance **including caves, natural rock-sculptures etc.**
- Geo-relics are any **relic or material of geological significance** or interest like **sediments, rocks, minerals, meteorites or fossils.**
- Geological Survey of India (GSI) has declared **32 geo-heritage sites**, including **Fossil Parks** (e.g. **Siwalik Fossil Park**, Himachal Pradesh); **Geological Marvels** (e.g. **Lonar Lake**, Maharashtra), **Rock Monuments** (e.g. **Peninsular Gneiss**, Karnataka) etc.
 - GSI is an attached office under **Ministry of Mines.**

4.3.6. PROTECTED AREAS IN NEWS

Protected Area	Details
Keoladeo National Park	<ul style="list-style-type: none"> • Rajasthan has proposed to construct a zoo inside this park popularly known as Bharatpur bird sanctuary. • Location: Bharatpur in Rajasthan • Other Important features: <ul style="list-style-type: none"> ○ A Ramsar as well as a World Heritage Site. ○ Due to its strategic location in the middle of Central Asian migratory flyway and presence of water, large congregations of ducks, geese, coots, pelicans and waders arrive in the winter. ○ Wetlands of Keoladeo are not natural, they are dependent on monsoon and on water pumped in from outside. • Forest type: Dry deciduous type, woodlands, grasslands, wetlands & woodland swamps. • Fauna and Flora: Some 364 species of birds, including rare Siberian crane, pelicans, eagles, wagtails, spotted bill duck, white breasted kingfisher, moor hen, painted stork, etc.
Kawal Tiger reserve	<ul style="list-style-type: none"> • More than 340 birds of different species (including rare peregrine falcon) enumerated in water bodies of Kawal Tiger Reserve during the Asian Water Bird Census 2023. • Geographical location and other Important features: Located in the Telangana, forming part of the Deccan peninsula-central highlands. <ul style="list-style-type: none"> ○ Nestled in the Sahyadri Mountain Ranges. ○ Have linkages with the Tadoba-Andhari (Maharashtra) and Indravati (Chhattisgarh) tiger reserves. • River: Godavari • Forest type: Dense forests, grasslands, open areas, rivers, streams and water bodies. • Fauna and Flora: Nilgai, chinkara, black buck, sambar, spotted deer, wild dog etc. Teak, Bamboo, Mahua etc.
Saman Bird sanctuary	<ul style="list-style-type: none"> • There has been a decline in the number of migratory bird species at Saman Bird sanctuary. • Geographical location and other Important features: Located in Mainpuri district of Uttar Pradesh. • Other Important features:

	<ul style="list-style-type: none"> ○ A Ramsar site. ○ A seasonal oxbow lake on the Ganges floodplain and is heavily reliant on south-westerly monsoon. ○ Sanctuary regularly provides refuge to over 50,000 waterbirds and is particularly important as a wintering site for many migrants. ● Fauna: Vulnerable species including sarus crane (<i>Grus antigone</i>) and greater spotted eagle (<i>Aquila clanga</i>).
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4.3.7. SPECIES IN NEWS

Species	Details
<p>Indian Star Tortoise (<i>Geochelone elegans</i>)</p> 	<ul style="list-style-type: none"> ● A recent study has revealed that genetic diversity of the species as well as habitat has suffered major losses because of rampant illegal trade. ● Protection Status: <div style="display: flex; align-items: center; justify-content: center;">   </div> ● Characteristics: <ul style="list-style-type: none"> ○ Have distinct star-like markings on the shell to help this tortoise more easily blend in with its surroundings. ○ Popular in the world's trade in exotic pets due to attractive markings on its shell. ● Habitat: Found in dry lowlands of India, Pakistan and Sri Lanka. ● IUCN Status: Vulnerable
<p>Malabar Tree toad</p> 	<ul style="list-style-type: none"> ● Malabar Tree toad found in Mollem National Park. <ul style="list-style-type: none"> ○ Mollem National Park is located in Sanguem taluk in Goa close to the border with Karnataka. ○ This park also has several temples dating back to the Kadamba Dynasty. ● Protection Status:  ● Characteristics: <ul style="list-style-type: none"> ○ Believed to be the only toad to dwell on high canopies. ○ It finds mention in the updated checklist on Indian Amphibians released by the Zoological Survey of India (ZSI). ● Habitat: Found in a forest along the western ghats in wet hollows.
<p>Noble's Helen Butterfly</p> 	<ul style="list-style-type: none"> ● Noble's Helen, a swallowtail butterfly disappearing from its previously known ranges has been sighted in India for the first site. ● The species was recorded at Namdapha National Park of Arunachal Pradesh. <ul style="list-style-type: none"> ○ Park is named after Namdapha river that flows in a North-South direction of Park. ● Butterflies are considered vital indicators representing state of biodiversity and key ecosystem functions. ● Distribution: Myanmar, Yunnan and Hubai regions of China, Laos, Cambodia, Vietnam and Thailand.
<p>Omorgus Khandesh</p> 	<ul style="list-style-type: none"> ● Omorgus Khandesh is a new beetle species, belonging to Trogidae family, discovered from Western Ghats in India. <ul style="list-style-type: none"> ○ Beetles of this group are sometimes called hide beetles as they tend to cover their body under soil and hide. ● Beetle is important for forensic science as it helps detect the time of death of an animal or human. ● It is necrophagous (feeds on dead animal flesh) and is, therefore, also called a keratin beetle.
<p>Rhododendrons</p> 	<ul style="list-style-type: none"> ● As per Botanical Survey of India (BSI), Darjeeling and Sikkim Himalayas are home to more than one-third of all types of rhododendrons found in India. ● Rhododendron, meaning rose tree in Greek, is a genus of flowering plants. It is native to temperate regions of Asia, North America, and Europe. <ul style="list-style-type: none"> ○ It is considered an indicator species for climate change. ○ Habitat range: Subtropical and temperate to subalpine and alpine ecosystems.

	<ul style="list-style-type: none"> • Health benefits: Prevention and treatment of diseases associated with heart, dysentery, diarrhoea, etc.
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4.3.8. OTHER RELATED NEWS

News	Details
Wildlife Conservation Bond (WCB)	<ul style="list-style-type: none"> • Also Known as Rhino Bond, WCB is a five-year \$150m sustainable development bond, to protect and increase black rhino populations in two protected areas in South Africa. • WCB is an outcome-based World Bank structured bond that channels private capital to finance conservation activities. • Together with financing from Global Environment Facility (GEF), WCB transfers project risk from donors to investors. <ul style="list-style-type: none"> ○ It is part of GEF's Blended Finance initiative that shows how innovative finance can work to combat global environmental degradation.
Nature Risk Profile (NRP)	<ul style="list-style-type: none"> • UN Environment Programme (UNEP) and S&P Global have launched Nature Risk Profile. • NRP is aimed at enabling financial sector to measure and address nature-related risk by providing scientifically robust and actionable analytics on nature impacts and dependencies. <ul style="list-style-type: none"> ○ Its methodology is based on Kunming-Montreal Global Biodiversity Framework (GBF), adopted in December 2022. ○ GBF includes a target for governments to take legal, administrative or policy measures to encourage and enable businesses to regularly monitor, assess, and transparently disclose their risks, dependencies and impacts on biodiversity.
Government modified wildlife fund rules for key infra projects	<ul style="list-style-type: none"> • The Centre has exempted road, rail, and transmission line projects from having to deposit 2% and 0.5% of total project cost towards cost of Wildlife Management Plan (WMP) and Soil and Moisture Conservation Plan (SMCP). <ul style="list-style-type: none"> ○ WMP and SMCP are prepared in accordance with conditions stipulated by Ministry of Environment Forest and Climate Change (MoEF&CC). • Earlier, MoEF&CC made it mandatory for all projects to deposit this cost for obtaining final forest clearance under Forest Conservation Act (FCA) 1980. <ul style="list-style-type: none"> ○ Now cost for WMP and SMCP will be proportionate to extent of forest land involved instead of total project cost. • FCA regulates deforestation in the country. It was enacted after State Governments failure resulted in diversion of forest land without any regard to environmental consideration. <ul style="list-style-type: none"> ○ It prohibits felling of forests for any non-forestry use without prior clearance by the central government. ○ Clearance process includes seeking consent from local forest rights-holders and from wildlife authorities.
World Wetlands Day, 2023	<ul style="list-style-type: none"> • The day is celebrated every year on 2nd February to create awareness about conservation, significance and the role of wetlands in the protection of biodiversity. • Theme "It's Time for Wetlands Restoration". • With 75 Ramsar sites covering over 13 lakh Hectares, India has the largest number of Wetlands in South Asia.
Turnersuchus hingleyae (Thalattosuchian)	<ul style="list-style-type: none"> • Palaeontologists have discovered fossils of the ancient 'marine crocodile Turnersuchus hingleyae', which is the only complete thalattosuchian of its age. <ul style="list-style-type: none"> ○ Thalattosuchian are ancient cousins of modern-day crocodiles. • Its age dates back to the early Jurassic, Pliensbachian period, which was about 185 million years ago. • As per Palaeontologists, they first appeared in the Triassic and survived the end-Triassic mass extinction.
Dickinsonia	<ul style="list-style-type: none"> • An alleged fossil discovered near Bhopal about 2 years ago and thought to be of an extinct Dickinsonia turned out to be an impression of a decayed beehive • Dickinsonia is considered to be Earth's oldest animal, dating back 570 million years ago (late Ediacaran period). <ul style="list-style-type: none"> ○ It is an extinct genus of a basal animal (animals which have radial symmetry in their body plans). ○ It is considered an integral links between early, simple organisms and then explosion of life in Cambrian Period that was around 541 million years ago. ○ Dickinsonia has been found in Australia, Russia, Ukraine, China.

4.4. SUSTAINABLE DEVELOPMENT

4.4.1. LARGE DAMS IN INDIA

Why in news?

A new study by United Nations highlighted that around **3,700 dams** in India will lose **26 per cent of their total storage by 2050** due to accumulation of sediments.

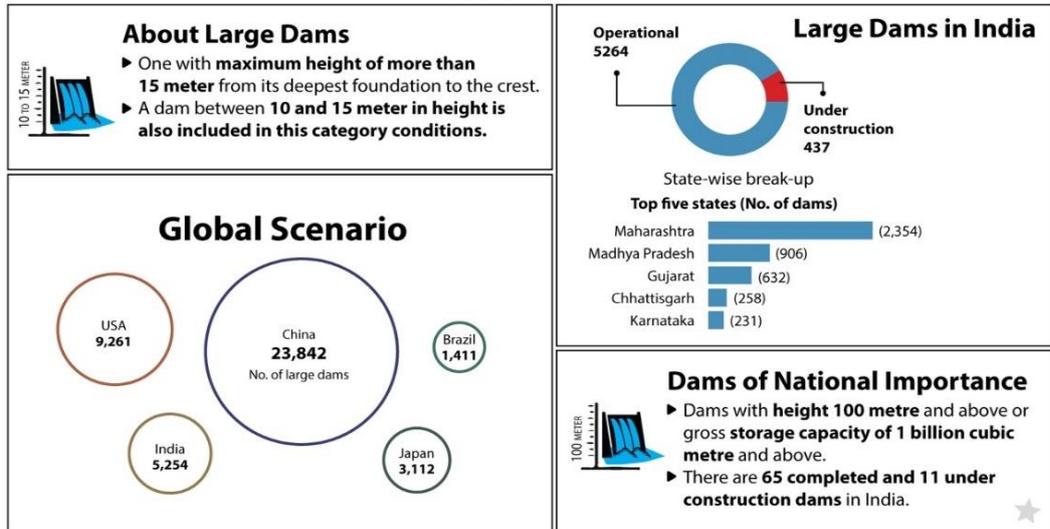
More about news

- The study by the **United Nations**

University Institute on Water, Environment and Health (UNU-INWEH) shows that large dams in 150 countries will lose **26 per cent of their total storage by 2050** due to **sediment trapped in them**.

- Trapped sediment has **already robbed roughly 50,000 large dams** worldwide of an estimated 13 to 19 per cent of their combined original storage capacity.
- Earlier in 2015, Central Water Commission had reported that among 141 large reservoirs which are over 50 years old, **one quarter had lost at least 30 per cent of their initial storage capacity**.

LARGE DAMS



4.4.2. INTERNATIONAL CONTAINER TRANSHIPMENT PORT (ICTP)

Why in News?

The Ministry of Ports, Shipping, and Waterways has invited bids for the ₹41,000-crore **mega International Container Transshipment Port (ICTP) at Great Nicobar**. It is being planned for the **Galathea Bay** of Great Nicobar Island.

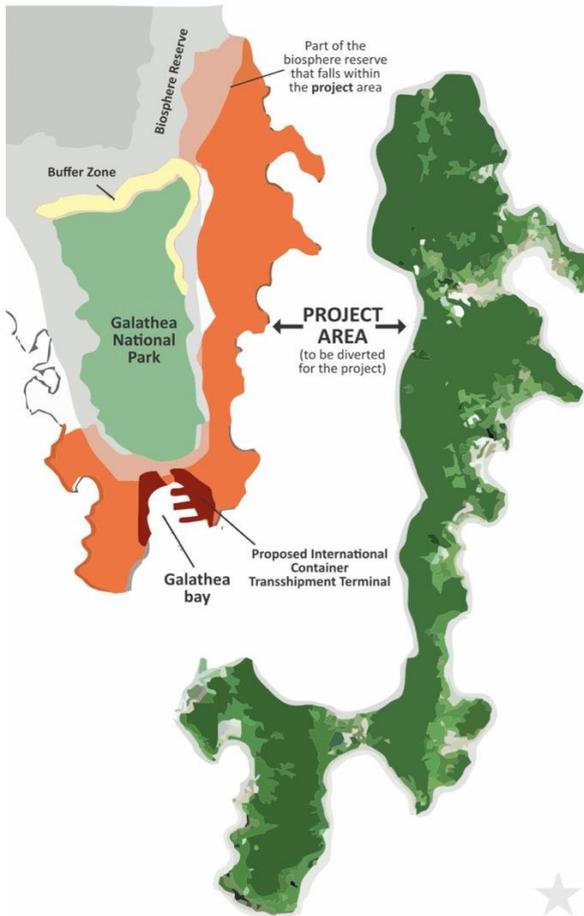
More on News

- ICTP being planned is part of the **holistic development of Great Nicobar Island**.
- It will be completed in **four phases**. **Phase 1** will create a handling capacity of **4 million TEUs, increasing to 16 million TEUs** in the ultimate stage of development.
 - A **twenty-foot equivalent unit (TEU)** is an approximate **unit of measure used for cargo containers**.
- Syama Prasad Mookerjee Port (Kolkata-based)** is the **nodal agency** for the implementation.
- Public Private Partnership (PPP)** will be encouraged for this project via **Landlord model**.
 - Under Landlord Port model, the **port authority acts as regulatory body and as landlord**, while **port operations (especially cargo handling)** are carried out by private companies.

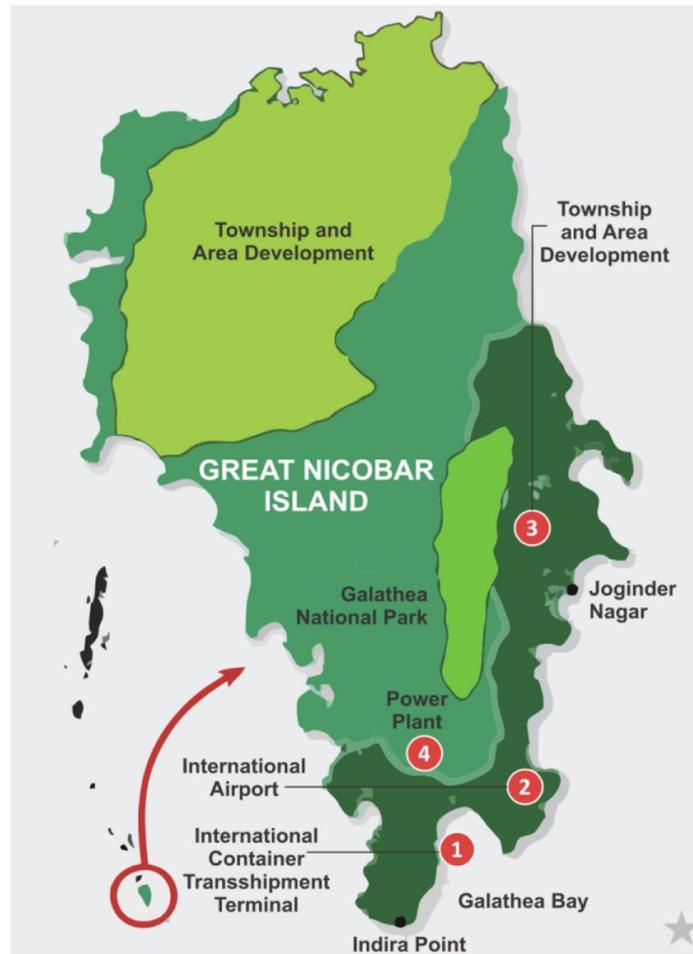
Holistic Development of Great Nicobar Island

- The Ministry of Environment, Forest and Climate Change (MoEF&CC) gave **environmental clearance** for the Rs 72,000 crore development project on Great Nicobar Island.
- The project is to be implemented in **three phases over the next 30 years**.
- The project includes proposals of a **greenfield city, ICTP, a greenfield international airport, a power plant, and a township for the personnel** who will implement the project.

ICTP PROJECT



GREAT NICOBAR DEVELOPMENT PLAN



4.4.3. CIRCULAR ECONOMY

Why in news?

United Nations Development Programme (UNDP) India launched a campaign to drive inclusive circular economy.

More on the news

- It is launched in partnership with Hindustan Unilever Limited (HUL) and will focus on:
 - End-to-end management of plastic waste by promoting segregation of waste at source and collection of segregated waste.
 - Setting up Material Recovery Facilities (MRFs) or Swachhata Kendras for recycling all kinds of plastic waste along the value chain.
 - Social Inclusion of 20,000 Safai Saathis or waste pickers through access to government welfare schemes and linkages etc.
 - Building capacities of Urban Local Bodies for adopting MRFs model for plastic and dry waste management.
- Initiative is a scale-up of existing partnership under UNDP's flagship Plastic Waste Management Programme to develop a sustainable model for plastic waste management in India.
 - It promotes collection, segregation, and recycling of all plastics to move towards a circular economy.



- An alternative to current linear economy, **circular economy is a model of production and consumption**, which involves **sharing, leasing, reusing, repairing, refurbishing and recycling** existing materials and products **as long as possible to:**
 - **Extend life cycle** of products.
 - **Reduce waste** to a minimum by **creating further value**.

4.4.4. ENVIRONMENT, SOCIAL AND GOVERNANCE (ESG)

Why in news?

Securities and Exchange Board of India (SEBI) proposed Framework on ESG (Environmental, Social and Governance) Disclosures, Ratings and Investing.

More on the news

- Proposed **ESG disclosures by listed entities, ESG Ratings in securities market and ESG Investing by Mutual Funds** will **facilitate balance between transparency, simplification and ease of doing business** in ESG domain.
- **Key provisions of proposed framework**

<p>ESG Disclosures</p>	<ul style="list-style-type: none"> • Updating Business Responsibility and Sustainability Reporting (BRSR) to incorporate missing Key Performance Indicators KPIs in BRSR core. <ul style="list-style-type: none"> ○ BRSR establish links between financial results of a business with its ESG performance. • Mandating reasonable assurance of KPIs in BRSR core through glide path approach. • Introduce a limited set of ESG disclosures for supply chain. 	<p style="text-align: center;">Approach to Business Responsibility and Sustainability Reporting (BRSR)</p> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid #ccc; padding: 5px; width: 20%;"> <p>FY 2022-23</p> <ul style="list-style-type: none"> • BRSR mandatory reporting for top 1000 companies • Assurance No mandatory requirement </div> <div style="border: 1px solid #ccc; padding: 5px; width: 20%;"> <p>FY 2023-24</p> <ul style="list-style-type: none"> • Reasonable assurance on BRSR Core mandatory for top 250 companies </div> <div style="border: 1px solid #ccc; padding: 5px; width: 20%;"> <p>FY 2024-25</p> <ul style="list-style-type: none"> • Reasonable assurance on BRSR Core mandatory for top 500 companies </div> <div style="border: 1px solid #ccc; padding: 5px; width: 20%;"> <p>FY 2025-26</p> <ul style="list-style-type: none"> • Reasonable assurance on BRSR Core mandatory for top 1000 companies </div> </div>
<p>ESG Ratings</p>	<ul style="list-style-type: none"> • Inclusion of 15 ESG parameters with an Indian context by ESG Rating Providers (ERPs) in ratings. <ul style="list-style-type: none"> ○ This includes Indian standards like Extended Producer Responsibility (EPR) scheme, more comprehensive gender diversity, etc. • ERPs also provide Core ESG rating based on information/reports that are assured/audited/verified. 	
<p>ESG Investing</p>	<ul style="list-style-type: none"> • Asset Management Companies (AMCs)/Mutual Funds should provide better clarity on 'in favor' or 'against' votes cast on resolutions due to any ESG reason. • To mitigate mis-selling and Greenwashing, an ESG scheme should invest at least 65% of its asset under management (AUM) in companies reporting on comprehensive BRSR and providing assurance on BRSR Core disclosures. 	

About ESG

- ESG is a framework that helps stakeholders understand **how an organization is managing risks and opportunities related to environmental, social, and governance criteria**.
 - **Environmental criteria** consider how a **company performs as a steward of nature**.
 - **Social criteria** examine how it **manages relationships with employees, suppliers, customers, communities** where it operates etc.
 - **Governance** deals with a **company's leadership, audits, internal controls, shareholder rights** etc.
- In 2021, SEBI issued **new sustainability reporting requirements under Business Responsibility and Sustainability Report (BRSR)**.
 - BRSR aims to establish **links between financial results of a business with its ESG performance**.
 - BRSR was made **mandatory for top 1,000 listed entities (by market capitalisation) from 2022-23**.
- BRSR seeks disclosure from listed entities on their performance against nine principles of 'National Guidelines on Responsible Business Conduct' (NGBRCs).

- International Financial Services Centres Authority has also issued a framework for disclosure by Fund Management Entities for ESG Schemes.



Related news: Green Debt Securities (GDS).

- In exercise of powers conferred under SEBI Act, 1992, **SEBI (Issue and Listing of Non- Convertible Securities) (Amendment) Regulations, 2023** amends 2021 regulations to expand the definition of scope of **Green Debt Securities (GDS)**.
 - The move will help align extant framework for GDS with updated Green Bond Principles (GBP) recognised by IOSCO.
- Green debt security defined** as a debt security issued for raising funds to be **utilised for projects like renewable and sustainable energy, clean transportation, sustainable waste management etc.**
- Concepts of blue, yellow and transition bonds** were also incorporated under GDS.
 - Blue bonds:** Funds raised for **sustainable water management** including clean water and water recycling, and sustainable maritime sector including shipping, fishing, ocean energy and mapping etc.
 - Yellow bonds:** Funds raised for **solar energy generation and upstream industries and downstream industries associated with it.**
 - Transition bonds:** Funds raised for **transitioning to a more sustainable form of operations**, in line with India's Intended Nationally Determined Contributions.

International Organization of Securities Commissions (IOSCO)

- An international body that **brings together world's securities regulators** and is **recognized as global standard setter** for securities sector.
- SEBI is a member of IOSCO Board.**

4.4.5. ETHANOL BLENDING

Why in News?

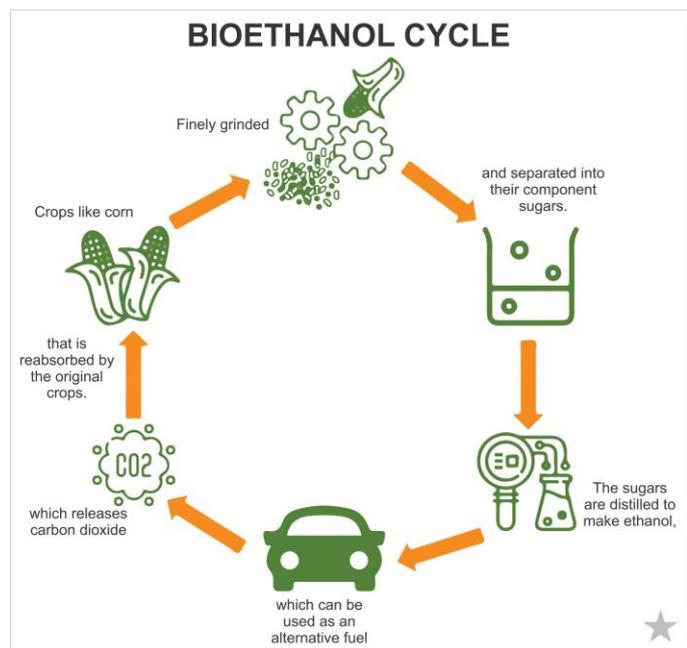
Recently, Petrol blended with 20% ethanol was rolled out at select petrol pumps in 11 states and union territories.

More in News

- At present, **10% ethanol is blended in petrol** (10% ethanol, 90% petrol) and the government is looking to double this quantity by 2025.
 - In June 2022, **India achieved an average blending rate of 10% ethanol in petrol.**
- In the first phase, 15 cities will be covered and in the next two years it will be expanded throughout the country.

What is ethanol Blending?

- Ethanol-blended petrol primarily is a biofuel that is obtained from an organic source like sugarcane, maize, wheat, etc**
 - Since it is plant-based, it is considered to be a renewable fuel.
- The **'National Policy on Biofuels'** notified by the Government in 2018 envisaged an **indicative target of 20% ethanol blending in petrol by year 2030.**



- However, the target of 20% ethanol blending (E20) was advanced from 2030 to 2025-26.

Landmark achievements in 8 Years

8 times increase in ethanol blending.

Number of distilleries **increased by 40%** in 5 years.

Ethanol distillation **capacity almost doubled**.

Helped in containing **Petrol price by over Rs.3/- per litre**.

- The **Oil Marketing Companies are to procure ethanol** from domestic sources and blends ethanol at its terminals.
 - Government has notified **administered price of ethanol since 2014**.
 - **Department of Food and Public Distribution (DFPD)** is the nodal department for promotion of fuel grade ethanol producing distilleries in the country.

Related news

Methanol blended Diesel (MD15)

- **Demo-run of Vessel** powered by Methanol blended Diesel (MD15) named **SB Gangadhar** in Guwahati, Assam was held in run-up to **India Energy Week 2023 (IEW 2023)**.
 - IEW 2023, first major event under India's G20 Presidency, follows **PM's pledge at COP26 to cut India's emissions to net-zero by 2070**.
 - IEW 2023 is held under **Ministry of Petroleum & Natural Gas**.
- Methanol (CH₃OH), also known as wood alcohol, is a **low carbon hydrogen carrier fuel** produced from **high ash coal, agricultural residue, CO₂ from thermal power plants and natural gas**.
 - Has **properties similar to ethanol**.
 - **Used in various products**, including plastics, paints, cosmetics etc.
- **Significance of Methanol economy for India**
 - Blending of 15% methanol in gasoline can result in **at least 15% reduction in import of gasoline/crude oil**.
 - **Would bring down GHG emissions by 20%** in terms of particulate matter, NO_x, and SO_x.
 - Although **slightly lower in energy content** than petrol and diesel, methanol can replace these fuels in **transport sector, energy sector and retail cooking**.
 - **Cost to convert vessels to run on methanol is significantly less** than other alternative fuel conversions.

Initiatives taken by India for Methanol based economy

- NITI Aayog's road map** for Methanol Economy
- Bureau of Indian Standards has notified **20% DME (Di-methyl Ether, a derivative of methanol) in LPG**
- Notification for **M-15, M-85, M-100 blends** issued by the Ministry of Road, Transport and Highways
- In 2018, Assam Petrochemicals launched **Asia's first canister-based methanol cooking fuel programme**
- BHEL, Thermax, and IIT Delhi to set up **coal-to-methanol plants** in the country

Global International Biofuel Alliance (GIBA)

- GIBA was **launched by India during India Energy Week 2023**.
- GIBA will help **create a favourable ecosystem for promoting development and deployment of biofuels** with key stakeholders including US, Brazil, EU, IEA etc. as a **clean mobility alternative** under India's G20 Presidency.
- Biofuel is **defined as liquid, solid, or gaseous fuel produced by conversion of biomass** such as bioethanol from sugar cane or corn, charcoal or woodchips, and **biogas from anaerobic decomposition of waste**.

Updated Classroom Study Material

4.4.6. STANDARDS AND LABELING PROGRAM (SLP) OF BUREAU OF ENERGY EFFICIENCY (BEE)

Why in news?

Ceiling fans have come under the ambit of mandatory star labelling of Bureau of Energy Efficiency (BEE).

About Standards and Labeling Program

- **Launched in 2006**, under Energy Conservation Act, 2001.
- Under it, a **Star Rating** was introduced on appliances for visual representation of appliance's efficiency, i.e.:
 - **Lowest energy consumption appliances having highest star** and highest energy consumption having the least star.

Star Label Description

- More Stars, More Savings
- Label Period
- Technical Details
- Technical parameters with respect to the appliance type
- Unique Code

- Air Conditioners (All)
- Refrigerators (All)
- Distribution Transformer
- Geysers
- Washing Machine
- Inverter
- LED Lamps
- DG Set
- Brand & Model
- Applicable standard & test conditions for the appliance type
- Applicable Conditions

- It is mandatory for several appliances including Frost Free and Direct Cool Refrigerator, LED Lamps, Room AC (Variable and Fixed speed), Color TV, Refrigerators, TFL, Stationary Storage Type Electric Water Heater etc.

4.4.7. ORGANIC FARMING CERTIFICATION

Why in News?

Ministry of Commerce and Industry has begun adopting additional onsite measures to check field-level irregularities in organic farming certification.

More about news

- This includes **verification of organisations that certify organic farming.**
- The development follows “**various irregularities being observed in the certification activities**”.

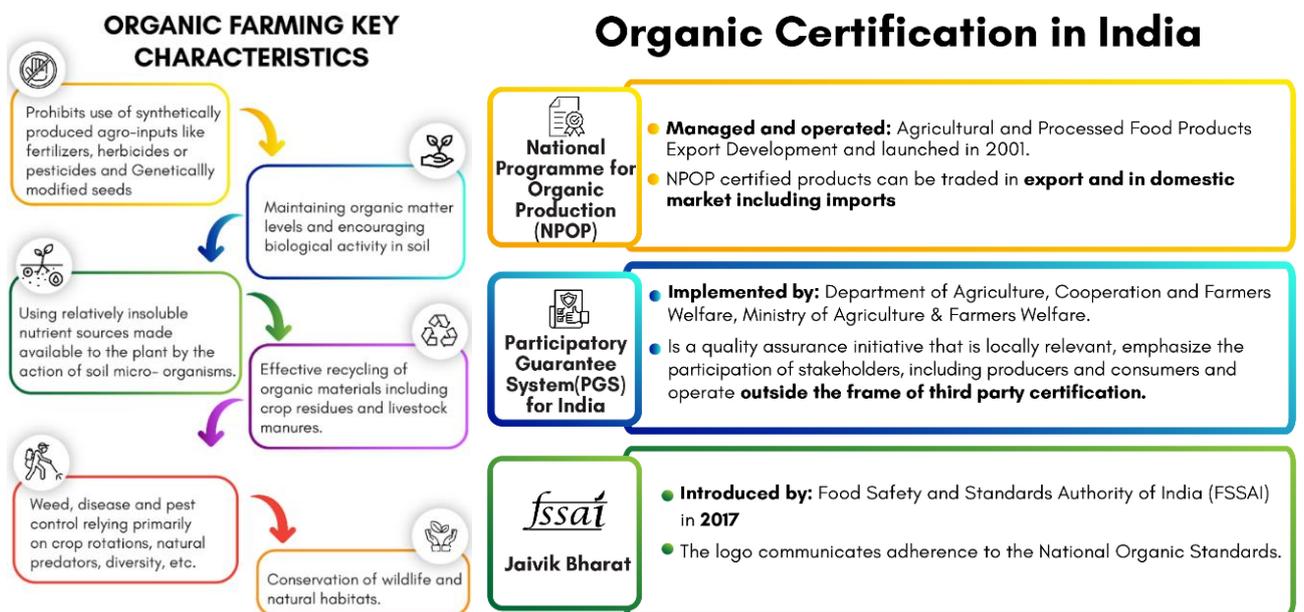
Benefits of Organic Farming

- **On Environment:** Prohibits Use of Harmful Pesticides; Maintains a Healthy Soil; Reduces Erosion; Provides Cleaner Water; Stimulates Biodiversity.
- **On Farmers:** Reduces the input cost of farmers; Attract more customers.
- **For Consumers:** No health risk; Higher levels of vitamins, minerals, healthy fatty acids and phytonutrients.

DO YOU KNOW?



India ranks 1st in number of organic farmers and 9th in terms of area under organic farming



4.4.8. NANO UREA

Why in news?

Union Minister of Chemicals and Fertilizers has inaugurated the IFFCO Nano Urea Liquid Plants at Aonla and Phulpur in Uttar Pradesh.

More on news

- These two plants would expand the current production capacity of nano urea.
- At present, the capacity of nano-urea production is over **50 million bottles per year.**
- There is **no government subsidy on nano urea** and hence there will be huge savings for the government.

DO YOU KNOW?



- Urea is a source of **Nitrogen, an essential nutrient for crop** growth and development.
- It is **predominantly found in the urine and animal waste.**
- **India imports about 25%** of its annual consumption of **urea.**

About nano fertiliser

- **Nanofertilizers** are defined as materials in the **nanometer scale**, usually in the form of nanoparticles, **containing macro and micronutrients** that are delivered to crops in a controlled mode.
- **Categories of nanofertilizers based on the type of formulation:**

- o **nanoscale fertilizer**, which corresponds to the conventional fertilizer reduced in size typically in the form of nanoparticles;
- o **nanoscale additive fertilizer**, is a traditional fertilizer containing a supplement nanomaterial; and
- o **nanoscale coating fertilizer**, refers to nutrients encapsulated by nanofilms or intercalated into nanoscale pores of a host material.

Nano urea

Nanofertilizer that contains **nano nitrogen particles** of size range 20-50 nm dispersed in water.



Total nitrogen concentration in one bottle of Nano Urea (liquid)= 4 % (40,000 ppm).



Fertilizer **patented and sold** by the Indian Farmers Fertiliser Cooperative Limited (**IFFCO**).



Formation

Uses "**organic polymers**" that keeps the 'nano' particles of nitrogen stable and in a form that can be sprayed onto plants.

RELEVANCE OF NANO-UREA

- Can overcome economic and environmental concern related to overuse of nitrogen.
- **Nitrogen Use Efficiency (NUE)** in agriculture is less than 30-40%.
- Nano-urea has **Nitrogen use efficiency (NUE)** of more than 80%.
 - o The **quantum effects of nanoparticles** and the **increased surface area** make the nanoparticles in Nano Urea deliver more nitrogen.



Adverse impact of conventional urea

Economic cost

- **High input cost** due to lower NUE
- **Depletion of forex reserve** due to huge import bill
- **Adverse impact on farmers income**

Environmental cost

- **Eutrophication** of water
- **Soil acidification**
- **Biodiversity loss**
- **Global warming** due to emission of N_2O

BENEFITS FROM IFFCO NANO UREA

Making Farming Easy And Sustainable



Higher Crop Yields



Increased income for farmers



Better food quality



Reduction in Chemical Fertilizer Usage



Environment Friendly



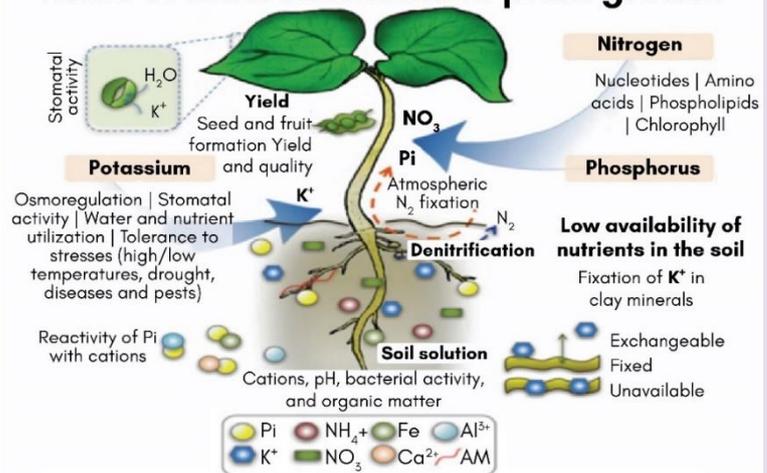
Easy to store and transport

Related news

Nano-Diammonium Phosphate (DAP) fertilizer

- The **Ministry of Agriculture** has allowed IFFCO and Coromandel International to start production of **nano-DAP for three years** that would be available from the 2023 kharif season.
- Nano-DAP is a **next-generation fertilizer** with nanoparticles of **Nitrogen and Phosphorus**, i.e., particles with size between 1 to 100 nanometres.
 - o DAP is a **phosphate-based fertilizer** manufactured by reacting **Ammonia** with **Phosphoric acid**, containing **Nitrogen and Phosphorus**.
- **More than half of the country's DAP requirements are imported**, and the main sources are West Asia and Jordan.

Roles of macronutrients in plant growth



Essential plant nutrients and their roles

- **Three primary macronutrients:** nitrogen (N), phosphorus (P), potassium (K).
- **Three secondary macronutrients:** calcium (Ca), magnesium (Mg), and sulfur (S).
- **Nine Micronutrients:** boron (B), chlorine (Cl), copper (Cu), iron (Fe), manganese (Mn), sodium (Na), zinc (Zn), molybdenum (Mo), nickel (Ni).

4.4.9. AQUACULTURE

Why in news?

Union Minister of Fisheries, Animal Husbandry and Dairying inaugurated and launched **three national flagship programmes** for aquaculture sector.

Three programmes are:

Aquaculture in India

Aquaculture is the process of rearing, breeding and harvesting of aquatic species, both animals and plants, in controlled aquatic environments like the oceans, lakes, rivers, ponds and streams.

World's **2nd** largest aquaculture nation

Farmed shrimp accounts for **70%** of India's seafood exports.

3rd largest fish producer.

75% of fish production by inland fisheries

4th Largest Fish Exporting Country.

25% of fish production by marine fisheries.

Name	Details	Importance
Genetic Improvement Programme of Indian White Shrimp (Penaeus indicus)	<ul style="list-style-type: none"> • Program sanctioned with an outlay of Rs.25 crores under Pradhan Mantri Matsya Sampada Yojana (PMMSY). 	<ul style="list-style-type: none"> • Shrimp farming sector mostly depends on one exotic Specific Pathogen Free stock of Pacific white shrimp (Penaeus vannamei) species. • Program will help to break single species dependence and promote indigenous species vis-à-vis exotic shrimp species.
Phase 2 National Surveillance Programme on Aquatic animal Diseases (NSPAAD)	<ul style="list-style-type: none"> • NSPAAD Phase 2 has been sanctioned under PMMSY. <ul style="list-style-type: none"> ◦ Phase 1 is being implemented since 2013. • Envisages development of National Information System on Aquatic Diseases and trained 'disease diagnostic personnel' with involvement of states. 	<ul style="list-style-type: none"> • Will strengthen farmer-based disease surveillance system. • Help in reduction of revenue losses due to diseases and will increase exports.
Launch of Shrimp Crop insurance product developed by ICAR-CIBA	<ul style="list-style-type: none"> • Product charges differential premium based on location and requirements of individual farmer from 3.7 to 7.7 % of input costs. • Farmer will be compensated to tune of 80 % loss of input cost in the event of total crop loss (more than 70%). 	<ul style="list-style-type: none"> • Help in establishing farmers' access to insurance and institutional credit facilities. • Will help in doubling farmers' income in much faster time frame.

4.4.10. OTHER RELATED NEWS

News	Details
World Sustainable Development Summit 2023	<ul style="list-style-type: none"> • Summit is TERI's (the Energy and Resources Institute) annual flagship multistakeholder event. <ul style="list-style-type: none"> ◦ TERI is an independent, multi-dimensional organization, with expertise in research, policy, consultancy and implementation. • One of the independently convened event in Global South that brings together world leaders, thinkers, scientists, industry etc. to work towards long-term solutions for planet's health. • Examined topics such as finance, science, technology and innovation, sustainable consumption, inclusive energy transitions etc.
Environmental Information, Awareness, Capacity Building and Livelihood Programme (EIACP)	<ul style="list-style-type: none"> • New logo of EIACP released. • Environmental Information System (ENVIS) is renamed as EIACP. • EIACP serves as a one stop platform for dissemination of environmental information, informed policy formulation on various facets of environment and facilitation of alternate livelihoods through green skilling. • EIACP conducts Environmental Awareness Programs to School Children, Colleges and Universities on Environmental Important Days.

	<ul style="list-style-type: none"> As per the mandate of EIACP, the activities of the Programme Centres are to be aligned with Lifestyle for the Environment (LiFE) introduced by India at COP 26 in Glasgow.
SDG Agrifood Accelerator Programme	<ul style="list-style-type: none"> FAO and SEED partnership launched the Programme. <ul style="list-style-type: none"> SEED is a global partnership for action on sustainable development and green economy. It was founded by UN Environment Programme (UNEP), UN Development Programme (UNDP) and International Union for Conservation of Nature (IUCN). SDG Agrifood Accelerator Programme is designed to help agrifood system start-ups develop their businesses while contributing to UN's SDGs. Operating across Africa and Asia, 12 SMEs who joined the Programme will be supported in three areas: financial readiness, innovation potential, and market reach.
Climate Smart Varieties of Wheat	<ul style="list-style-type: none"> Indian Agricultural Research Institute (IARI) scientists have developed three climate-smart varieties of wheat. <ul style="list-style-type: none"> These varieties are characterised by "mild vernalisation requirement" i.e., need for a certain minimum period of low winter temperatures for initiation of flowering. Three varieties are: HDCSW-18 (officially notified in 2016), HD-3410 and HD-3385. <ul style="list-style-type: none"> HD-3410 (released in 2022), has higher yield potential (7.5 tonnes/hectare) with lower plant height (100-105 cm). Among these, HD-3385 is least lodging-prone and most amenable for early sowing. <ul style="list-style-type: none"> ✓ Lodging refers to permanent displacement of aboveground parts of a crop from its upright position.
Bio-Fertilizers	<ul style="list-style-type: none"> Biofertilizers are microorganism-containing substances that, when added to soil, increase fertility and promote plant growth. <ul style="list-style-type: none"> Biofertilizers are live microbial products which does not contain any nutrients. There are 11 bio-fertilizers notified under Fertilizer (Control) Order, 1985 viz. Rhizobium, Azotobactor, Azospirillum, Phosphate Solubilising Bacteria, Mycorrhizal Bio-fertilisers, Potassium Mobilizing Bio-fertilizers (KMB), Zinc Solubilizing Biofertilizers (ZSB), Acetobactor, Carrier Based Consortia, Liquid Consortia, and Phosphate Solubilising Fungus.
National programme on Electronics and ICT applications in Agriculture and Environment (AgriEnIcs)	<ul style="list-style-type: none"> Under AgriEnIcs programme of Ministry of Electronics and Information Technology (MeitY), Centre for Development of Advanced Computing (C-DAC), Kolkata has developed: <ul style="list-style-type: none"> Technology for Air Quality Monitoring System (AI-AQMS v1.0) for outdoor quality monitoring, Biosensing based EDC detection system (MEAN) to detect Endocrine Disrupting Chemicals in aquatic ecosystems. Endocrine-disrupting chemicals (EDCs) are substances in environment (air, soil, or water supply), food sources, personal care products, and manufactured products that interfere with normal function of our body's endocrine system. AgriEnIcs programme aims to solve problems in Agriculture and Environment domain by using Electronics and ICT technologies. It encourages participation of innovative minds of India through AgriEnIcs Grand Challenge.
Eastern Rajasthan Canal Project (ERCP)	<ul style="list-style-type: none"> Prime Minister stated that centre is committed to ensure regular supply of water in 13 Rajasthan districts under ERCP. ERCP aims to harvest surplus water available during rainy season in rivers in southern Rajasthan, such as Chambal and its tributaries Kunnu, Parvati, and Kalisindh. <ul style="list-style-type: none"> This water will be used in water-scarce south-eastern districts (13 districts) of state. Project was approved by Central Water Commission in 2017. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <div style="display: flex; align-items: center;"> <div> <h3 style="margin: 0;">Central Water Commission</h3> </div> </div> <div style="margin-top: 10px;"> <p>Ministry: Ministry of Jal Shakti</p> </div> <div style="margin-top: 10px;"> <p>Genesis: An apex organization in India in the field of Water Resources, came into existence as "Central Waterways, Irrigation and Navigation Commission" in 1945.</p> </div> <div style="margin-top: 10px;"> <p>Objectives: To promote integrated and sustainable development and management of India's water resources by using state of the art technology and competency and coordinating all stakeholders.</p> </div> <div style="margin-top: 10px;"> <p>Other important information:</p> <ul style="list-style-type: none"> Headed by a Chairman, with the status of Ex-Officio Secretary to the Government of India. Has established regional offices. It has 13 regional offices </div> </div>
Sunni Dam Hydro Power Project,	<ul style="list-style-type: none"> Cabinet Committee on Economic Affairs has approved the investment for 382 MW Sunni Dam Hydro Electric Project in Himachal Pradesh by Satluj Jal Vidyut Nigam Limited. Sunni dam hydroelectric project is a run of river type scheme designed to harness hydropower potential of Satluj river.

- It is part of **Luhri project**, which is designed to comprise three hydropower dams: Luhri Stage-I, Luhri Stage-II, and Sunni dam.
- It envisages construction of a high concrete gravity dam across river Satluj and an underground power house on right bank.

4.5. DISASTER MANAGEMENT

4.5.1. GLACIAL LAKES OUTBURST FLOODS (GLOFS)

Why in news?

A recent study conducted by scientists at Newcastle University in the UK revealed that about **3 million Indians reside in regions that are susceptible to glacial lake floods (GLOFs)**.

More about the study

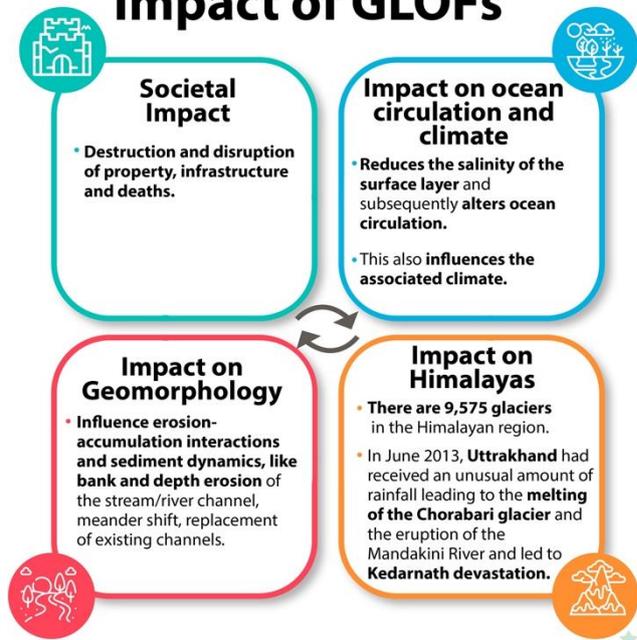
- Around **15 million people** across the world face the risk of sudden and deadly flooding from glacial lakes, which are expanding and **rising in numbers due to global warming**.
- More than half of those who could be impacted live in four countries: **India, Pakistan, Peru and China**. **India and Pakistan** make up one-third of the total number of people globally exposed to GLOFs.
- Populations in **High Mountains Asia (HMA)** - a region stretching from the **Hindu Kush all the way to the eastern Himalayas** - are the most exposed and on average live closest to glacial lakes with around one million people living within 10 km of a glacial lake.

About Glacial Lakes and GLOFs

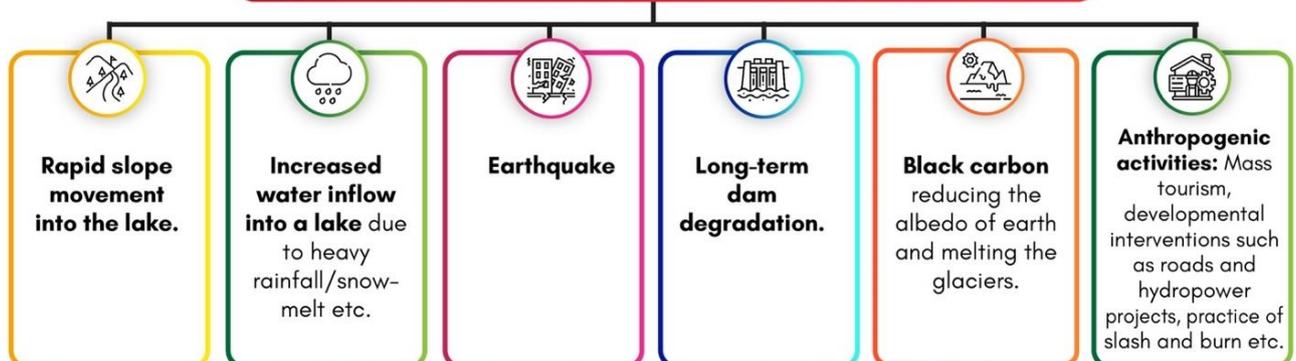
- **Glacial lakes** are large bodies of water that sit in front of, on top of, or beneath a **melting glacier**.
 - As they grow larger in size, they become more dangerous because glacial lakes are **mostly dammed by unstable ice or sediment** composed of loose rock and debris.
 - **Due to global warming** glaciers are retreating and glacier lakes are expanding in the size and numbers.
- **Glacial lake outburst flood (GLOF)** is a sudden release of a significant amount of water retained in a glacial lake, irrespective of the cause.



Impact of GLOFs



Factors triggering GLOFs include



Related news: Thwaites Glacier

- Scientists have found that **warm water is seeping into weak spots of Thwaites glacier**, thereby inducing the melting at a faster pace.
- Thwaites Glacier - **nicknamed the Doomsday Glacier**- is **widest glacier on earth** and a **part of West Antarctic ice sheet**.
- **Ice loss** in the glacier currently **contributes to 4% of the global sea-level rise**.
- **If it collapses**, it would lead to an increase in **global sea level of at least 65 cms**.

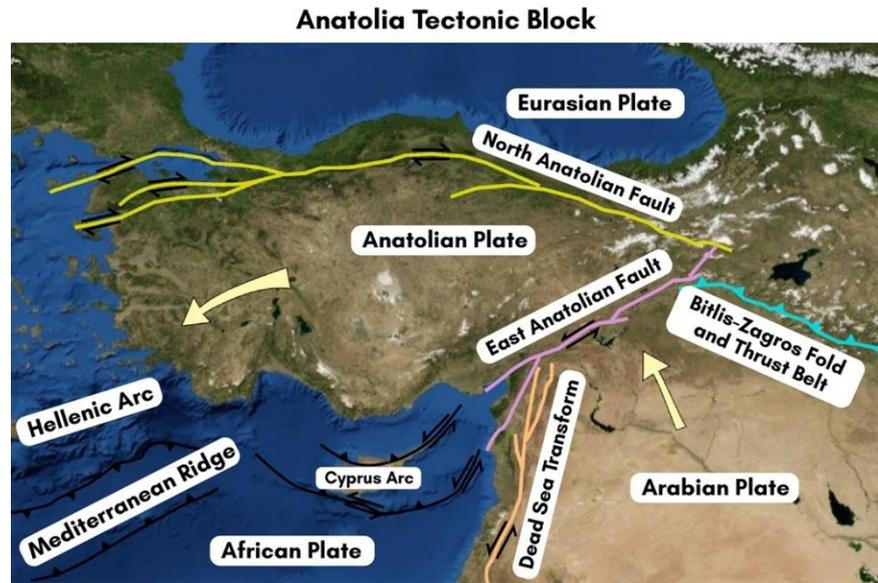
4.5.2. ANATOLIAN PLATE

Why in news?

Powerful earthquakes in Turkey and Syria leaving over 3,800 dead.

More on the news

- **Hit initially by a magnitude 7.8 earthquake**, dozens of aftershocks followed the initial quake.
- Region where earthquake has struck lies along a seismic fault line called **Anatolia tectonic block** that runs through northern, central, and eastern Turkey.
 - Seismicity in this region is a **result of interactions between African, Eurasian, and Arabian plates**.
 - **Arabian plate is known to be pushing northward**, which results in a slight **westward movement for Anatolian plate**, where Turkey is located.
- One of the largest **strike-slip earthquakes to occur in recent times**, it struck along **East Anatolian Fault Zone**.
 - Strike-slip faults are **vertical (or nearly vertical) fractures where blocks have mostly moved horizontally**.
 - In these faults, **two plates move parallel but in opposite direction** from one another.
- Turkey bridges continents of **Europe (via. Eastern Thrace)** and **Asia (via. Anatolian Plateau)**; divided by **Dardanelles, Sea of Marmara, and Bosphorus Strait**.
 - It is surrounded by **Bulgaria and Greece in Northwest; Georgia, Armenia, Azerbaijan and Iran to east; and Syria and Iraq to South**.



KNOW THE TERM

- Magnitude is **related to amount of seismic energy released** at hypocenter of earthquake.
- **Richter Scale, Moment Magnitude scale etc are used** to measure magnitude.

Updated Classroom Study Material

4.5.3. DISASTER MANAGEMENT PLAN (DMP) FOR POWER SECTOR

Why in news?

Central Electricity Authority released disaster management plan (DMP) for power sector.

About DMP

- Provides a **framework to utilities** in power sector to **evolve a**

Key features of DMP

<p>A four-tier structure at Central, Regional, State and Local Unit Levels, with intervention and response depending on severity of disaster /calamity.</p>	<p>Risk assessment of power infrastructure, i.e., electric power generation stations, transmission distribution etc. to evolve methods for finding quantitative risk involved.</p>	<p>Considering different climate scenarios and potential impacts on their assets.</p>	<p>Use of social media for emergencies and disasters on an organizational level to disseminate information as well as for emergency communications and issuing warnings etc.</p>
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proactive and integrated approach to strengthen disaster mitigation, preparedness, emergency response, and recovery efforts.

- Growth of power sector is **directly correlated with economic growth** of the country and any **disruption** due to disaster **creates severe hardship** to human beings.
- Under **Section 37 of Disaster Management (DM) Act, 2005** every **Ministry/ Department** of Government of India shall prepare a **DMP**.
 - **DMP is also consistent with Sendai Framework** for Disaster Risk Reduction (DRR), **COP21** and **PM's Ten Point Agenda** for DRR.

4.5.4. OTHER RELATED NEWS

<p>FireAid project</p>	<ul style="list-style-type: none"> • A recent report by WEF highlighted that its FireAid initiative was helpful in managing wildfire in several regions of Turkey. <ul style="list-style-type: none"> ○ In 2021, average annual global cost of wildfires was around \$50 billion and released an estimated 6,450 megatonnes of CO₂ into atmosphere. • Launched in January 2022 by World Economic Forum (WEF), FireAid project (using AI system) aims to allow better prediction of wildfires and more efficient use of resources during firefighting operations. <ul style="list-style-type: none"> ○ FireAID predictions reduced both response time and risk to firefighters. • AI was used to develop a digital twin for fire management, which helped firefighters in testing hypotheses of intervention measures and observing their outcomes in simulations. <ul style="list-style-type: none"> ○ A digital twin is a virtual representation of an object or system, is updated from real-time data, and uses simulation, machine learning and reasoning to help decision-making.
<p>Cyclone Freddy</p>	<ul style="list-style-type: none"> • It is a tropical cyclone that hits Madagascar and Mozambique. • Tropical cyclone is a rapidly rotating storm originating over tropical oceans from where it draws the energy to develop. • It has a low-pressure center and clouds spiralling towards eyewall surrounding the "eye" normally calm weather conditions and free of clouds.

4.6. GEOGRAPHY

4.6.1. SAMUDRAYAAN MISSION

Why in news?

Union ministry of earth sciences recently shared details of **Samudrayaan Mission**.

More about news

- Samudrayaan Mission is aimed to develop a self-propelled **manned submersible (MATSYA 6000)** to carry three human beings to a water depth of 6,000 meters for **deep ocean exploration**.
 - MATSYA 6000 is being developed by **National Institute of Ocean Technology, Chennai**.
 - It has developed 6000m depth rated Remotely Operated Vehicle (ROV) and various other underwater instruments such as Autonomous Coring System (ACS), Autonomous Underwater Vehicle (AUV) and Deep Sea Mining System (DSM) for the exploration of deep sea.
- It has an endurance of 12 hours of operational period and 96 hours in case of emergency. It is being developed under **Deep Ocean Mission (DOM)**.

About Deep Ocean mission

- Union cabinet approved deep ocean mission in **2021** with a total budget of ₹4,077 crore for **five years**.
- **Aim:** To **explore Deep Ocean** for resources and develop **deep sea technologies** for sustainable use of ocean resources.

- The part of the ocean that lies **below a depth of 200 metres** is defined as the **deep sea**.
- Considering importance of **oceans on sustainability**, UN declared 2021-2030 as **Decade of Ocean Science** for Sustainable Development.
- It is a **mission mode project** to support Blue Economy initiatives. Blue economy is **sustainable use of ocean resources** for economic growth, improved livelihoods, and jobs while **preserving the health of ocean ecosystem**.
- Mission is to be implemented under **aegis of Ministry of Earth Sciences**.

Major components of Deep Ocean Mission

Thematic area	Details	Targeted Blue Economy priority area
 Technologies for Deep Sea Mining, and Manned Submersible	<ul style="list-style-type: none"> ▪ Manned submersible to carry 3 people to a depth of 6000 metres in the ocean. ▪ Integrated Mining System for mining Polymetallic Nodules in the central Indian Ocean. 	Exploring and harnessing of deep-sea minerals and energy .
 Ocean Climate Change Advisory Services	<ul style="list-style-type: none"> ▪ Observations/models to understand and provide future projections of important climate variables on seasonal to decadal time scales. 	Coastal tourism
 Exploration and conservation of deep-sea biodiversity	<ul style="list-style-type: none"> ▪ Bio- prospecting of deep-sea flora and fauna including microbes. ▪ Studies on sustainable utilization of deep-sea bio-resources. 	Marine Fisheries and allied services
 Deep Ocean Survey and Exploration	<ul style="list-style-type: none"> ▪ Explore and identify potential sites of multi-metal hydrothermal sulphides mineralization along the Indian Ocean mid-oceanic ridges. 	Deep-sea exploration of ocean resources.
 Energy and freshwater from the Ocean	<ul style="list-style-type: none"> ▪ Studies and detailed engineering design for offshore Ocean Thermal Energy Conversion (OTEC) powered desalination plant. 	Off-shore energy development
 Advanced Marine Station for Ocean Biology	<ul style="list-style-type: none"> ▪ Development of human capacity and enterprise in ocean biology and engineering. ▪ Translate research into industrial application and product development through on-site business incubator facilities. 	Marine Biology, Blue trade and Blue manufacturing.

Related news: International Seabed Authority (ISA) and Ministry of Earth Sciences exchanged PMN (Polymetallic Nodules) exploration extension contract

- The contract for same was **initially signed in 2002** for a period of 15 years. It was extended by ISA twice for 5 years period, **during 2017 and 2022**.
 - India has been assigned an area of **about 75,000 sq km in Central Indian Ocean Basin (CIOB)** for PMN exploration.
- PMN refers to small **potato-like rounded accretions** composed of minerals such as **manganese, nickel, cobalt, copper and iron hydroxide**



DO YOU KNOW?

► **Polymetallic Nodules** comprises metals like Copper, Nickel, Cobalt and Manganese etc. which are used in **electronic devices, smartphones, batteries and even for solar panels.**

► The estimated value of these metals in **allotted area is about 110 billion US\$.**

4.6.2. GLOBAL OVERTURNING CIRCULATION (GOC)

Why in news?

New studies conducted to understand modern form of Global overturning circulation (GOC).

About GOC

- **Equatorward transport of cold, deep waters and poleward transport of warm, near-surface waters.**
 - Responsible for transport of carbon and heat among ocean basins and between ocean and atmosphere.
- GOC is a **system of two connected overturning cells:**
 - **Upper cell** is linked to **formation of North Atlantic Deep Water (NADW)** and its shallower **return flow to form Atlantic Meridional Overturning Circulation (AMOC).**
 - **Lower cell** (referred as Southern Ocean Meridional Overturning Circulation) is associated with **formation of Antarctic Bottom Water (AABW)** and its **return flow as Pacific Deep Water (PDW).**
- Studies have indicated that **tectonically driven changes in ocean gateways** such as **closure of Central American Seaway (CAS)**, since late Miocene period, had impacted GOC.
 - CAS is a **body of water** that once **separated North America from South America.**
- **Now**, National Centre for Polar and Ocean Research **reconstructed Deep Water Circulation record of Indian Ocean** and provided evidence in **support of theory that closure of CAS** led to evolution of **modern form of GOC.**
 - **Indian Ocean does not have any major deep-water formations** of its own. It acts only as a **host for both GOC components.**

4.6.3. HEAT DOME

Why in news?

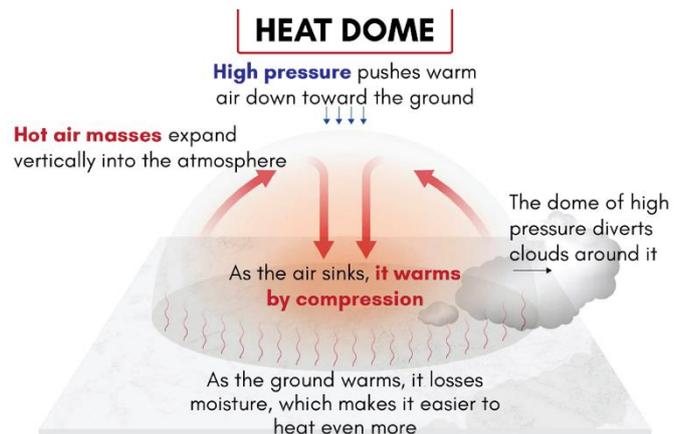
Heat-spewing anticyclone over North-West India has led to unusual heat in February.

More on the news

India Meteorological Department (IMD) predicts that it is likely to **recede from land and back off into Central Arabian Sea** soon, making way for **moisture-laden western disturbance** and **associated cloud cover with rain or snow in Western Himalayas** and adjoining plains.

About Heat dome

- A **high-pressure circulation in atmosphere** which acts like a dome or cap, trapping heat at surface and favoring heatwave formation
 - Occurs when **hot ocean air is trapped over a large area.**
- Typically, **heat domes are tied to the pattern of jet stream** (fast winds high in atmosphere that generally runs **west to east**).
 - Normally, **jet stream has a wavelike pattern**, meandering north and then south and then north again.
 - When these meanders in jet stream become bigger, they move slower and can become stationary and resulting into heat domes.
 - **Hot air typically rises into atmosphere**, but dome's lid causes air to sink. As air sinks, it **compresses and becomes warmer** that causes temperature in dome to rise continually.
- **Impact of heat dome:** Affect seasonal agricultural products; Increased risk of wildfire, heat-related illnesses such as heat rash, heat stroke, heat exhaustion etc.



Related news: InfoCrop simulation model

- Indian Agricultural Research Institute (IARI) conducted a first-of-its-kind experiment to **quantify the impact of hot weather on crop yield** in Punjab and Haryana by **using InfoCrop Version 2.1.**
- InfoCrop version 2.1 is **India's only dynamic crop simulation model**, developed by IARI in 2015, that **study the long-term impact of climate change and crop management practices on yield.**

- It has **life cycle data for almost all local varieties of 11 crops**: paddy, wheat, maize, sorghum, pearl millet, pigeon pea, chickpea, soybean, groundnut, potato and cotton.
- In InfoCrop, **Parameters (updated at regular intervals) deal with aspects of**
 - ✓ **Weather** (precipitation, temperature etc.); **Crop growth** (grain characteristics, leaf growth etc.); **Soil** (water holding characteristics, pH levels etc.); and **Pests and crop management** (organic matter, fertiliser and irrigation).

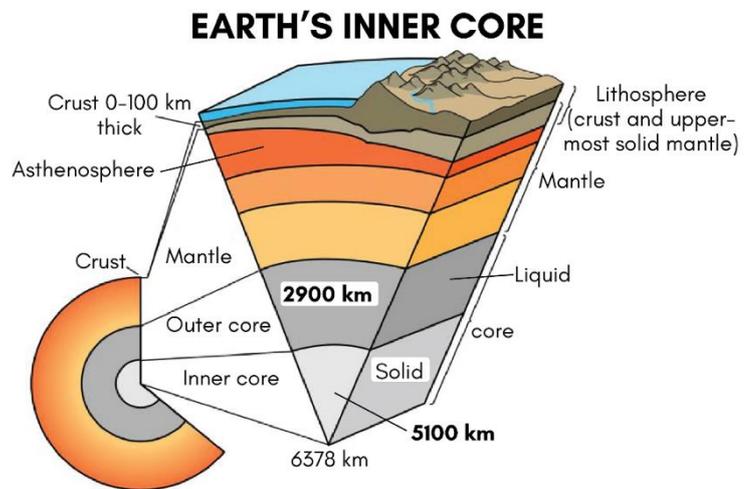
4.6.4. EARTH'S INNER CORE

Why in news?

Scientists discovered new layer at Earth's inner core.

More on the news

- Discovered by Australian National University seismologists, '**solid metallic ball**' is deep inside inner core of Earth, dubbed as "innermost inner core".
 - It is **solid due to high pressure deep within the Earth** that stops iron alloy from melting.
 - It is a **crystallized structure within inner core's innermost region** that is different from outer layer.
 - **First hypothesised about 20 years ago**, it was identified through **data gathered from seismic waves caused by earthquakes**.
- So far, **four layers of Earth's structure** had been identified (refer image). This includes:
 - **Crust**: **Topmost or outermost layer** of earth which makes up **1% of Earth Volume**. It has two parts - **thinner Oceanic Crust** and **thicker Continental Crust**.
 - **Mantle**: **Solid/plastic layer of earth** which makes up about **84% of Earth Volume**. It is divided in two parts - **Upper Mantle** and **Lower Mantle**. **Uppermost mantle and crust constitute lithosphere**.
 - **Outer core**: **Liquid portion of core**, composed of **80% iron** along with **nickel** and some other **lighter elements**.
 - **Inner core**: **Solid portion of core**, composed of **Iron and nickel** with presence of heavy elements like **gold, platinum, palladium, silver and tungsten**.
- **Significance of Fifth Layer**
 - **Provide information on past events on Earth** that happened hundreds of millions to billions of years ago.
 - Provide a **new way to probe Earth's inner core** and its centremost region.
 - Inform on **evolution of earth's magnetic field** etc.



4.6.5. OTHER RELATED NEWS

<p>Mammatus clouds</p>	<ul style="list-style-type: none"> • NASA has released picture of Mammatus clouds, hovering over Nebraska, US. • Mammatus clouds generally appear in connection with substantial cumulonimbus clouds, but they have also been sighted to form on other cloud types, such as stratocumulus, altostratus, and altocumulus. <ul style="list-style-type: none"> ○ Turbulence within cumulonimbus often leads to formation of Mammatus clouds, particularly on bottom of projecting anvil as it quickly descends to lower altitudes. ○ Their shapes can vary greatly, from typical bulging shape to a more elongated tube dangling from the cloud above 	<p style="text-align: center;">MAMMATUS CLOUDS</p> 
<p>New Plateau Type Discovered</p>	<ul style="list-style-type: none"> • A rare low-altitude basalt plateau has been discovered in Thane region in Western Ghats (a global biodiversity hotspot and UNESCO World Heritage site in India). 	

<p>From Maharashtra</p>	<ul style="list-style-type: none"> ○ This is the fourth type of plateau to be identified in the region; previous three are laterites at high and low altitudes and basalt at high altitudes. ○ 76 species of plants and shrubs from 24 different families have been found. ● Plateaus are dominant landscapes in Western Ghats. They are classified as a type of rocky outcrop. ● Rocky outcrops are geological features that protrude above the surface of surrounding land. <ul style="list-style-type: none"> ○ They are formed by weathering that happens at different rates, causing the less weathered rock to remain exposed. ○ They are found on all continents, in most climate zones and vegetation types. ● Significance of rocky outcrops <ul style="list-style-type: none"> ○ Support high levels of species diversity and endemism. ○ They have seasonal water availability, limited soil and nutrients, making them ideal to study effects of climate change on species survival. ○ They provide critical breeding sites for many top order mammalian and avian predators; nesting sites for colonial species such as seabirds, bats and swifts. <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">KNOW THE TERM</p> <div style="display: flex; align-items: center;"> <div> <p>● Basalt: It is an igneous rock that is formed from the quick cooling of lava rich in magnesium and iron, has a very fine-grained structure. E.g., the Deccan plateau. These rocks are also sources of phosphorus (P), potassium (K), calcium (Ca), and several micronutrients essential for plant nutrition.</p> </div> </div> </div>
<p>'Atmospheric River' Storm</p>	<ul style="list-style-type: none"> ● A powerful storm is heading towards California, threatening the state with flooding, landslides, high winds and power outages. ● About Storm <ul style="list-style-type: none"> ○ Atmospheric rivers are long, narrow regions in the atmosphere like rivers in the sky that transport most of the water vapour outside of the tropical region to higher latitudes. ○ When the atmospheric rivers make landfall, they often release this water vapour in the form of rain or snow. ● Most Atmospheric River are weak systems, but larger Atmospheric River can create extreme rainfall and floods, causing catastrophic damages.
<p>Ram Setu</p>	<ul style="list-style-type: none"> ● Ram Setu, also known as Adam's bridge, is a chain of limestone shoals between Pamban Island or Rameswaram Island, off the south-eastern coast of Tamil Nadu, and Mannar Island, off the north-western coast of Sri Lanka. <ul style="list-style-type: none"> ○ Recently, Tamil Nadu assembly also passed a resolution urging Centre to resume work on Sethusamudram Ship Canal project (SSCP). ● National heritage status is sought in the backdrop of SSCP that envisages dredging of a ship channel across the Palk Straits between India and Sri Lanka. <ul style="list-style-type: none"> ○ Two channels were suggested - one across Adam's Bridge and another through Palk Bay. ○ SC, in 2007, had stayed the work for project and Centre was also willing to explore another route to SSCP without damaging Ram Setu. ● Significance of SSCP <ul style="list-style-type: none"> ○ Reduce steaming distances between east and west coasts of India. ○ Strengthen national security by improving navigation for Indian coast guards and naval ships. ● Concerns raised against SSCP <ul style="list-style-type: none"> ○ Would destroy natural barrier between Bay of Bengal and Palk Bay. ○ Oil and marine pollution associated with shipping traffic will aggravate ecological stress in region. ○ Threats to coral reef platforms in Gulf of Mannar. <div style="border: 1px solid black; padding: 5px;"> </div>

4.6.6. PLACES IN NEWS

4.6.6.1. INDIA

Places in news: India

Shinkun La tunnel (Himachal Pradesh)

- Its construction on Nimu-Padam- Darcha Road link has been approved.
- Shinku-la pass connects Himachal Pradesh's Lahaul valley and Ladakh's Zaskar valley.

Siyom River, Arunachal Pradesh

- Defence Minister inaugurated 100-metre-long bridge over the river, close to Arunachal's northern border with China.
- Right bank tributary of Brahmaputra
- Flows through the western borders of Mouling National Park.

Bharathapuzha

- Steps are being taken to protect its river bank ecosystem.
- Kerala's 2nd longest river.
- Also known as Nila (blue) in central Kerala.
- Originates from Annamalai hill in the western ghats

Haiderpur Wetland, Uttar Pradesh

The Uttar Pradesh irrigation department drained out the wetland. A protected Ramsar site

Munroe Thuruthu Island, Kerala

- A study revealed anthropogenic interventions as main reason for its sinking.
- Almost 39% of its land area has been lost in past 2 decades.
- Lies in confluence of Ashtamudi Lake and Kallada River in Kerala.

Talacauvery, Karnataka

Has emerged as an ideal location to gaze at the sky and have a star party.

4.6.6.2. INTERNATIONAL

Places in news: International

Norway (Capital: Oslo)

- Has discovered substantial levels of metals and minerals on seabed of its extended continental shelf.

Tajikistan (Capital: Dushanbe)

- Earthquake struck the Gorno-Badakhshan autonomous region of Tajikistan.

Lake Chad

- A report highlighted Climate change fuelling conflict in Lake Chad Basin.

Lake Victoria, Tanzania

- Centre for Science and Environment released a report on managing Lake Victoria water quality in Tanzania.
- Largest lake in Africa and chief reservoir of Nile.

Fiji (Capital: Suva)

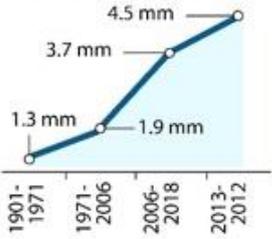
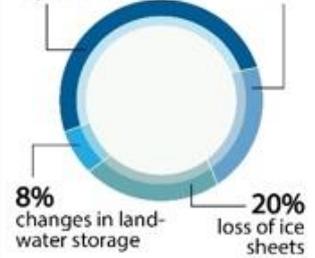
- Deputy PM of Fiji has expressed hope to partner with India in meeting climate action goals.

New Zealand (Capital: Wellington)

- Has declared an emergency as cyclone Gabrielle causes widespread flooding and landslides.

4.7. REPORTS AND INDICES IN NEWS

<p>LiFE Lessons From India</p>	<ul style="list-style-type: none"> • Released by: International Energy Agency (IEA) • Report examines how India has integrated several policies in its energy transition strategy that are aligned with LiFE initiative. <ul style="list-style-type: none"> ○ LiFE mission was launched by Prime Minister of India at COP 26 in 2021 to bring individual behaviours at forefront of global climate action narrative. • Key highlights <ul style="list-style-type: none"> ○ Annual global CO₂ emissions will fall by 2 billion tonnes in 2030 on adoption of LiFE (Lifestyle for Environment (LiFE) measures. ○ LiFE measures would save consumers globally around \$440 billion in 2030. ○ India's economy is already 10 percent more energy efficient than both global and G20 average. ○ India took less time to go from half to full electricity access than other major economies. ○ Around 60% of emissions saving by LiFE measures could be directly influenced or mandated by governments.
<p>Climate Inequality Report 2023</p>	<ul style="list-style-type: none"> • Released by: World Inequality Lab. • Aims to shed light on various dimensions of climate inequality and suggest pathways to tackle climate inequalities. • Key Highlights of the report <ul style="list-style-type: none"> ○ Top 10% of global carbon emitters generate almost half of all greenhouse gas emissions. ○ Difference between carbon emissions of the rich and poor within a country is now greater than differences in emissions between countries.
<p>Global Assessment of Soil Carbon in Grasslands</p>	<ul style="list-style-type: none"> • Released by: Food and Agriculture Organisation <ul style="list-style-type: none"> ○ It was funded by FAO LEAP Partnership, a multi-stakeholder initiative to improve environmental sustainability of livestock sector. • It measured stocks of Soil Organic Carbon (SOC) in both semi-natural and managed grasslands. • Key highlights of Assessment <ul style="list-style-type: none"> ○ Grasslands, contain approximately 20% of world's SOC, have suffered losses because of human activities such as intensive livestock grazing, agricultural activities etc. ○ Most of world's grasslands have a positive carbon balance, meaning land is stable or well-maintained. ○ However, negative carbon balance was found in East Asia, Central and South America, and Africa south of Equator. ○ SOC's are not included in national climate plans due to lack of incentives for farmers to improve management practices and difficulty in accurately monitoring SOC stocks. <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>About Grasslands</p> <ul style="list-style-type: none"> • Grasslands are generally open and continuous, fairly flat areas of grass. Grasslands are found on every continent except Antarctica. • There are two main kinds of grasslands: tropical and temperate. </div> <div style="text-align: center; margin-top: 10px;"> <p>Grasslands of the world</p> <p>Grasslands of the world</p> </div> <ul style="list-style-type: none"> • About SOC <ul style="list-style-type: none"> • Carbon held within the soil that is measurable. • Helps in improving soil biological, chemical, and physical properties, water-holding capacity, and structural stability. • A cost-effective nature-based solution to mitigate effects of climate change by reducing atmospheric carbon dioxide.
<p>Gross Domestic Climate Risk</p>	<ul style="list-style-type: none"> • Released by: Cross Dependency Initiative (a global organisation specialising in climate risk analysis), It is the world's 1st index assessing physical environment risk to built environments.

	<ul style="list-style-type: none"> • Physical Climate Risk refers to vulnerability from several climate change events including heat waves, coastal flooding, forest fire, soil movement, riverine and surface flooding etc. • Key Findings: <ul style="list-style-type: none"> ○ India, China and U.S are home to 80% of most vulnerable cities and centres of economic activity. ○ 9 States, including Bihar, UP, Assam, Rajasthan etc. from India are among world's top 50 regions. • Jiangsu and Shandong of China topped it.
<p>Climate Performance Index (CPI)</p>	<ul style="list-style-type: none"> • Released by: Observer Research Foundation • Aims to evaluate performance of G20 countries in climate change mitigation. • On CPI, India ranks first among all G20 members in terms of overall climate performance. <ul style="list-style-type: none"> ○ India's rank is attributed to factors like significantly low per capita contributions to emissions, Very limited share in legacy emissions relative to its population needs etc. • Note: It is different from Climate Change Performance Index (CCPI) published by German Watch, New Climate Institute and Climate Action Network.
<p>Global Sea-Level Rise and Implications Facts and Figures</p> 	<ul style="list-style-type: none"> • Released by: World Meteorological Organisation (WMO) • Key highlights of report: <ul style="list-style-type: none"> • Sea levels rose 4.5 mm a year on average between 2013 & 2022, the highest ever. <ul style="list-style-type: none"> ○ It is over three times higher than the rate at which they rose between 1901 and 1971. • Sea-level rise is not globally uniform and varies regionally. • India, China, Bangladesh, and Netherlands face the highest threat of sea-level rise globally. <div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">RISE IN SEA-LEVEL OVER THE YEARS</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>WHAT</p> <p>0.20 METRES Global mean sea-level rise from 1901 to 2018</p> <p>AVERAGE RATE OF RISE ANNUALLY</p>  </div> <div style="width: 45%;"> <p>WHY</p>  <p>"when water gets warmer, it causes volume of water to increase"</p> </div> </div> </div>
<p>Ozone Recovery Assessment Report, 2022</p>	<ul style="list-style-type: none"> • Released by: WMO, UNEP, NOAA, NASA and European Commission. • Key Findings: <ul style="list-style-type: none"> ○ Ozone Depleting Substances (ODS) levels in 2022 are back to those observed in 1980 before ozone depletion was significant. ○ Thickness of ozone layer expected to return to 1980 values around 2066 in the Antarctic, around 2045 in the Arctic region.
<p>Urban Forestry and Greening in Urban Drylands Report</p> 	<ul style="list-style-type: none"> • Produced in framework of Food and Agriculture Organization's (FAO) Green Urban Oases Programme, launched to improve resilience of dryland cities by tackling climate, health, food and economic challenges. <ul style="list-style-type: none"> ○ Program contributes to FAO's Green Cities initiative that was launched in 2020 to improve livelihoods and well-being of urban and peri-urban populations in at least 100 cities around the world in next three years. • Key highlights: Some 35% of the world's largest cities (including New Delhi, Cairo etc.) are built in the world's drylands facing a high risk of social, environmental, and economic crisis as they grow.
<p>Innovation in Plastics, The Potential and Possibilities</p>	<ul style="list-style-type: none"> • Released by: Marico Innovation Foundation and developed in association with Indian Institute of Science and Praxis Global Alliance <ul style="list-style-type: none"> ○ It examines plastic waste management ecosystem in India to identify challenges and opportunities with special emphasis on business and technological innovations. • Key findings of report <ul style="list-style-type: none"> ○ India produces 3.4 million tonnes of plastic waste in a year, only 30 percent of it is recycled. Rest of plastic waste is sent to landfills or aquatic dumps. ○ Maharashtra, Gujarat and Tamil Nadu together contribute 38 percent to total plastic waste generated in India. ○ 94% of recycled plastic waste is shredded in India using mechanical recycling method.

4.8. UPDATES

4.8.1. LADAKH'S FIRST BIODIVERSITY HERITAGE SITE

- Local **Biodiversity Management Committee**, concerned panchayat, along with **SECURE Himalaya Project** recently resolved to **declare Yaya Tso as Ladakh's first biodiversity heritage site (BHS)**.
- Yaya Tso is a **nesting habitat** for a large number of birds and animals, such as the bar-headed goose, black-necked crane and brahminy duck.
- It is one of the **highest breeding sites** of the black-necked crane in India.

SECURE Himalaya

- A joint project of **Ministry of Environment, Forest and Climate Change and United Nations Development Programme (UNDP)**, funded by **Global Environment Facility**.
- Aimed at **conservation and protection** of the high-altitude ecosystems of the Himalayas.

4.8.2. SOUTH AFRICA TRANSLOCATES 12 CHEETAHS TO INDIA

- India and South Africa signed a MoU** on Cooperation on Re-introduction of Cheetah to India with an aim to **expand cheetah meta-population** and to **reintroduce cheetahs to a former range state**.
 - Cheetahs were made available by **Phinda Game Reserve, Tswalu Kalahari Reserve, Waterberg Biosphere, Kwandwe Game Reserve and Mapesu Game Reserve** and will join Cheetahs relocated to **Kuno National Park in Madhya Pradesh** (from Namibia).
 - Plan is to translocate a further **12 annually for next eight to 10 years**.

4.8.3. RBI TO ISSUE SOVEREIGN GREEN BONDS (SGRBs) IN TWO TRANCHES OF RS 8000 CRORE EACH

- RBI will issue 5-year and 10-year green bonds** of Rs 4,000 crore each in current financial year.
- Green bonds are **bonds issued by any sovereign entity, inter-governmental groups or alliances** and corporates with the aim that **proceeds of bonds are utilised for environmentally sustainable projects**.
 - SGRBs were announced in Union Budget 2022-23 and framework for SGRBs was issued** (by Ministry of Finance) **in November 2022**.
- SGRBs by RBI will be**
 - Issued through Uniform Price Auction** and 5% will be reserved for retail investors.
 - Eligible for Repo and Statutory Liquidity Ratio (SLR) purpose**.
 - Eligible for trading in the secondary market**.
 - Designated as specified securities for investment in Government Securities by non-residents**.

4.8.4. ROOFTOP SOLAR (RTS) PROGRAMME

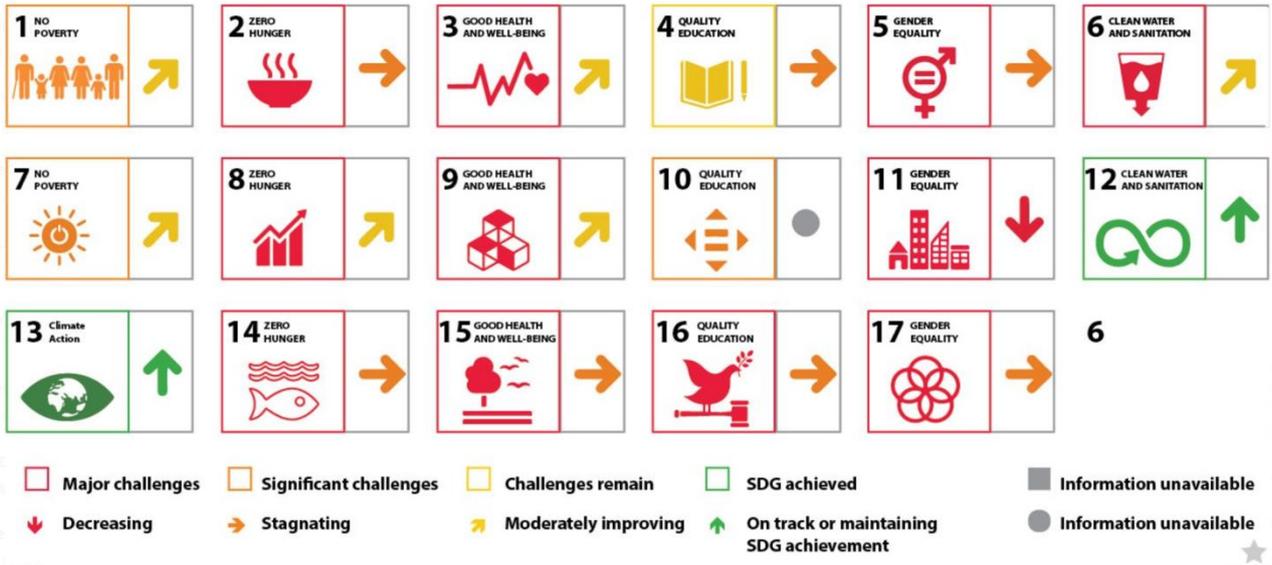
- Ministry of New & Renewable Energy stated** that there will be a **uniform rate of central financial assistance (CFA)** for installation of residential RTS projects under **second phase of programme**.
- Government, in 2015, approved **Grid Connected Rooftop and Small Solar Power Plants Programme** for installation of 4,200 MW RTS plants in the country by year 2019-20.
 - In 2019, Phase-II was approved** for achieving cumulative capacity of **40 GW RTS plants by 2022** (extended till 2026).
 - Presently, **different CFA/Subsidy rate is provided** (based on kilowatt requirements) **to the residential electricity consumers under RTS programme**.

4.9. ERRATA

PT 365 Environment (April 2022-December 2022)

- Article 3.2.10 Species in News**, the information on size of Asiatic lions and African lions was reversed due to a typographical error. The correct information is that **Asiatic lions are slightly smaller than African lions**.
- Article 4.1. SUSTAINABLE DEVELOPMENT REPORT 2022**, In "India's Performance on SDGs" infographic, due to a typographical error SDG 13 has been incorrectly mentioned as "No Poverty". The correct information is **SDG 13 refers to Climate Action**.

India's Performance on SDGs



#PrelimsIsComing

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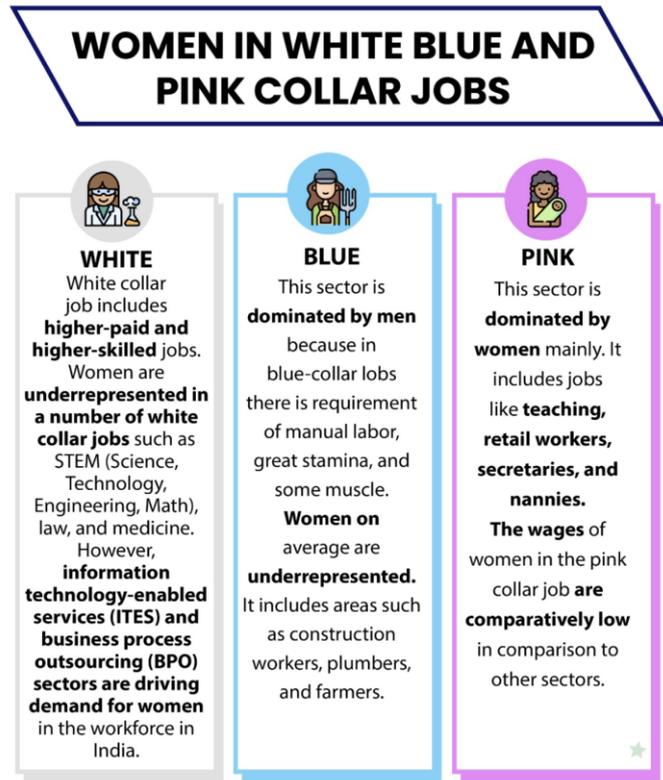
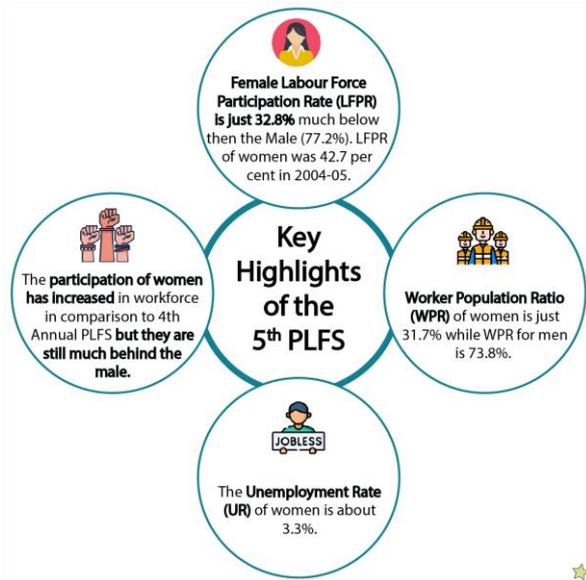
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5. SOCIAL ISSUES

5.1. WOMEN IN WORKFORCE

Why in News?

President in her recent speech asserted that **low participation of women in the work force is a major hindrance in the overall development of the country.**



5.2. GENDER BUDGETING

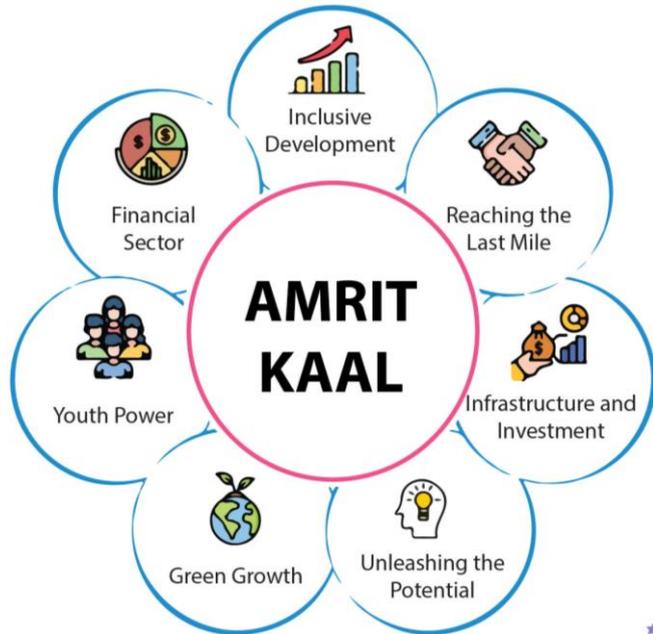
Why in News?

Recently, in Union Budget 2023, gender budgeting is pitched as a powerful fiscal innovation for women's empowerment

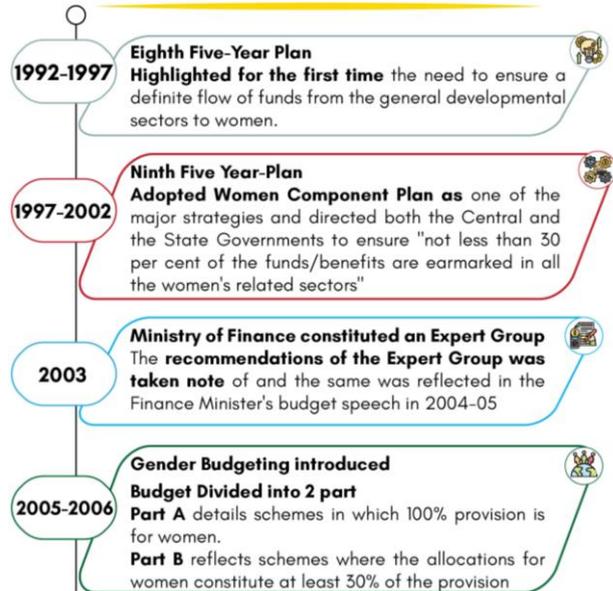
More on News

- Government recognizes the importance of **Nari Shakti** (women power) during the **Amrit Kaal** (the 25-year-long lead-up to India@100).
- Government focus is inclusive development, which is also the first “saptarishis” or the seven principles guiding the outlook.
- The estimated Gender Budget stood at **4.96% of the total expenditure this year**, compared to 4.33% 2022-23.

'SAPTARISHI' - 7 PRIORITIES OF BUDGET 2023-24



TIMELINE OF INDIA'S GENDER BUDGETING



About Gender Budgeting (GB)

- It entails **dissection of the Government budgets** to establish its gender differential impacts.
- It seeks to ensure that gender commitments are translated in to budgetary commitments.
- It is not an accounting exercise but an **ongoing process of keeping a gender perspective in policy/programme formulation**, its implementation and review.
- Currently, India's gender Budget remains concentrated in five key Ministries:
 - **Rural Development.**
 - **Women and Child Development.**
 - **Agriculture.**
 - **Health and Family Welfare.**
 - **Education.**
- Also, it has remained in the range of 4 to 6% of the total expenditure and less than 1% of its GDP.

Discrepancy in Counting the Female Labour Force Participation Rate (FLFRR)

- Experts have highlighted **three main measurement issues** which leads reduce the overall FLFRR. These include
 - **Overly broad categories,**
 - **Reliance on a single question to categorise labour force status, and**
 - **Narrow approach of limiting productive work to labour force participation.**
- According to **International Labour Organisation (ILO)** research, female LFPR was 56.4 % in India for 2012, against the far lower official estimate of 31.2 % for 2012.

5.3. PARTICULARLY VULNERABLE TRIBAL GROUPS (PVTG'S)

Why in News?

In the 2023-24 Union Budget, **Pradhan Mantri PVTG (Particularly Vulnerable Tribal Groups) Development Mission (PMPDM)** was announced for the socio-economic development of the group.

About PMPDM Mission

- It has been launched as part of 'Reaching the Last Mile', one of the seven Saptarishi priorities enlisted in the Budget.
 - ₹15,000 crore will be made available to implement the Mission in the next three years under the **Development Action Plan for the Scheduled Tribes.**
- It will empower the PVTGs with **safe housing, clean drinking water, education, nutrition, road and telecom connection and livelihood.**

About Particularly Vulnerable Tribal Groups (PVTGs)

- PVTG (earlier known as Primitive Tribal Groups) is the category within Scheduled Tribes created on the recommendation of **Dhebar commission (1973).**
- Initially there were only **52 tribal group as PVTG's but their raised to 75 PVTGs** out of 705 Scheduled Tribes.
- PVTGs reside in **17 States and UT of Andaman & Nicobar Islands.**
- The highest number of PVTGs are found in **Odisha (13)** followed by **Andhra Pradesh (12).**
- Currently some **PVTGs are vulnerable to extinction like Onge and Andamanese.** Apart from this, **low levels of literacy (10 to 44%)** is also prevalent.
- Also, they face certain administrative hurdles like **Forest Rights Act (FRA), 2006** provides for only **4 hectares land allocation** to them.
 - Plus, the **PESA (Panchayat Extension to Scheduled Areas Act)** has not been operationalised adequately in areas with PVTGs.

CRITERIA FOR IDENTIFICATION OF PVTG


 Pre-agricultural level of technology


 Low level of Literacy


 Economic backwardness


 A declining or stagnant Population

Other Initiatives for PVTG's

- Indigenous and Tribal Populations Convention, 1957** has been adopted by the International Labour Organisation (ILO).
- Community Development Program, Multipurpose Tribal Blocks, Tribal Development Block, Tribal sub-Plan (TSP)** etc.
- Restricted Area Permit** i under the **Foreigners (Restricted Areas) Order, 1963.**
- Scheme for Development of Primitive Vulnerable Tribal Groups (2008)** for **housing, agriculture, roads, energy, etc.**

Related News

Hakku Patra

- The PM has recently **distributed the Hakku patra to the members of Banjara tribes in Karnataka.**
 - The Banjaras** (also known as **Lambadi, Gour Rajput, Labana**) are a **historically nomadic trading caste** who may have origins in the Mewar region of Rajasthan.
- Hakku Patra** a **legal document that details a person's legitimate inheritance or ownership** of a particular property.

5.4. EDUCATIONAL REPORTS IN NEWS

5.4.1. ALL INDIA SURVEY ON HIGHER EDUCATION (AISHE) 2020-2021

Why in news?

Ministry of Education (MoE) released All India Survey on Higher Education (AISHE) 2020-2021.

More on news

- AISHE has been conducted since 2011 by MoE **covering all higher educational institutions located in country.**
 - For the first time, Survey **collected data using an entirely online data collection platform through Web Data Capture Format (DCF).**
 - DCF was developed by **Department of Higher Education** through the **National Informatics Centre (NIC)**

Key Findings

Specification	2020-21	Trend w.r.t 2014-15
Total student enrolment: UP, Maharashtra, TN, are top 3 States.	4.14 crore	21% rise
Female enrolment	2.01 crore	28% rise
Percentage of female enrolment to total enrolment	49%	4% rise
Gross Enrolment Ratio (GER): Percentage of students belonging to eligible age group (18-23 years) enrolled in Higher Education	27.3	3-point rise
Gender Parity Index (GPI): Ratio of female GER to male GER	Increased from 1 in 2017-18 to 1.05	----
<ul style="list-style-type: none"> Institutes of National Importance (INIs) Enrolment in INIs 	<ul style="list-style-type: none"> 149 61% 	<ul style="list-style-type: none"> Almost doubled (75) Increased
Female per 100 male faculty	75	Increased (63)

5.4.2. ANNUAL STATUS OF EDUCATION REPORT (ASER) 2022

Why in news?

Annual Status of Education Report (ASER) 2022 was released by NGO Pratham.

About the report

- ASER (first conducted in 2005) is an **annual, citizen-led household survey** to understand whether children in rural India are enrolled in school and whether they are learning.
- ASER 2022 is **first field based 'basic' nationwide ASER** since 2018.
 - In ASER 2022, around 7 lakh children in **age group of 3 to 16 years** were surveyed to record their **schooling status** and **assess their basic reading and arithmetic skills**.

Key Findings

Parameters	Trend
Overall enrollment in age group 6-14	98.4%
Proportion of 15-16-year-old girls not enrolled	7.9%
Children taking Paid private tuition classes from 1 st to 7 th standard	30.5%
Reading ability of class 3	20.5%
Arithmetic ability (subtraction) of class 3	25.9%
Average teacher attendance	87.1%
Schools with drinking water available	76%
Schools with useable girls' toilets	68.4%

5.4.3. FOUNDATIONAL LITERACY AND NUMERACY REPORT

Why in news?

The second edition of the Foundational Literacy and Numeracy report of the **Economic Advisory Council to the Prime Minister (EAC-PM)** has been released.

More on news

- The report was prepared by the **Institute for Competitiveness (IFC)** — the Indian wing of the Institute for Strategy and Competitiveness at Harvard Business School.
- Report presented an **index on the overall state of FLN across children aged below ten years**.
- It compares states on **36 indicators across five key domains**.

Key findings of the report

Literacy	Numeracy	States' performance
<ul style="list-style-type: none"> Punjabi language has the best performance Only Telugu and Mizo have more than 30% students who meet Global Proficiency Level. Tamil, Konkani, Assamese and Bodo language have the poorest performance 	<ul style="list-style-type: none"> 42% of the students meet the global minimum proficiency Higher percentage of girl student's performed low as compared to the boys 	<ul style="list-style-type: none"> Key high performing states: Punjab topped all key indicators; Rajasthan and Sikkim also performed well in some parameters Key underperforming states: Meghalaya, Telangana and Uttar Pradesh performed poorly on various parameters

Snapshot of Key Reports

Report	Released by	Class	Methodology	Frequency
Annual Status of Education Report (ASER)	NGO Pratham	Estimates of children's schooling status for all children aged 3-16	Face to face interactions with children and teachers in rural India annually	Annually
National Achievement Survey (NAS)	Ministry of Education	Evaluates learning outcomes of students in Classes III, V, VIII and X	MCQs based, conducted	Once every three years
Foundational literacy and numeracy (FLN) report	Institute for Competitiveness (IFC), and EAC-PM (Economic Advisory Council to Prime Minister)	---	Data from: UDISE+, NSSO, NFHS, NAS, budget	Once every two years (Biennial)
Foundational Learning Study (FLS)	MoE and NCERT in collaboration with States/UTs and supported by UNICEF	Only for grade III students	One-to-one interviews with each participant	--

5.5. NATIONAL DIGITAL UNIVERSITY (NDU)

Why in news?

Framework of National Digital University (NDU), as envisioned under the **National Education Policy, 2020** was revealed.

About NDU and its framework

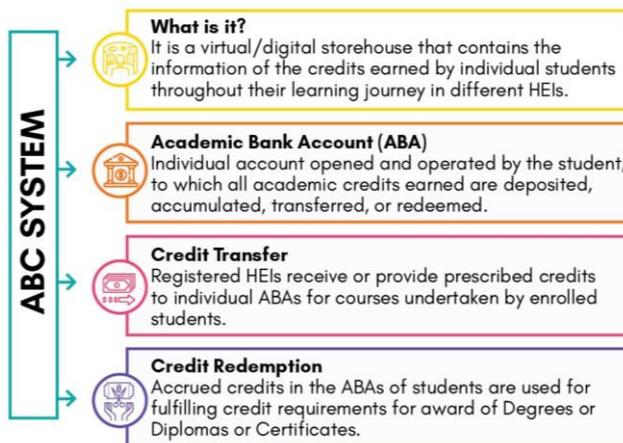
- NDU is a university designed to bring together various higher educational institutions (HEIs) for providing online higher educational courses.

Samarth Portal

- Sponsored by Ministry of Education under the **National Mission on Education through Information and Communication Technology**, NMEICT-II (now NMEICT-III) scheme in 2019.
- It integrates technology and allows HEIs to deploy a digital framework for planning, management, delivery, and monitoring of education services in a seamless manner.

Framework for NDU

- **Online Courses:** Offered by partner institutes (both private and public universities).
- **Functioning Model:** Hub-and-spoke model where the courses will be offered 'Study Webs of Active-Learning for Young Aspiring Minds (SWAYAM)' portal.
 - IT and administrative services will be provided through the government's **Samarth portal**.
- **Courses type:** The students can opt for **certificate, diploma, or degree courses**.
 - **Credit based university degree:** Courses will hold a certain number of credits.
 - ✓ Students will be eligible for a degree from a particular institute on accumulating 50% of the credits.
 - **NDU degree:** If a student earns credits from multiple institutions and crosses the credit threshold, the degree awarded will be by NDU.
- **Number of seats:** There will be an **unlimited number of seats** for every course.
- **ABC system:** Use of standardised **Academic Bank of Credits (ABC) system**, established by the University Grants Commission (UGC) to facilitate academic mobility.



5.6. DRAFT NATIONAL MEDICAL COMMISSION (AMENDMENT) BILL-2022

Why in News?

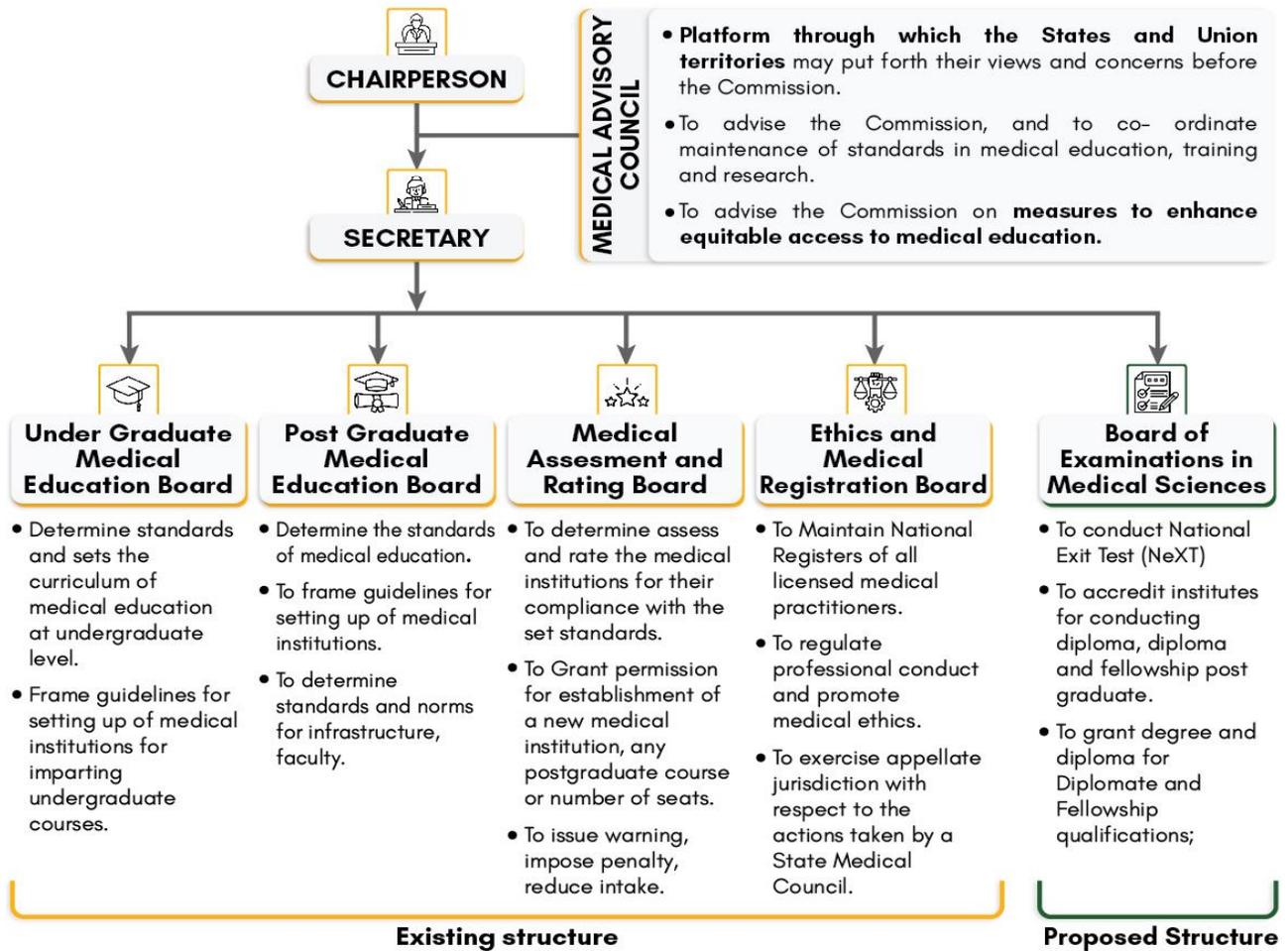
The Ministry of Health and Family Welfare (MoHFW) has proposed a draft amendment, to the existing **National Medical Commission Act-2019**.

Reasons for the Introduction of Amendment Bill

- To Streamline the process by replacing the existing **National Board of Examinations in Medical Sciences**, which currently conducts the **NEET-PG and the Exit tests**.
- To ease the litigation burden by altering the **jurisdiction limits to Delhi HC**.
- **Ethics and Medical Registration Board or the National Medical Commission** as the appellate body, over the decisions of the State Medical Councils in cases of medical negligence.

National Medical Commission (NMC)

- Constituted in 2020 by the **National Medical Commission Act, 2019**.
- Succeeded the then **Medical Council of India** which was constituted under the Indian Medical Council Act, 1956.



FUNCTIONS OF NMC



5.7. EUTHANASIA

Why in News?

Recently, Supreme Court simplified its rules on passive euthanasia.

Background

- In a 2018 judgement (Common Cause v Union of India), SC had recognised the right to die with dignity as part of Article 21 of the Constitution.
 - It had, accordingly, upheld the legal validity of passive euthanasia.
- It was argued that the directions had become virtually unenforceable owing to the complexity of the procedure prescribed by SC.
 - Thus, necessary amendments were sought to make the judgement 'workable'.
- Accordingly, several changes were introduced by the five-judge bench in the guidelines laid down in 2018 with respect to the execution and enforcement of advance medical directives, as well as the procedure for passive euthanasia.
 - Advance medical directives or living will is a legal document that extends a person's autonomy and control over their healthcare decisions in the event they become incapacitated.

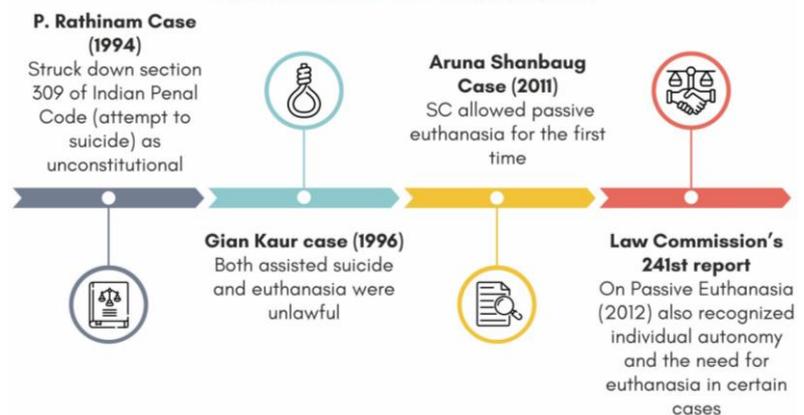
KNOW THE TERM



- **Euthanasia:** It is practice of ending life of a patient to limit the patient's suffering. Euthanasia, which can be administered only by a physician, can be either 'active' or 'passive'.
 - **Active euthanasia** involves an active intervention to end a person's life with substances or external force, such as administering lethal injection.
 - > Allowed in Netherland, Belgium, Canada etc.
 - **Passive euthanasia** refers to withdrawing life support or treatment that is essential to keep a terminally ill person alive.
 - > Allowed in India, Finland, Germany etc.



Timeline of Euthansia



Key aspects of the Judgment

Specification	Now	Earlier (2018)
Living will	An attestation by a notary or a gazetted officer to be sufficient for living will	Attestation or countersign by a judicial magistrate is mandatory
Access to living will	Living will to be a part of national health record which can be accessed by Indian hospitals	Living will was kept in the custody of district court
Primary board to examine patient condition	3 doctors including the treating physician and 2 other doctors with 5 years of experience in speciality	At least 4 experts from general medicine cardiology, neurology, nephrology psychiatry or oncology with overall standing of at least 20 years
Time taken to decide on withdrawal of life support	Primary/secondary board shall decide 48 hrs on withdrawal of further treatment	No specific time period
Secondary board	Hospital must immediately constitute a secondary board of medical experts	The district court had to constitute a secondary board of medical experts
Surrogate decision-maker	More than one guardian or close relative can be named. Before a final opinion consent of all the nominees will be taken.	Only one guardian or close relative was to be named. Before a final opinion, the consent of the guardian or close relative would also be taken.

Role of district court registry	This requirement has been deleted.	Judicial magistrate to forward a copy of the document to the registry of the jurisdictional district court, which would have to retain the document in the original format.
Ascertaining authenticity	Treating physician to execute the advance directive after ascertaining its authenticity with reference to the digital records of the executor, or from the custodian of the document appointed by the local government body.	Treating physician had to execute the advance directive after ascertaining its authenticity from the judicial magistrate.
Appeal before High Court	If permission to withdraw treatment was denied a writ petition at the jurisdictional High Court can be filed.	If permission to withdraw treatment was denied a writ petition at the jurisdictional High Court can be filed.

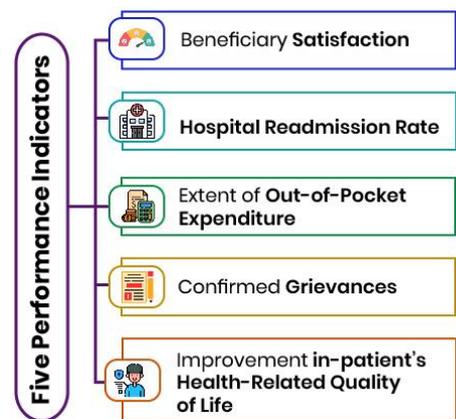
5.8. AYUSHMAN BHARAT PRADHAN MANTRI JAN AROGYA YOJANA (AB PM-JAY)

Why in news?

National Health Authority (NHA) has introduced new system under AB PM-JAY to grade hospital performance.

More on news

- New initiative will introduce the concept of ‘value-based care’, where payment will be outcome based and providers will be rewarded according to quality of treatment delivered.
- It aims to focus on measuring the performance of hospitals from volume of services provided to value of healthcare services under AB PMJAY.
 - Performance of AB PM-JAY empaneled hospitals will be measured based on five performance indicators (refer image).
 - Performance shall be made available on public dashboard that will help beneficiaries to make an informed decision.



About AB PMJAY

- It was launched as a component of the Ayushman Bharat as recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC).
 - Another component of the Ayushman Bharat is Health and Wellness Centres (HWCs) to deliver Comprehensive Primary Health Care (CPHC).
- **Insurance Coverage:** It provides a cover of up to Rs. 5 lakhs per family per year for secondary and tertiary care hospitalization.
- **Funding pattern:** It is a Centrally Sponsored Scheme
 - Funding pattern is in ratio of 60:40 for States and UTs with legislature; 90:10 for North Eastern States and three Himalayan States (J&K, Himachal Pradesh and Uttarakhand), and 100% for UTs without legislature.
- **Beneficiaries: Identification of beneficiaries** is done on the basis of Socio Economic Caste Census, 2011.
 - No cap on family size and age in scheme.
 - Covers pre-existing diseases and benefits are available across country.
- **Nodal Body:** National Health Authority is implementing agency.

5.9. NEW ORGAN TRANSPLANTATION GUIDELINES

Why in News?

In a recent move aimed at improving the organ donation and transplantation system in India, the Ministry of Health and Family Welfare (MoH&FW) has introduced several changes to the National Organ Transplantation Guidelines.

New Guidelines

- **Upper limit changed:** Removed age cap of 65 years for receiving an organ from a dead donor. However, preference will still be given to younger recipients.
- **Removed domicile requirement:** Now, needy patient can register to receive an organ in any state and will be able to get the surgery done there.
- **No Registration fee:** States have been asked not to charge recipients for registration on waiting lists for organs.
- **Benefits of changes:** Ease process of organ transplantation and donation, benefits to end-stage patients suffering from organ-related diseases.

NATIONAL ORGAN TRANSPLANT PROGRAM (PERIOD: 2021-22 to 2025-26)

- To promote deceased organ and tissue donation including pledging for the same.
- To train required manpower for Organ & Tissue Donation, Retrieval & Transplant.
- To establish and operationalize Digital National Organ & Tissue Donation and Transplant Registry.
- To establish new and strengthen the existing organ and tissue retrieval and transplant infrastructure facilities especially in public sector hospitals/institutions.
- To organize an efficient mechanism for organ and tissue procurement/retrieval especially from deceased donors and their distribution for transplantation.



National Organ and Tissue Transplant Organisation (NOTTO)



Ministry: Ministry of Health and Family Welfare.



Mandate:

- ♦ Function as apex centre for All India activities of coordination and networking for procurement and distribution of Organs and Tissues.
- ♦ Function as registry of Organs and Tissues Donation and Transplantation in the country.
- ♦ Lay down policy guidelines and protocols for various functions.



Divisions:

- ♦ National Human Organ and Tissue Removal and Storage Network.
- ♦ National Biomaterial Centre (National Tissue Bank): Established under the National Organ Transplant Programme (NOTP) for storing tissues at NOTTO, New Delhi.

Organ Donation and Transplantation in India



Organ donation and transplantation is removing an organ from one person (the donor) and surgically placing it in another (the recipient) whose organ has failed.



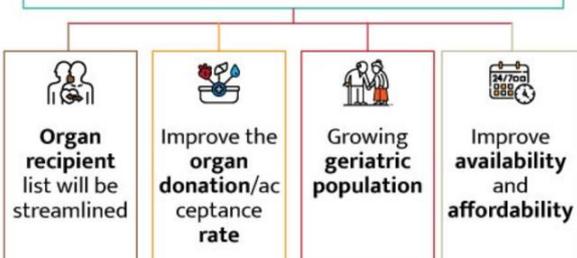
Organ donation can either be from a living donor or a deceased donor.



Present Status

- 3rd-largest country in terms of the number of transplants
- 17.8% of all transplants organs from deceased donors
- 1.5-2 lakh people need a kidney transplant each year

Need of One Nation-One Policy for Organ Donation & Transplantation in India



Law and Regulation



The Transplantation of Human Organs Act, 1994 regulates the removal and storage of human organs, as well as the transplantation of organs for therapeutic purposes and to prevent the illicit trade of human organs.

- › Accepted brain death as a form of death and made the sale of organs a punishable offence.
- › Establishes the **National Organ and Tissue Transplant Organisation (NOTTO)** and **State Organ and Tissue Transplant Organisation (SOTTO)** to oversee organ transplantation.



Transplantation of Human Organs (Amendment) Act, 2011 and the rules were notified in 2014.

- › **National Network for coordination** needs to be set up for registered hospitals.
- › Widens the donor pool by including grandparents and grandchildren.
- › **Appointment of Transplant coordinator** in every registered hospital.
- › **Regulation of the hospitals.**



5.10. JAL JEEVAN MISSION (JJM)

Why in news?

For Jal Jeevan mission, Budgetary allocation has been raised by 27% for financial year 2023-24 (FY24).

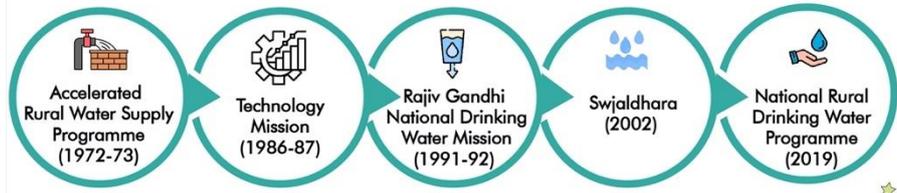
About Jal Jeevan Mission (JJM)

- In 2019, Government of India restructured and subsumed the ongoing National Rural Drinking Water Programme (NRDWP) into JJM.
- **Objectives**
 - To provide **Functional Household Tap Connection (FHTC) to every rural household** i.e., Har Ghar Nal Se Jal (HGNSJ) by 2024.
 - To **prioritize provision** of FHTCs in quality affected areas, villages in drought prone areas etc.
 - To provide **functional tap connection** to Schools, Anganwadi centres, Health centres etc.
 - To **monitor functionality** of tap connections.
 - To assist in **ensuring sustainability** of water supply system.
 - To **bring awareness** on various aspects and significance of safe drinking water etc.



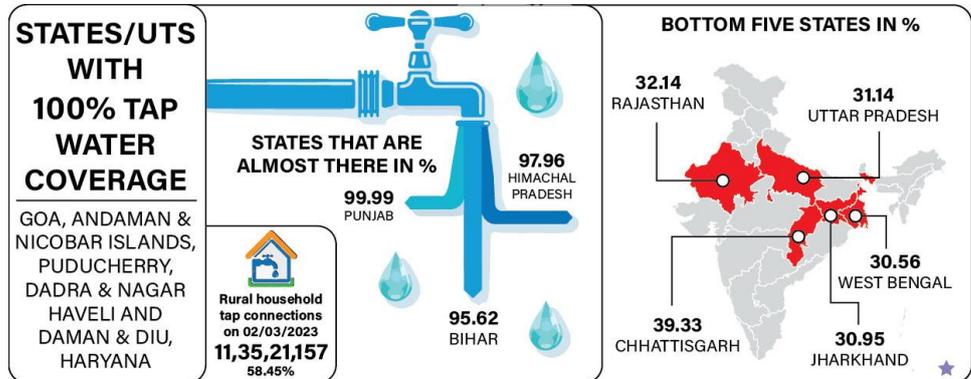
According to **World Health Organization (WHO)**, between **50 and 100 litres of water per person per day** are needed to ensure that most basic needs are met.

Programmes and Missions for Rural water supply in India



Reforms taken under Jal Jeevan Mission

- **Focus Reorientation:** Shift of focus for water supply from 'habitations to households'.
- **Capacity Building:** Training and skilling programme to build the capacity at local level to ensure service delivery.
- **Sustainability:**
 - **Community ownership** to ensure 'long-term sustainability' and major roles to Self-Help Groups (SHGs), NGOs, , etc.
 - **50% members** of VSWC/ Pani Samitis are to be **women and proportionate representation of weaker sections** of society.
- **Incentivisation:** Performance grant as incentive to States/ UTs based on nation-wide functionality assessment.
- **Technological interventions:** A dedicated 'Mobile App' for stakeholders; **geo-tagging every asset** created; Linkage of tap connection with **Aadhar number of the 'head of household'** etc.



Related news

Jal Jan Abhiyan (JJA)

- Prime Minister virtually inaugurated Jal Jan Abhiyan in Rajasthan.
- JJA is jointly run by **Ministry of Jal Shakti**, and **Brahma Kumaris organization**.
 - It is a positive initiative towards **water conservation** to save humans and humanity.
- Campaign is based on idea that **goal of water conservation can be achieved only by creating collective consciousness among people** towards water conservation.

5.11. CENSUS

Why in news

According to the Office of the Registrar General and Census Commissioner of India, Census is postponed by at least 4 years to 2024-25.

More on news

- Citing the **on-going COVID pandemic**, the office of RGI has **extended the deadline of freezing of administrative boundaries to June 30, 2023** (extended multiple times since COVID).
 - As per **Rule 8 (iv) of Census Rules, 1990**, the boundaries of the **administrative units shall be frozen from the date intimated by the Census Commissioner**, which shall not be earlier than one year from the Census reference date.
 - As **general elections are scheduled** for early 2024, it would not be possible to **conduct Census operations before polls**.



- **National Population Register (NPR)** is a register of **all usual residents** of the country regardless of whether they are citizens/non-citizens of India.
- **First compiled in 2010** and **updated in 2015**.
- Prepared under provisions of **Citizenship Act 1955 and Rules, 2003**

About the Census Process

- The responsibility of **conducting the decadal census** rests with the **Office of the Registrar General and Census Commissioner of India, Ministry of Home Affairs**.
- **Before every Census**, the states are required to provide **information to the RGI on changes in the number of administrative units** like towns, districts, etc.
 - The number of **districts changed from 640 in 2011 to 736 in 2022**.
- Then the **Census Operations** is carried out in two phases: -
 - **House listing and Housing Census**- As per the recent amendments to Census Rules this phase also carries **enumeration of National Population Register (NPR)**.
 - **Population Enumeration**- During this **each person is enumerated and her/his individual particulars** (Age, Marital status, Religion, etc).

Related news

Caste Census

- Recently, **Supreme Court declined to entertain petitions** against caste-based census in Bihar.

About Caste Census

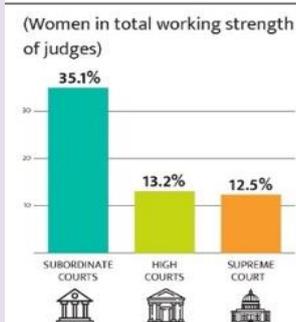
- Caste Census is the **caste-wise tabulation of population in the census exercise**.
- **Every Census in independent India from 1951 to 2011** has published data on **Scheduled Castes and Scheduled Tribes, but not on other castes**.
- Before that, every Census **until 1931 had data on caste**.
- Earlier in 2011 attempt was made towards Caste Census by **conducting the Socio Economic and Caste Census (SECC)**.
- **Rohini Commission was another attempt** by categorization within OBCs for better targeted service delivery.

5.12. OTHER IMPORTANT NEWS

Women in Judiciary

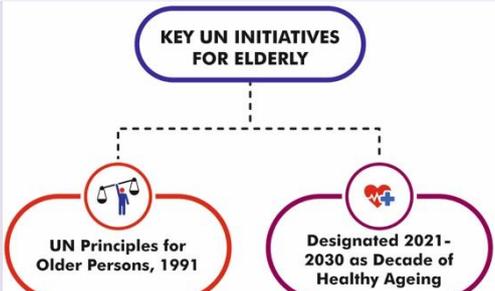
- Recently, SC had an all-woman bench which was only the third time in its history.
- **Only three times (2013, 2018, 2022) in history of SC** all women benches were formed.

Women in Judiciary Status in India



NO WOMAN JUDGE IN FIVE HIGH COURTS



	<ul style="list-style-type: none"> This third all women benches heard transfer petitions involving matrimonial disputes and bail matters. Supreme court currently has only 3 women judges, and the country will get its first woman Chief Justice only in 2027.
Section 497 of Indian Penal Code (IPC)	<ul style="list-style-type: none"> SC in its clarification to 2018 judgement ruled that armed forces can take action against their officers for adulterous acts. SC in 2018 judgement decriminalized adultery by striking down Section 497 of IPC dealing with the offence of adultery, holding it unconstitutional. Section 497 imposed culpability on a man who engages in sexual intercourse with another man's wife. Women were exempted from such prosecution.
Family Courts (FC)	<ul style="list-style-type: none"> Madras HC quashed a Khula (divorce) certificate issued to a woman by Shariat Council of Tamil Nadu. <ul style="list-style-type: none"> HC asserted that only judicial forums were empowered to pass a decree to dissolve a marriage under Section 7(1)(b) of Family Courts (FC) Act, 1984. FC Act, 1984 was enacted for establishment of FCs to promote conciliation, and secure speedy settlement of disputes relating to marriage and family affairs and for related matters. <ul style="list-style-type: none"> State Government may, with concurrence of HC, appoint one or more persons to be Judge or Judges of a FC.
Grameen Udyami Programme	<ul style="list-style-type: none"> Ministry of Skill development and Entrepreneurship facilitated 200 tribal women under Grameen Udyami Programme. Programme aims to build skills and spirit of entrepreneurship among tribal communities for their inclusive and sustainable development. Programme is held under Sansadiya Sankul Pariyojana (SSP) which aims to expand rural and local economy, enhance employment opportunities, conservation of natural resources, etc.
Children Identity and Right to Privacy	<ul style="list-style-type: none"> SC ruled that Children's right not to have their legitimacy questioned frivolously is part of their Privacy Rights. Also, SC stated that <ul style="list-style-type: none"> Genetic information is personal and intimate, and Family courts should direct for a DNA test to ascertain paternity of a child only in expedient situations and in interest of justice, as a last resort. Right to Privacy is an intrinsic part of the right to life and personal liberty under Article 21 (Justice K.S. Puttaswamy (Retd) vs Union of India). UN Convention on Rights of the Child also recognises rights of privacy, autonomy and identity of children.
Draft guidelines on assessing if minors can be tried as adults	<ul style="list-style-type: none"> It has been framed by the National Commission for Protection of Child Rights (NCPCR) for Conducting Preliminary Assessment under Section 15 of Juvenile Justice (Care and Protection of Children) Act, 2015. <ul style="list-style-type: none"> It is in compliance with Supreme Court directive (Barun Chandra Thakur vs Master Bholu).
	<div style="text-align: center;">  <p>DO YOU KNOW?</p> </div> <div style="border: 2px solid blue; padding: 10px; margin-top: 10px;"> <ul style="list-style-type: none"> Earlier, all under the age of 18 were considered minors. It was amended in 2015 to add a provision wherein a child in age group of 16-18 years could be tried as an adult in case of heinous offences. Juvenile Justice Board (JJB) carries physical and mental assessment to determine whether to try such a child as an adult or a minor. </div>
World Social Report 2023: Leaving no one behind in an ageing world	<ul style="list-style-type: none"> Published by: he UN Department for Economic and Social Affairs (DESA) Report builds on framework of Madrid International Plan of Action on Ageing (MIPAA). <ul style="list-style-type: none"> MIPAA was adopted at second World Assembly on Ageing in April 2002. Key Findings Number of persons aged 65 years or older is expected to double over next three decades surpassing 1.6 billion in 2050.
	<div style="text-align: center;"> <p>KEY UN INITIATIVES FOR ELDERLY</p>  </div>

	<ul style="list-style-type: none"> • Northern Africa and Western Asia and sub-Saharan Africa are expected to experience fastest growth. • Poverty levels at older ages are typically higher among women.
Rat-hole mining	<ul style="list-style-type: none"> • A High Court appointed committee has refuted Meghalaya Government's estimate of coal extracted before National Green Tribunal (NGT) banned rat-hole mining in April 2014. • Rat-hole mining involves digging of narrow tunnels, usually 3-4 feet high, which workers (often children) enter and extract coal. <ul style="list-style-type: none"> ○ It is mostly practiced in Meghalaya because of thinness of coal found there. • In 2019, Supreme Court stated that if coal mining is done under Mines and Minerals (Development and Regulation) Act and Mineral Concession Rules 1960, NGT ban will not be applicable.
Manual Scavenging	<ul style="list-style-type: none"> • Kerala became the first state in the country to use robotic technology to clean all its commissioned manholes. • The robotic scavenger 'Bandicoot' to clean sewages functions in a similar way such as a person. • It has features of being waterproof, HD vision cameras, and sensors that can detect harmful gases inside the manholes.
Lokur Committee, 1965	<ul style="list-style-type: none"> • Experts have pointed that Office of Registrar-General of India (RGI) follows 'obsolete' criteria set out by Lokur Committee to define any new community as a Scheduled Tribe (ST). • Criteria set out by Lokur Committee are indications of primitive traits, distinctive culture, geographical isolation, shyness of contact with community at large, backwardness. • New criteria under government consideration included socio-economic (educational, backwardness), historical geographical isolation, etc.
Jadui Pitara: A Learning - Teaching Material (LTM)	<ul style="list-style-type: none"> • It is a play-based Learning-Teaching Material tailored for children between the age group of 3-8 years. • It is developed under the National Curriculum Framework is available in 13 Indian languages. • It comprises of playbooks, toys, puzzles, posters, flash cards, etc.
PARAKH (Performance Assessment, Review and Analysis of Knowledge for Holistic Development)	<ul style="list-style-type: none"> • The Educational Testing Service (ETS), which administers international tests like TOEFL, TOEIC, GRE, and PISA among others in more than 180 countries, has won the bid to set up PARAKH. • PARAKH has been launched as part of the implementation of the National Education Policy (NEP)-2020. • PARAKH will work on setting norms, standards and guidelines for student assessment and evaluation for all recognised school boards in the country. <div style="border: 1px solid black; padding: 10px; margin-top: 10px;"> <p style="text-align: center;">Major Assessment Areas Under PARAKH</p> <p>The diagram illustrates the three major assessment areas under PARAKH. It features a central title 'Major Assessment Areas Under PARAKH' at the top. Below the title, three boxes are arranged horizontally, each containing an icon and a label. The first box has a magnifying glass icon and is labeled 'Large-scale Assessments'. The second box has a school building icon and is labeled 'School-Based Assessment'. The third box has a document with a pencil icon and is labeled 'Examination Reforms'.</p> </div>
School Health & Wellness Programme	<ul style="list-style-type: none"> • Almost three years after its implementation, program has less than 50% uptake and so far only 15 States have started classroom sessions with students. • School Health & Wellness Programme <ul style="list-style-type: none"> ○ It has been incorporated under Ayushman Bharat Programme. ○ It is being implemented in government and government aided schools in districts (including aspirational districts). ○ Two teachers, preferably one male and one female, in every school are designated as "Health and Wellness Ambassadors" to transact with school children for one hour every week.
Higher Education Financing Agency (HEFA)	<ul style="list-style-type: none"> • HEFA has fallen way short of government's target of mobilising Rs 1 lakh crore by 2022.

	<div style="text-align: center;">  <h2 style="margin: 0;">HIGHER EDUCATION FINANCING AGENCY (HEFA)</h2> </div> <p>About: HEFA incorporated in 2017, is a joint venture of Ministry of Education (90.91% equity) and Canara Bank (09.09% equity).</p> <p>Objective: Developing India's top-ranked institutions like IIT's, IIIT's, NIT's, IISCs, AIIMS into Globally top ranking institutions.</p> <p>Legal status: Registered under Section 8 (Not-for-profit) under the Companies Act 2013 as a Union Govt company and as Non-deposit taking Systematically Important (NBFC-ND-SI) with RBI.</p> <p>Function: Financing creation of capital assets in premier educational institutions.</p> <p>Other Key Information:</p> <ul style="list-style-type: none"> Under "Revitalising Infrastructure & Systems in Higher Education (RISE by 2022), HEFA has been authorized to leverage and mobilise resources from the market through commercial borrowings or by issuing Government guaranteed bonds. All financing of educational infrastructure of Centrally Funded Educational Institutions is through HEFA loans, with the Government undertaking complete interest servicing for all institutions and repayment of principal.
<p>National Assessment and Accreditation Council (NAAC) releases new benchmark</p>	<div style="text-align: center;">  <h2 style="margin: 0;">NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL (NAAC)</h2>  </div> <p>Genesis: Established in 1994 as an autonomous institution of the University Grants Commission (UGC).</p> <p>Vision: To make quality the defining element of higher education in India through a combination of self and external quality evaluation, promotion and sustenance initiatives.</p> <p>Function: It assesses and certifies Higher Education Institution's (HEIs).</p> <ul style="list-style-type: none"> The benchmarks manual is its secret ledger of maximum scores it awards to institutions that line up for assessment. These will act as a barometer, allowing institutions to identify the areas need to be worked upon.
<p>Study Webs of Active Learning for Young Aspiring Minds (SWAYAM)</p>	<ul style="list-style-type: none"> With 2.4 crore enrolments, government-run SWAYAM has outperformed any other e-Learning platform. <ul style="list-style-type: none"> SWAYAM is a repository of more than 300 high quality Massive Open Online Courses (MOOC) that are developed by academicians from top ranked institutions and are offered free of cost. A learning system based on formalised teaching but with help of electronic resources is known as E-learning. <ul style="list-style-type: none"> India is one of the biggest market for e-learning with revenue projected to reach US\$ 4.73bn in 2023.
<p>Mission Antyodaya Survey (MAS) 2022-23</p>	<ul style="list-style-type: none"> Launched by: Ministry of Rural development and Panchayati Raj <ul style="list-style-type: none"> It aims to assess the outcome of various development schemes in rural areas. Survey-2022 Questionnaire has 183 indicators and 216 data points covering 21 areas. Areas covered in survey include fisheries, agriculture, fuel and fodder, good governance, roads, etc. Questionnaires are to be prepared in 13 languages.
<p>Prajwala Challenge</p>	<ul style="list-style-type: none"> Launched by: The Ministry of Rural Development under Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY-NRLM). Aim: To invite ideas, solutions and actions that can transform rural economy. <ul style="list-style-type: none"> DAY-NRLM aims at mobilizing rural poor households into SHGs and provide them long-term support such that they diversify their livelihoods, improve their incomes etc.

5.13. ERRATA

PT 365 Social Issues (April 2022-December 2022)

- **Article 1.3 SURROGACY (REGULATION) RULES, 2022:** it has been mentioned that **commercial surrogacy could be penalised by imprisonment upto 5 years and a fine upto Rs 5 lakh.** Please note that this penalty may extend to imprisonment **upto 10 years and a fine upto Rs 10 lakh.**

“ The Secret To Getting Ahead Is Getting Started ”



ALTERNATIVE CLASSROOM PROGRAM *for*

GENERAL STUDIES

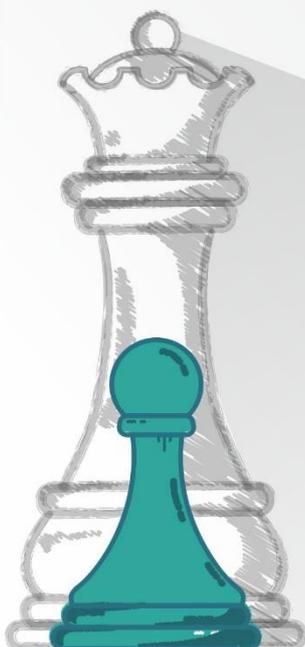
PRELIMS & MAINS 2025 & 2026

DELHI

14 APR, 1 PM | 31 MAR, 9 AM | 17 MAR, 1 PM | 21 FEB, 9 AM

- Approach is to build fundamental concepts and analytical ability in students to enable them to answer questions of Preliminary as well as Mains examination
- Includes comprehensive coverage of all the topics for all the four papers of GS Mains, GS Prelims and Essay
- Includes All India GS Mains, Prelims, CSAT and Essay Test Series of 2024, 2025, 2026
- Our Comprehensive Current Affairs classes of PT 365 and Mains 365 of year 2024, 2025, 2026 (Online Classes only)
- Includes comprehensive, relevant and updated study material
- Access to recorded classroom videos at personal student platform

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6. SCIENCE AND TECHNOLOGY

6.1. BIOTECHNOLOGY

6.1.1. STEM CELLS

Why in News?

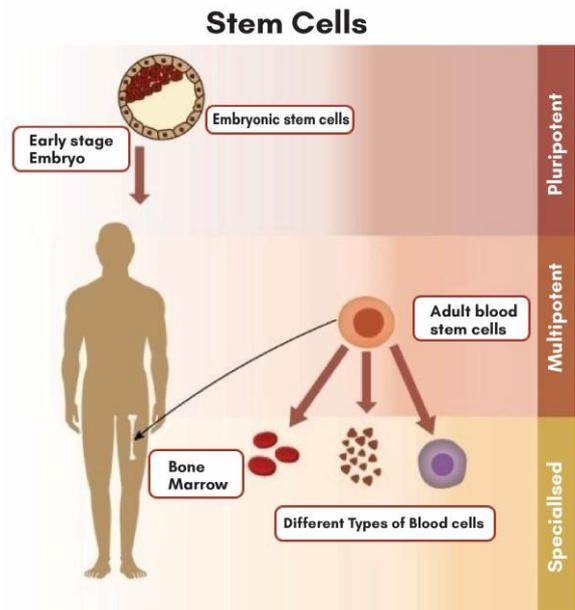
Recently, third patient was reported being cured of HIV after a stem cell transplant (SCT).

More on News

- A **bone-marrow transplant** (also called SCT) from people carrying a **specific HIV-resistant genetic mutation** called **CCR5-delta 32 genetic mutation** was used.
 - **HIV mainly attacks CD4 immune cells** (type of white blood cell) in **human body**, thereby **reducing a person's ability to fight off secondary infections**.
 - **CCR5 receptors** on surface of CD4 immune cells **act as a doorway for HIV virus**.
- A bone marrow transplant is a **procedure that infuses healthy blood-forming stem cells into body** to replace bone marrow that's not producing enough healthy blood cells.
 - It can be **autologous** (use cells from your own body) or **allogenic** (use cells from a donor).

About stem cells

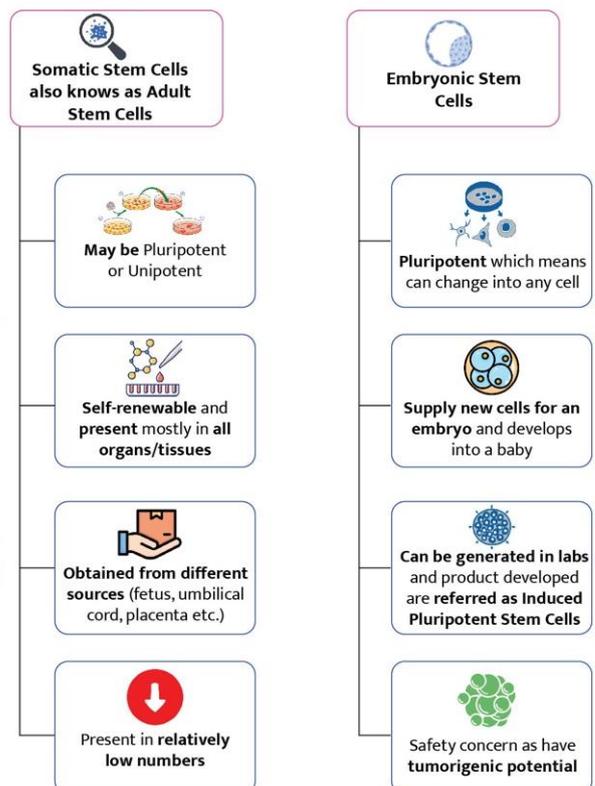
- **Special human cells** that can **develop into many different cell types**.
- **Provide new cells** for the body as it grows and **replaces specialized cells that are damaged or lost**.
- **Two unique properties that enable them** to do this:
 - They **can divide repeatedly** to produce new cells.
 - As they divide, they **can change into the other types of cells** that make up the body.
- **Stem Cell Classification:** refer infographic.



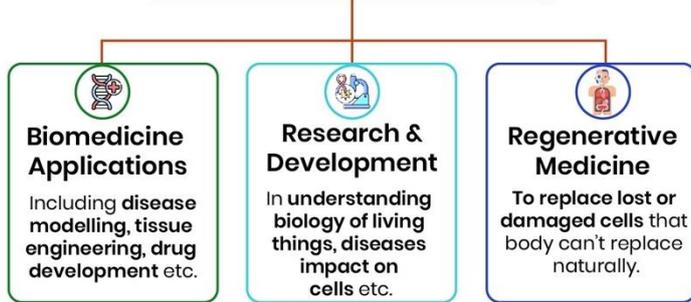
DO YOU KNOW?

- **Somatic-cell nuclear transfer** involves removing the nucleus, which contains the DNA, and implanting it into an unfertilised egg, whose nucleus has been removed.
- It is **used in reproductive cloning** of organisms.

Types of Stem Cells



Application of Stem Cell



Status in India

- **Fall under definition of ‘Drug’ as per the Drugs and Cosmetics Act 1940.**
 - Categorized as ‘Investigational New Drug’ or Investigational New Entity when used for clinical application.
- **Various guidelines released so far**
 - **Draft Guidelines for Stem Cell Research/Regulation (2002)**
 - **Guidelines for Stem Cell Research and Therapy (2007)**
 - **National Guidelines for Stem Cell Research (NGSCR)- 2017**
 - ✓ As per these guidelines, **only bone marrow/hematopoietic SCT for blood disorders** (including blood cancers and thalassemia) **is permitted** in compliance with NGSCR 2017.
- Some hospitals providing SCT in India are **AIIMS, New Delhi, Tata Memorial Centre, Mumbai** etc.

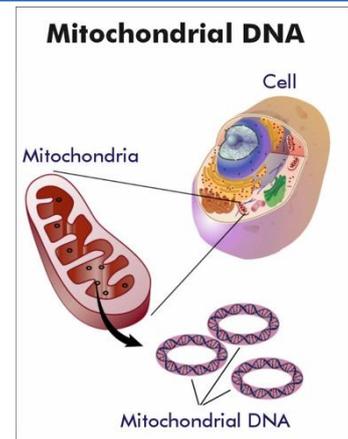
6.1.2. MITOCHONDRIAL DNA (MTDNA)

Why in News?

Delhi police recently used DNA Mitochondrial profiling to establish the victim identity.

More on News

- Mitochondrial DNA (mtDNA) profiling is a method **used by forensics scientists to examine biological items of evidence from crime scenes** to determine mtDNA sequence from samples such as hair, bones, and teeth.
 - Typically, these items **contain low concentrations of degraded DNA**, making them unsuitable for nuclear DNA examinations.



About Mitochondrial DNA (mtDNA)

- mtDNA is **circular, double stranded, and inherited maternally.**
 - It is found in mitochondria - a **subcellular organelle** located **within the cell** and **functions to produce energy (powerhouse of cell)** for various tissues of body.
- It can play an important role in **missing person investigations, mass disasters** etc. with **limited biological material (or Nuclear DNA)** as:
 - Mitochondrial division is **disassociated from cellular division** and is **stimulated by energy demand**, i.e. cells with greater energy requirement have greater number of these organelle.
 - Also, it has **high copy number** as most human cell contain hundreds of mtDNA genomes copies against two copies of Nuclear DNA in nucleus.
 - ✓ High copy number **increases the likelihood of recovering sufficient DNA** from samples even if they are highly degraded by environment or time.

6.2. NANOTECHNOLOGY

6.2.1. NANO UREA

Why in News?

Union Minister of Chemicals and Fertilizers has inaugurated the IFFCO Nano Urea Liquid Plants at Aonla and Phulpur in Uttar Pradesh.

About Nano Urea

- Nano Urea is a **Nanofertilizers** (refer box) that contains **nano nitrogen particles** of size range 20-50 nm dispersed in water.
 - **Total nitrogen concentration** in one bottle of **Nano Urea (liquid)** is **4 % (40,000 ppm)**.
 - The fertilizer has been **patented and sold** by the Indian Farmers Fertiliser Cooperative Limited (IFFCO).

About nano fertiliser

- **Nanofertilizers** are defined as materials in the **nanometer scale**, usually in the form of **nanoparticles**, **containing macro and micronutrients** that are delivered to crops in a controlled mode.

Categories of Nanofertilizers (Based on Formulation Type)

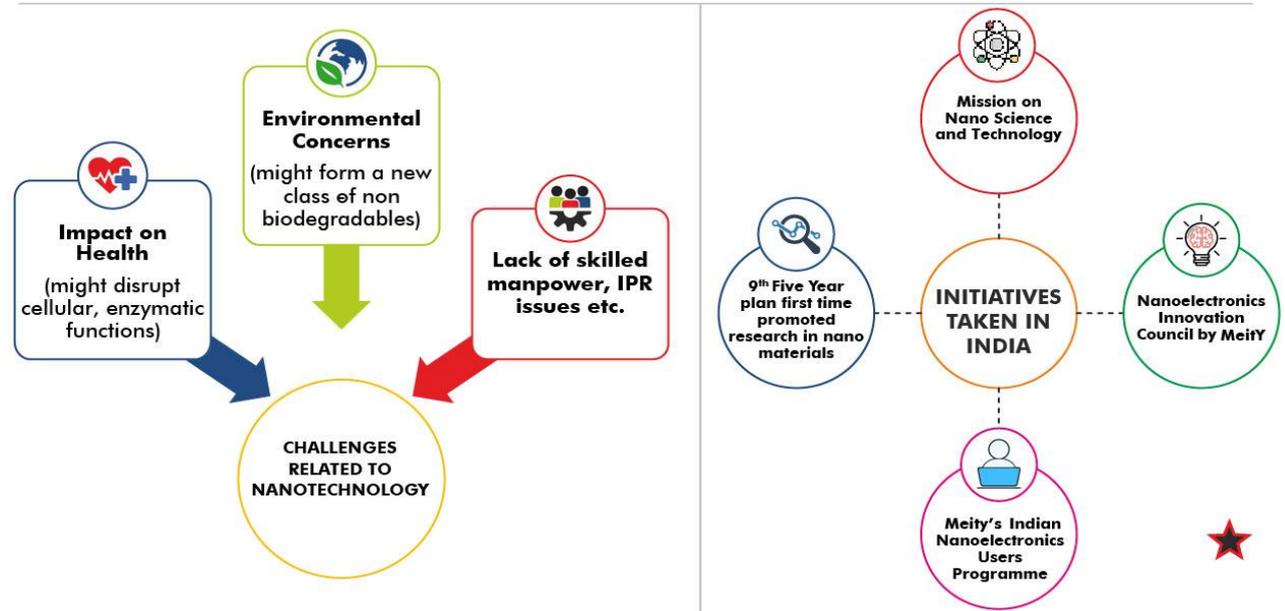
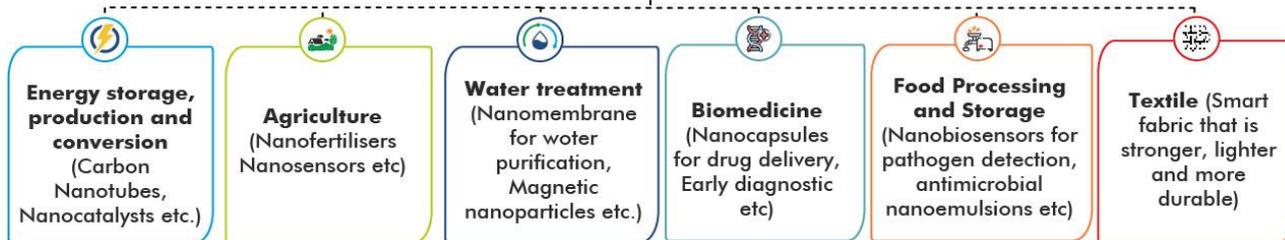
 Nanoscale Fertilizer	 Nanoscale Additive Fertilizer	 Nanoscale Coating Fertilizer
Conventional fertilizer reduced in nanoparticles size	Traditional fertilizer containing a supplement nanomaterial	Nutrients encapsulated by nanofilms or intercalated into nanoscale pores of a host material

- **Formation:** Process uses “organic polymers” that keeps the ‘nano’ particles of nitrogen stable and in a form that can be sprayed onto plants.
- **Subsidy:** There is **no government subsidy on nano urea.**
- **Relevance of Nano-urea**
 - Reduces the requirement of conventional Urea by 50% or more.
 - Nano-urea has Nitrogen use efficiency (NUE) of more than 80%.
 - ✓ The quantum effects of nanoparticles and the increased surface area helps to deliver more nitrogen.

NANOTECHNOLOGY

- Study of materials** which are in **nanoscale range** (about 1 to 100 nanometers)
- Conversion to Nanoscale **results in alteration of its physiochemical, mechanical, optical and electronic properties.**
- India is among top ten nations** in terms of publications in nanotechnology.

APPLICATIONS OF NANOTECHNOLOGY



6.3. IT AND COMPUTER

6.3.1. MICROLEDS (LIGHT EMITTING DIODE) DISPLAYS

Why in News?

Recently various electronic companies are showing their interest in **MicroLED (mLED or μLED)** display technology.

MICRO-LEDS (LIGHT EMITTING DIODE) DISPLAYS

About Display



Comprise several microscopic LEDs, which self-illuminate per display pixel—just like an OLED (Organic LED) panel.

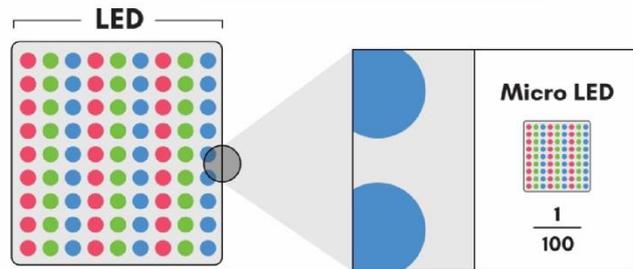


Each Micro-LED (mLEDs) is a semiconductor that receives electric signals.



mLEDs are gathered to form a module. Several modules are then combined to form screens.

What Is Micro LED ?



Micro LED features miniature length less than $100\mu\text{m}$ smaller than a sand and mere 1% that of LED. Via massive transfer technology, μm -level trio-color RGB Micro LEDs are moved onto substrates, creating Micro LED displays various sizes.

BENEFITS OF MICRO LED



Self-emissive, better color reproduction and provide better viewing angles.



Limitless scalability, as they are resolution-free, ratio-free, and even size-free.



More efficient and bright, more durable and higher color gamut against LCD and OLED.

COMPARISON WITH OTHER DISPLAYS

Display Technology	LCD (Liquid crystal display)	OLED	mLED
Pixel types	Back lit display	Self-emissive display	Self-emissive display
LED makeup material	Inorganic LED backlight	Organic LED	Inorganic LED
Brightness	High	Low	Very high
Lifespan	Long	Short	Very long
Response time	Slow (in milli - seconds)	Medium (in micro-seconds)	Fast (in nano-seconds)

6.3.2. QUANTUM COHERENCE

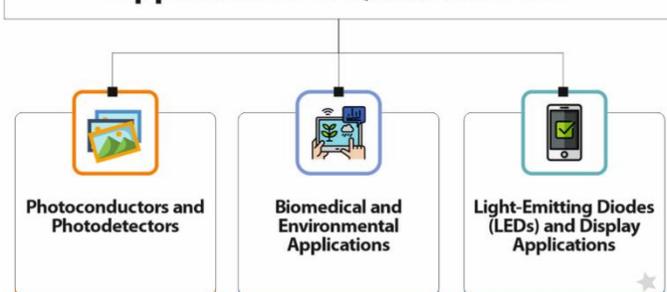
Why in News?

Recently an international team of scientists made a breakthrough in retaining the quantum coherence of quantum dot spin qubits.

About Quantum Coherence

- It is the **Ability of a quantum state to maintain its entanglement and superposition** in the face of interactions.
 - It deals with the idea that **all objects have wave-like properties**.

Applications of Quantum Dots



- Spin-photon interfaces are **elementary building blocks for quantum networks**.
 - These **allow converting stationary quantum information** (such as the quantum state of an ion or a solid-state spin qubit) **into light (namely photons)** that can be distributed over large distances.
- **A major challenge is to find an interface** that is both good at storing quantum information and efficient at converting it into light.
- Optically active semiconductor **quantum dots are the most efficient spin-photon interface** known to date **but extending their storage time beyond a few microseconds** is difficult.
 - Recent research **improves the storage of quantum information beyond hundred microseconds**.
- **Quantum dots (QDs) are a unique type of nanocrystalline semiconductor** whose electronic and optical properties are dependent on the size and shape of the dots.

6.3.3. DIGITAL CONNECTIVITY INFRASTRUCTURE PROVIDER (DCIP)

Why in News?

Telecom Regulatory Authority of India (TRAI) released **consultation paper on Digital Connectivity Infrastructure Provider (DCIP) Authorization under Unified Licence (UL)**.

About Digital Connectivity Infrastructure

- TRAI is seeking views to **introduce DCIP authorization under UL regime** as it underlined the **importance of robust Digital Connectivity Infrastructure (DCI) in economic development**.
 - UL offers **service-wise authorizations**, where licensees establish networks and use them to provide services.
- **Importance of DCI**
 - Increases **productivity** and provides **amenities that enhance quality of life**. It is used for **financial services, e-governance, tele-medicine** etc.
 - Helps in **implementation of various government schemes under Digital India, Make in India, Ayushman Bharat Digital Mission** etc.
- Earlier, **National Digital Communications Policy (NDCP-2018)** emphasized on **DCI under ‘Propel India’ mission**.
 - NDGP-2018 envisages **enabling unbundling of different layers (e.g., infrastructure, network, services, and applications layer)** through differential licensing.
- DCIP will **work at infrastructure and network layer**; creating neutral third-party entities which can create passive and active DCI.
 - Currently, **Infrastructure Providers Category-I (IP-I) rolls out passive infrastructure** while **active infrastructure creation is permitted to Telecom Service Providers only**.
 - ✓ **Passive Infrastructure refers to physical space**, e.g., telecom towers, fiber distribution hub etc. while **Active infrastructure** refers to active elements such as **antennas, back-haul connectivity** etc.
- DCIPs can **lease/rent/sell their infrastructure** only to such entities which are **licensed under Indian Telegraph Act**.
- **Potential Benefits Of DCIP:** Increased common sharable DCI and network resources, cost reduction, attract investment, strengthen service delivery segment, etc.

Related News

Broadband Definition change

- Recently, the **Department of Telecommunications (DoT)** has notified the **change in definition** of Broadband.
- Now, **Broadband is defined as a data connection** that can **support interactive services** including Internet access.
 - It has the **capability of the minimum download speed of 2 Mbps to an individual subscriber** from the point of presence (POP) of the service provider.
- **Earlier, connections with 512 Kbps** were called Broadband Connections.

6.3.4. OTHER IMPORTANT NEWS

Large Language Models (LLMs)



- **Meta Platforms** has released **Large Language Model Meta AI (LLaMA)**.
 - LLaMA is a **foundational language model** developed to **assist researchers** in subfield of Artificial Intelligence (AI).
 - It is a **collection of language models**.
- LLMs are **AI systems that consume massive volumes of digital text** from internet sources such as articles, news reports, and social media posts.

	<ul style="list-style-type: none"> ○ These digital texts are used to train software that predicts and produces content from scratch based on prompts and queries. ○ These models can help in writing essays, composing social media posts.
<p>Neural Networks</p> 	<ul style="list-style-type: none"> ● Neural Networks are behind working of recently unveiled Chatbots like ChatGPT and Bard. ● Neural networks are a type of machine learning algorithm modelled after structure and function of the human brain. <ul style="list-style-type: none"> ○ They are composed of layers of interconnected nodes, called neurons, that process and transmit information. ○ They learn skills by analyzing vast amounts of digital data. ● They can be trained to perform a wide range of task: <ul style="list-style-type: none"> ○ Convolutional neural networks are used for image and pattern recognition/ computer vision. ○ Recurrent neural networks use series of data to make predictions about future outcome.
<p>Bhashini Mission</p> 	<ul style="list-style-type: none"> ● Government integrates Bhashini Mission's capabilities with the UPI ecosystem to make digital payments through UPI 123 Pay available in more than 20 local Indian language. ● Bhashini Mission was launched by Ministry of Electronics & Information Technology (MeitY). <ul style="list-style-type: none"> ○ It is a local language translator mission that aims to break the barrier between various Indian tongues by using technology. ○ This platform will make Artificial Intelligence (AI) and Natural Language Processing (NLP) resources available to Indian MSMEs, startups and innovators in public domain. ○ Bhashini platform is interoperable and will catalyze entire Digital Ecosystem.
<p>USB (Universal Serial Bus)</p>	<ul style="list-style-type: none"> ● Bureau of Indian Standards (BIS) has introduced standard for USB Type-C port, plug and cables used in electronic devices like mobile phone, laptop etc. ● It aims to provide common charging solutions for various electronic devices sold in country by March 2025. ● USB (an industry standard) is used for connecting a wide variety of devices to a processor. (Refer image for different USB Types). ● BIS also published standards for digital television receivers with built-in satellite tuners and video surveillance security systems <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>Types of USB (Universal Serial Bus)</p>  </div>
<p>Data embassies</p> 	<ul style="list-style-type: none"> ● Union Budget 2023 -24 announced for setting up data embassies at GIFT City in Gujarat. ● Data embassy refers to server resources owned and maintained by a nation-state outside its territorial boundaries, according to its own laws. <ul style="list-style-type: none"> ○ It will ensure normal functioning of a state and its digital services in case of situations like cyberattack or natural disaster. ○ They have diplomatic immunities from local laws on principles of the Vienna Convention on Diplomatic Relations, 1961. ● Estonia was first country to set up data embassy outside its territory in Luxembourg in 2017.

6.4. SPACE TECHNOLOGY

6.4.1. GAGANYAAN

Why in news?

Indian Space Research Organisation (ISRO), along with the Indian Navy, has carried out **initial recovery trials of the Crew Module** for the **Gaganyaan Mission**.



Indian Space Research Organisation (ISRO)



About: ISRO is the space agency formed on August 15, 1969, under the **Department of Space of the Government of India.**



Vision: Harness, sustain, and augment space technology for national development while pursuing space science research and planetary exploration.



Various centre

- Launch Vehicles at Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram
- Satellites are designed and developed at U R Rao Satellite Centre (URSC), Bengaluru.
- Integration and launching of satellites from Satish Dhawan Space Centre (SDSC), Sriharikota
- Sensors for Communication and Remote Sensing satellites at Space Applications Centre (SAC), Ahmedabad



Functioning: The activities of ISRO are **guided by its Chairman.** S/he is also the secretary of DOS and Chairman of the Space commission the apex body that formulates the policies and oversees the **implementation of the Indian Space Programme.**



GAGANYAAN MISSION

ABOUT MISSION



To **demonstrate indigenous capability** to undertake **human space flight mission** to **Low Earth Orbit (LEO).**

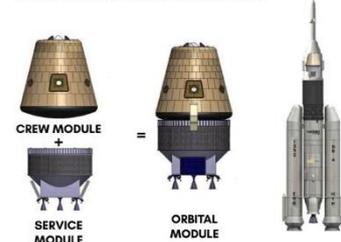


Includes three space flights: Two unmanned 'Abort missions' to test for crew safety, followed by manned space journey. **First trial (uncrewed flight)** is being planned for **end of 2023 or early 2024.**



This will be followed by **sending Vyom Mitra**, a humanoid, and then with the crew onboard.

GAGANYAAN SYSTEMS



GAGANYAAN MODULES



CREW MODULE

Habitable part that will have **pressurization & life support systems** for crew members.



SERVICE MODULE

Unpressurised structure containing propulsion system, power system, and avionics.



ORBITAL MODULE

Will orbit the Earth with a velocity of about **7,800 meter/second.**

MILESTONE ACHIEVEMENT OF: Mark-III (LVM 3 rocket) previously known as GSLV Mk III.

CRYO STAGE (C25) ENGINE QUALIFICATION TESTS

LIQUIDE STAGE (L110) ENGINE (VIKAS) QUALIFICATION TESTS

SOLID BOOSTER (HS200)- STATIC TEST

STATIC TEST OF CREW ESCAPE SYSTEM

HIGH ALTITUDE ESCAPE MOTOR (HEM) CES JETISONING MOTOR(CJM) LOW ALTITUDE ESCAPE MOTOR (LEM)



6.4.2. CHANDRAYAAN 3

Why in News?

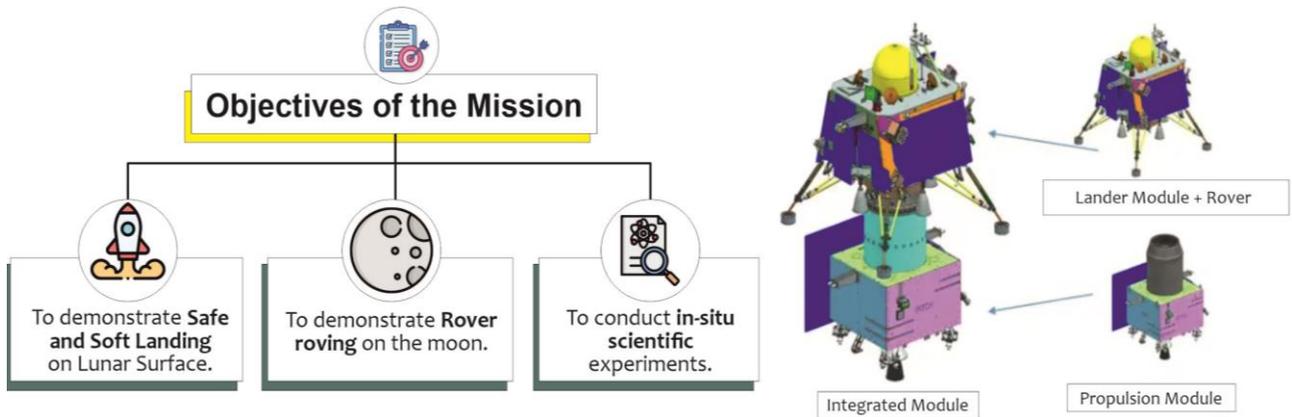
Several critical steps that are necessary for the successful launch of Chandrayaan 3 were successfully conducted recently.

More about the News

- The three possible landing sites for the mission are also finalized between Manzius U and Boguslawsky M craters in the South Polar Region of the moon.
- The proposed lander has successfully completed the crucial Electro - Magnetic Interference and compatibility test.
- The Flight acceptance hot test, for the Cryogenic engine to be used in the mission was also successfully conducted.

Major missions to the Moon	
USSR	<ul style="list-style-type: none"> Luna 1, Luna 2 and Luna 3 Luna 2 was the first spacecraft to impact the Moon's surface.
USA	<ul style="list-style-type: none"> Lunar Orbiter 1 Apollo 11: First humans to land on the Moon Lunar Reconnaissance Orbiter (LRO) Artemis 1
Japan	<ul style="list-style-type: none"> Hiten
China	<ul style="list-style-type: none"> Chang'e 1: First Chinese Moon mission.
Israel	<ul style="list-style-type: none"> Beresheet

Chandrayaan 3



Modules of Chandrayaan 3

- Lander Module:** Consists of-
 - Radio anatomy of Moon bound hypersensitive ionosphere and atmosphere (RAMBHA):** To measure the near surface plasma density and its changes with time.

- Chandra's Surface Thermo physical Experiment:** To measure the thermal properties of the lunar surface in the polar region.
- Instrument of Lunar Seismic Activity (ILSA):** To measure the seismicity and determine the lunar crust and mantle.

	CHANDRAYAAN 1 (2009)	CHANDRAYAAN 2 (2019)
Objective	To prepare a three-dimensional atlas of both near and far side of the moon and chemical, mineralogical and photo-geological mapping of moon	To demonstrate the ability to soft-land on the lunar surface and operate a robotic rover on the surface.
Modules	Contained only Orbiter, which was successfully placed at 100kms from Lunar surface.	Contained Orbiter, Lander (VIKRAM) and Rover (PRAGYAN), the orbiter was successfully placed, but the lander lost connection while landing.
Findings	<ul style="list-style-type: none"> The detection of Water (H₂O) and Hydroxyl (OH) on the surface of the moon. It confirmed the Ocean Magma Hypothesis i.e. the moon was once completely in molten state. Detection of new spinel-rich rock type on lunar surface. It confirmed the presence of magnesium, aluminium, silicon and calcium on lunar surface, through x-ray signals. 	<ul style="list-style-type: none"> Identified the presence of variable Argon-40 at the middle and higher latitudes of the Moon. Detected the presence of Chromium and Manganese on the lunar surface. Detected signatures of the sub-surface water-ice, and achieved high resolution mapping of the lunar morphological features in the polar regions. Micro solar flares, were observed outside the active region of the sun for the first time, which will help to understand the mechanism behind heating of the solar corona.

- **LASER Retroreflector array:** To understand the dynamics of the Moon system.
- **Rover module:** Consists of-
 - **LASER Induced Breakdown Spectroscope (LIBS):** To derive the chemical composition and infer mineralogical composition of the Lunar surface.
 - **Alpha particle X-ray Spectrometer (APXS):** To determine the composition of the lunar soil and rocks at the landing site.
- **Propulsion module:** Consists of-
 - **Spectro-polarimetry of HABitable Planet Earth (SHAPE):** To probe into the Exoplanets which would qualify for habitability in future.
- **Launch Vehicle (earlier called GSLV – Mk III):** Consists of-
 - **3-stage launch vehicle** consisting of Cryogenic Upper Stage, Solid Rocket Boosters and Core Liquid Stage.
 - Carrying capacity of **8 tonnes to Low Earth Orbit (LEO)** and **4 tonnes to Geo Transfer Orbit (GTO)**.

Why the South Pole of the Moon is chosen as the preferred landing site?

- **Shadow area:** much larger than that at North Pole. Also, there is a possibility of the presence of water in areas around it.
- **Craters:** that are cold traps and contain a fossil record of the early Solar System.
- **Untapped Resources:** Regolith in region has traces of hydrogen, ammonia, methane, sodium, mercury and silver.
- **Positional advantage:** make it a suitable pit stop for future space exploration.

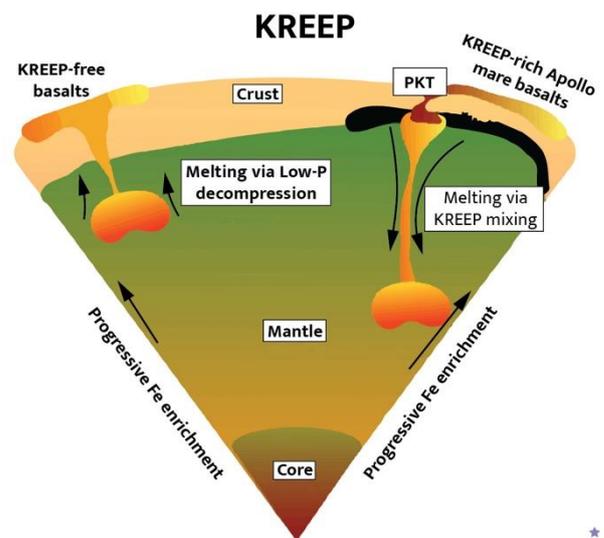
6.4.3. VOLCANIC ROCKS ON MOON

Why in News?

Scientists from **Physical Research Laboratory (PRL), Ahmedabad (India), US and Japan** have announced new discovery about origin of volcanic rocks on moon.

About the Discovery

- Scientists found a unique group of **ancient lunar basaltic meteorites with very low KREEP**.
 - **KREEP** is acronym for a place that has **deposits of potassium (K), rare earth elements (REE) and phosphorus (P)**.
 - Samples studied for discovery were **Asuka-881757 found at Antarctica, Kalahari 009 found at Kalahari Desert, and samples collected by Russian Luna-24 mission.**
- This suggests that meteorites studied have come from a **region different from PKT (Procellarum KREEP Terrane)**.
- Study shows that these basalts are **result of low-pressure melting** in the Moon whereas **basalts in PKT regions** are a result of **localized radioactive melting**.
 - PKT regions are **rich in radioactive elements** that provided heat to melt rocks resulting in KREEP rich basalts.
- Further, it shows that these basalts **originated from a cool, shallow, and compositionally distinct part** of lunar interior.
- **Mare regions of Moon** which is **on near side of Moon** consists mainly of basalt rocks.
 - Near side of moon (always visible from Earth) is divided into **light areas called Lunar Highlands** and **darker areas called Mare**.



6.5. NASA-ISRO SYNTHETIC APERTURE RADAR (NISAR) SATELLITE

Why in News?

Recently, Indian Space Research Organisation (ISRO) has received the NASA-ISRO SAR (NISAR) satellite from the U.S. space agency.

About NASA-ISRO SAR (NISAR)

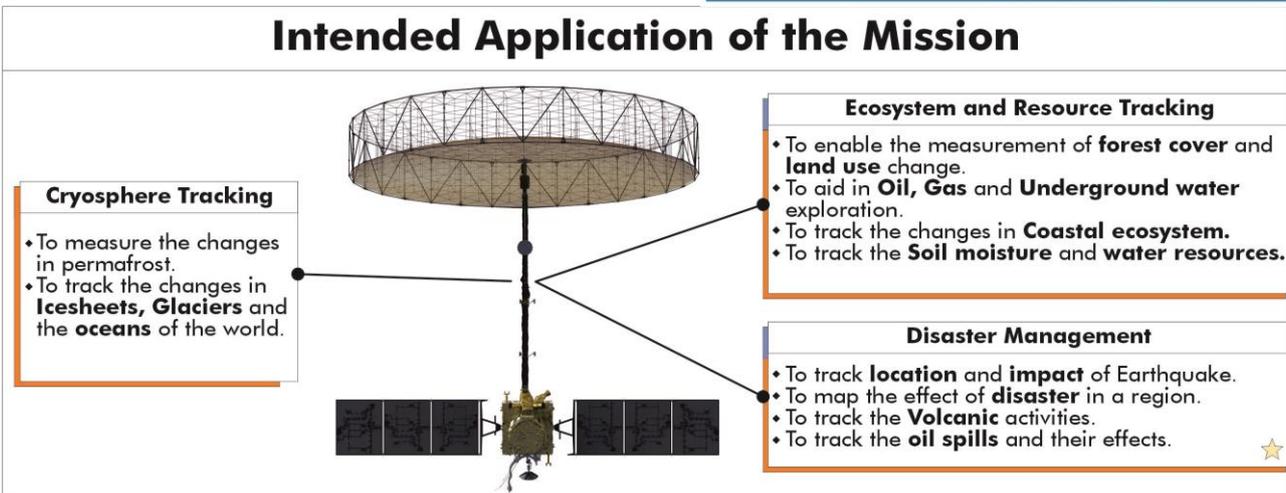
- **Low Earth Orbit (LEO) observatory** being jointly developed by **NASA and ISRO**.
- **Mapping and Data:** Will map the entire globe in **12 days** and provide spatially and temporally consistent data for **understanding changes in Earth's ecosystems, ice mass, etc.**
- **Instruments:** It consists of both **L-band and S-band synthetic aperture radar (SAR)** instruments, which makes it a dual-frequency imaging radar satellite.
 - **SAR payloads** mounted on Integrated Radar Instrument Structure (IRIS) and the spacecraft bus are together called an observatory.
 - **NASA is to provide the L-band radar, GPS, a high-capacity solid-state recorder to store data, and a payload data subsystem.**
 - **ISRO is to provide the S-band radar, the GSLV launch system and spacecraft** for the mission.
- NISAR is expected to be launched in **January 2024** from **Satish Dhawan Space Centre** into a **near-polar orbit**.
 - After the commissioning period, **the L-band radar will be used by NASA** for minimum of three years.
 - **S-band radar will be used by India** for a period of five years.

Significance of the mission: High Precision and Resolution, Large Imaging Area, Observing Indian Coasts and Antarctica.

Satellite Frequency Bands

- **L band radars** operate on a wavelength of 15-30 cm and a frequency of 1-2 GHz. L band radars are **mostly used for clear air turbulence studies**.
- **S band radars** operate on a wavelength of 8-15 cm and a frequency of 2-4 GHz.
 - Because of the wavelength and frequency, S band radars are not easily attenuated.
 - This makes them **useful for near and far range weather observation**.
 - The drawback to this **band of radar is that it requires a large antenna dish** and a large motor to power it.

ISRO's other International Collaboration			
Mission	Collaboration with	About/ Objective	Planned/ Launched
Mega Tropiques	The National Centre for Space Studies-France (CNES)	To study tropical atmosphere and climate change	Launched
SARAL (Satellite for ALTIKA and ARGOS)	CNES	To study Ocean from space using altimetry.	Launched
LUPEX (Lunar Polar exploration)	Japan Aerospace Exploration Agency (JAXA)	To send a lander and rover to the Moon's South Pole .	Planned
TRISHNA	CNES	To launch an earth observation satellite mission with thermal infrared imager.	Planned



Updated Classroom Study Material

6.5.1. HYBRID-SOUNDING ROCKET

Why in News?

India's first hybrid-sounding rocket launched by private players from Chengalpattu, Tamil Nadu.

More on News

- Martin Foundation, in association with Dr. APJ Abdul Kalam International Foundation and Space Zone India, launched the **Dr. APJ Abdul Kalam Satellite Launch Vehicle Mission- 2023**.
 - Rocket can be used for research in **weather, atmospheric conditions and radiations**.

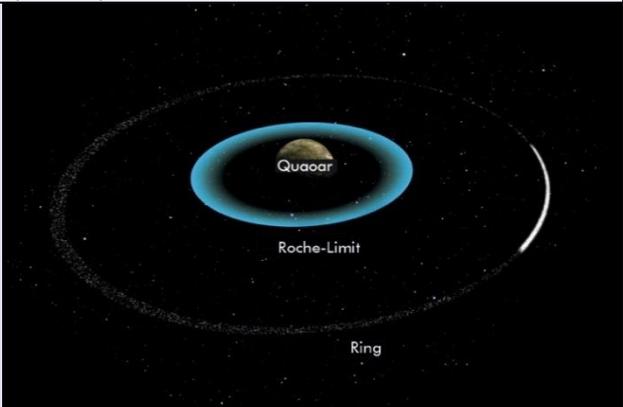
About Sounding Rockets

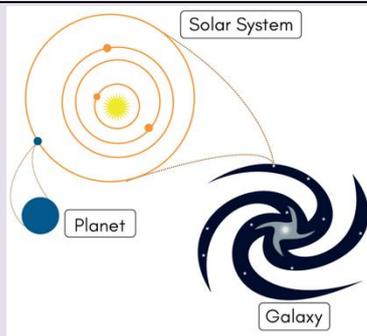
- Sounding rockets are **one or two stage solid propellant rockets** used for probing **upper atmospheric regions (Aeronomy)** and for **space research**.
 - They **can also be used to test or prove prototypes of new components** or subsystems intended for use in launch vehicles and satellites.
 - Sounding rockets take their **name from the nautical term "to sound,"** which means to take measurements.
 - **Hybrid-rocket** uses **different propellants**, i.e., **one solid** and other being either **gas or liquid**.
- In **1963, Indian Space Programme** started with **first sounding rocket launch** from **Thumba Equatorial Rocket Launching Station (TERLS), Kerala**. Thumba was selected as it is **close to magnetic equator**.
- In **1967, ISRO** launched its own version of sounding rockets - **Rohini RH-75**.
 - In **1975, ISRO** consolidated all sounding rocket activities under **Rohini Sounding Rocket (RSR) Programme**.

About Rohini RH- 200

- **RH-200** (meteorology purpose) is one of three sounding rockets **currently operational with ISRO**, the **other two being RH-300 Mk 2 and RH-560 Mk 2** (both for Aeronomy).
 - 200 in the name denotes **rocket's diameter in millimeters (mm)**.
- **Rh-200 rocket used polyvinyl chloride (pvc) based propellant**. In **2020, first rh-200 used a new propellant** based on hydroxyl-terminated polybutadiene (htpb).

6.5.2. OTHER IMPORTANT NEWS

Space Objects	
<p>Jupiter Moons</p> 	<ul style="list-style-type: none"> • Jupiter, with 92 moons, beats Saturn to become planet with most moons. • Jupiter is home to first moons discovered in our solar system, functions like a mini solar system. • Jupiter's four largest moons are called Galilean satellites: Io, Europa, Ganymede, and Callisto. <ul style="list-style-type: none"> ○ Io is most volcanically active body in solar system. ○ Europa's surface is mostly water ice. ○ Ganymede is largest moon in solar system and is only moon known to have its own internally generated magnetic field. ○ Callisto's surface is extremely heavily cratered and ancient.
<p>Quaoar</p>	<ul style="list-style-type: none"> • New study has found that dwarf planet Quaoar has a Saturn-like ring of dust and debris that defies rules of physics. • The rings are found outside its Roche limit. <ul style="list-style-type: none"> ○ Roche limit is minimum distance to which a large satellite can approach its primary body (like Moon and Earth) without being torn apart by tidal forces. 

	<ul style="list-style-type: none"> • Quaoar (discovered in 2002) is the seventh largest of known dwarf planets. • It is a trans-Neptunian object, i.e., it orbits Sun beyond its outermost planet Neptune. • Dwarf planet is defined as a celestial body that - orbits sun, has enough mass to assume a nearly round shape, has not cleared the neighbourhood around its orbit and is not a moon.
RR Lyrae Stars	<ul style="list-style-type: none"> • More than 200 distant variable stars known as RR Lyrae stars discovered in Milky Way's stellar halo, a spherical cloud of stars surrounding the galaxy. <ul style="list-style-type: none"> ○ RR Lyrae stars are known for their fluctuating brightness, therefore helping in measuring distances. • A galaxy is a huge collection of gas, dust, and billions of stars and their solar systems, all held together by gravity. <ul style="list-style-type: none"> ○ Galaxies can be spiral, elliptical or irregular. ○ Our galaxy, Milky Way (spiral in shape), also has a supermassive black hole in the middle. 
Small Magellanic Cloud (SMC)	 <ul style="list-style-type: none"> • NASA's James Webb telescope has found a star formation (Called NGC 346) in a dynamic cluster that lies within SMC. • Visible to the naked eye from southern hemisphere, SMC is smaller of the two irregular galaxies that make up Magellanic Clouds. <ul style="list-style-type: none"> ○ These two galaxies orbit the Milky Way once every 1,500 million years, and each other once every 900 million years. • Magellanic Clouds were formed at about same time as Milky Way Galaxy, approximately 13 billion years ago
Meteoroids	 <ul style="list-style-type: none"> • Five new meteorites were found in the in the Blue Ice region of Antarctica. • Meteoroids are objects in space that range in size from dust grains to small asteroids. <ul style="list-style-type: none"> ○ When meteoroids enter Earth's atmosphere at high speed and burn up, the fireballs or shooting stars are called meteors. ○ When a meteoroid survives a trip through the atmosphere and hits the ground, it's called a meteorite.
Aubrite meteorite	 <ul style="list-style-type: none"> • Analysis has revealed that Diyodar meteorite of 2022 (fell in Gujarat) was India's first aubrite in 170 years. • Aubrites, a type of meteorite, are coarse-grained igneous rocks formed in oxygen-poor conditions; containing a variety of exotic minerals that are not found on Earth. <ul style="list-style-type: none"> ○ E.g. mineral heideite was first described in Basti meteorite. • Around 90% of Diyodar meteorite was composed of orthopyroxene. <ul style="list-style-type: none"> ○ Pyroxenes are silicates consisting of single chains of silica tetrahedra (SiO_4). Orthopyroxenes are pyroxenes with a certain structure <ul style="list-style-type: none"> ✓ Pyroxenes such as diopside and jadeite have been used as gems.
Wolf 1069 b	<ul style="list-style-type: none"> • Astronomers have discovered an exoplanet Wolf 1069b which is orbiting a red dwarf star Wolf 1069. <ul style="list-style-type: none"> ○ An exoplanet is any planet beyond our solar system. ○ Red dwarfs are stars with very low mass and are generally referred to as coolest stars. • It is orbiting in its star's habitable zone (Goldilocks zone), making it a prime candidate for liquid water to potentially exist on its surface. • It is tidally locked to its parent star, meaning one side is always in daylight and other is always in darkness.
Others	
Solitary Wave (SW)	<ul style="list-style-type: none"> • Indian scientists reported first evidence of the presence of SW in Martian magnetosphere with help of data recorded by the MAVEN spacecraft of NASA. <ul style="list-style-type: none"> ○ SW are Distinct electric field fluctuations (bipolar or monopolar) that follow constant amplitude-phase relations. Their shape and size are less affected during their propagation. • Mars Atmosphere and Volatile Evolution (MAVEN) explore the Mars atmosphere, ionosphere and how they interact with Sun and solar wind.
Shukrayaan- I	<ul style="list-style-type: none"> • ISRO's Venus mission may be delayed until 2031. <ul style="list-style-type: none"> ○ In 2031, Earth and Venus would be aligned in manner that it would require minimum amount of propellant for spacecraft to enter Venus orbit.

	<ul style="list-style-type: none"> Shukrayaan I will be an orbiter mission. Its scientific payloads include high-resolution synthetic aperture radar and ground-penetrating radar. <ul style="list-style-type: none"> Mission is expected to study Venus's geological and volcanic activity, emissions on ground, wind speed, cloud cover, and other planetary characteristics from an elliptical orbit. Other mission to Venus: Venera program (Russia); Akatsuki project (Japan); VERITAS i.e., Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy, Mariner 2 and Magellan (NASA); EnVision mission (Europe) etc. <div style="border: 1px solid black; padding: 5px;"> <h3 style="text-align: center;">Inside Planet VENUS</h3> <p>It has often been called Earth's 'twin' because of its similar size, but space probes have discovered that the environment there is actually quite inhospitable.</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>THICK ATMOSPHERE 96.5% carbon dioxide, 3.5% nitrogen plus trace gases</p> <p>GRAVITY 0.9 OF EARTH</p> </div> <div style="width: 45%;"> <p>SURFACE CONDITIONS Air Pressure: 90x Earth Temperature: 890 F (465 C) Winds: up to 220 mph (100m/s)</p> <p>Venus, 7,520 ml (12,100 Km) in diameter, is slightly smaller than Earth</p> </div> </div> </div>
<p>World's First 3D-printed rocket engine</p>	<ul style="list-style-type: none"> Agnikul-Cosmos, a space-tech startup incubated in IIT-Madras, has successfully conducted the flight acceptance test for its 3D printed rocket engine "Agnilet". <ul style="list-style-type: none"> It is a semi-cryogenic engine, which uses a mixture of liquid kerosene at room temperature and super cold liquid oxygen as fuel. Agnilet Engine will power the company's launch vehicle, Agnibaan, which can carry payloads of up to 300kg to a low-earth orbit. <ul style="list-style-type: none"> Launch of Agnibaan will be the second by a private firm – after Hyderabad-based Skyroot Aerospace's Vikram-S, which took place in November 2022.
<p>Atacama Large Millimetre/ Submillimeter Array (ALMA)</p>	<ul style="list-style-type: none"> A research team from Italy has detected an elusive black galaxy, dubbed 'invisible galaxy' using ALMA. ALMA is a state-of-the-art telescope to study light from some of the coldest objects in the Universe. This light has wavelengths of around a millimetre, between infrared light and radio waves, and is therefore known as millimetre and submillimetre radiation. <ul style="list-style-type: none"> Light at these wavelengths comes from some of the earliest and most distant galaxies in the Universe. ALMA is an international collaboration including teams from Europe, Japan, US, Canada, Chile etc.
<p>Doppler Weather Radars (DWRs)</p>	<ul style="list-style-type: none"> India Meteorological Department (IMD) will cover the entire India under a DWRs network by 2025. A Doppler Radar is a specialized radar that uses Doppler effect to produce velocity data about objects at a distance. <ul style="list-style-type: none"> Doppler effect refers to change in wave frequency during the relative motion between a wave source and its observer. DWRs are used to locate precipitation, calculate its motion, and estimate its type.

6.6. HEALTH

6.6.1. TRANSFAT

Why in News?

Recently, WHO released a report titled Countdown to 2023: WHO report on global trans-fat elimination 2022.

Key highlight of the report

- Mandatory TFA limits or bans on partially hydrogenated oils (PHO) are currently in effect for 3.4 billion people in 60 countries.**

Partially Hydrogenated Oils (PHO)

- About:** PHO are **solid at room temperature** and prolong the shelf life of products.
- Use:** For **deep frying** and as an ingredient in baked goods.
- Other:** **First introduced in early 20th century** as a replacement for butter and lard.
 - They are **not a natural part of the human diet and are fully replaceable**.

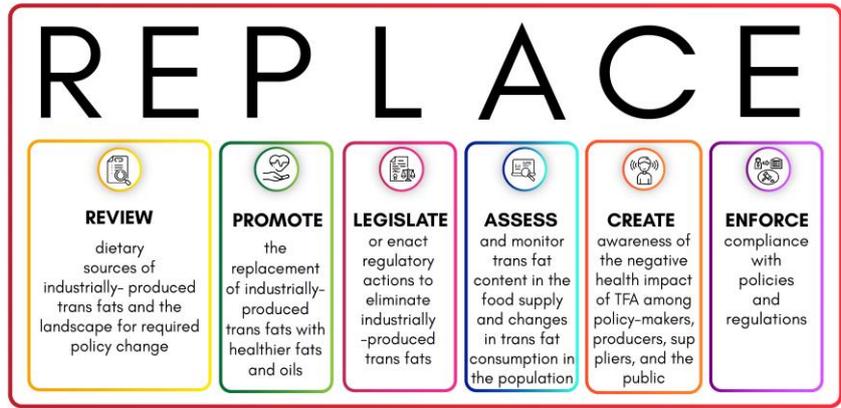
- In 2022, three countries – **India, Oman and Uruguay** – implemented best-practice TFA policies.

About Transfat

- Trans fat, or trans-fatty acids, are unsaturated fatty acids that come from **either natural or industrial sources**.
 - **Naturally occurring trans-fat** come from ruminants (cows and sheep).
 - **Industrially produced trans-fat** are formed in an industrial process that adds hydrogen to vegetable oil converting the liquid into a solid, resulting in “partially hydrogenated” oil (PHO).
- **Use of trans fats** has been popular because they are **inexpensive, have a longer shelf life, and can improve the texture and taste of foods**.
- **Trans fats increase bad cholesterol**, i.e., Low Density Lipoproteins (LDL) cholesterol and decrease High Density Lipoproteins (HDL) cholesterol, which can **increase the risk of heart attack or stroke**.
- Experts recommend **limiting consumption of trans fat (industrially produced and ruminant) to less than 1% of total energy intake**, which translates to less than 2.2 g/day for a 2,000-calorie diet.

Global Initiative

- **REPLACE initiative:** By WHO for elimination of industrially produced TFA from the food supply by 2023.
- **WHO Certification Programme for Trans Fat Elimination:** to recognize countries that have eliminated industrially produced TFA from their national food supplies.



Best-practice TFA policy

The two best-practice policies for TFA elimination are:

- **Mandatory national limit of 2 g of industrially produced TFA** per 100 g of total fat in all foods.
- **Mandatory national ban on the production or use of PHO** as an ingredient in all foods.

6.6.2. NEGLECTED TROPICAL DISEASES

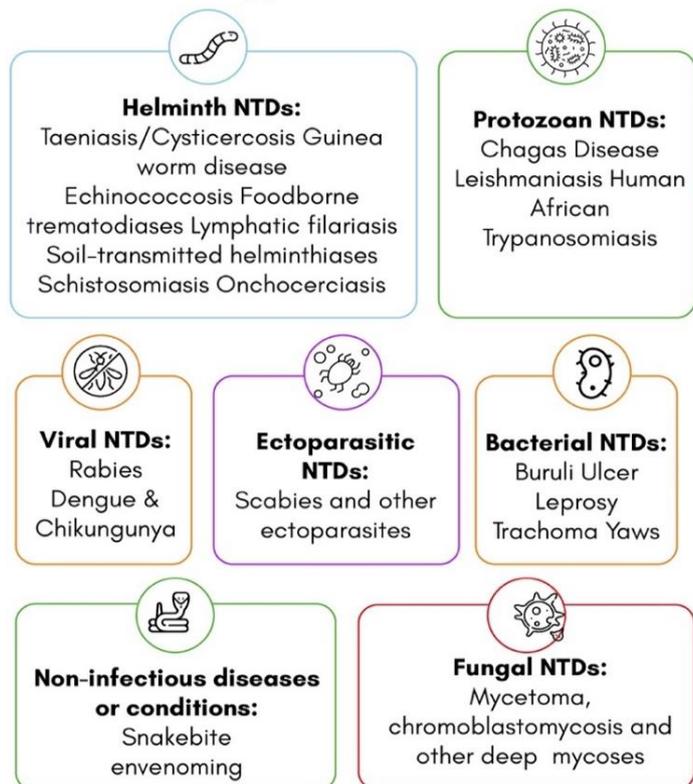
Why in News?

World Health Organization (WHO) released Global report on neglected tropical diseases 2023.

About Neglected tropical diseases (NTDs)

- NTDs are a **diverse group of 20 conditions mainly prevalent in tropical areas**.
- **Caused By:** a variety of **pathogens** including viruses, bacteria, parasites, fungi, and toxins.
- **NTDs flourish mainly in areas where access to clean water and sanitation is scarce** – worsened by climate change.
- **India has the world's largest absolute burden of at least 10 major NTDs**, including dengue, lymphatic filariasis, leprosy, visceral leishmaniasis or kala-azar and rabies.
 - However, **India has already eliminated several NTDs**, including guinea worm, trachoma, and yaws.

Types of NTDs



6.6.3. WHO'S PANDEMIC TREATY

Why in News?

Recently, WHO members held the first round of negotiations towards the pandemic treaty.

More about the News

- WHO is leading **two major international initiatives to address on the threat of future pandemics.**

- **First initiative:** Involves **revising the International Health Regulations (IHRs)** to improve global health alerts' speed and efficiency.
- **Second initiative:** Involves **negotiating a new Pandemic Treaty** to provide a more efficient and equitable response to pandemics in the future.

International Health Regulations (IHR)-2005

- It is the **mechanism through which the WHO has handled the pandemics in the recent past**, the outbreak of COVID-19, has highlighted the flaws it contained and hence the call for a New Pandemic Treaty, became more prominent.
- These are an **instrument of international law that is legally-binding on 196 countries**, including the 194 WHO Member States.
- They **create rights and obligations for countries, including the requirement to report** public health events at regular interval.
- The Regulations also **outlines the criteria to determine whether or not a particular event constitutes a “public health emergency of international concern”.**

About the Pandemic Treaty

- WHO published a **‘zero-draft’ of the pandemic treaty.**
 - It will **entail for global- and national-level pandemic preparedness.**
 - The **draft opens the path to major multilateral negotiations** and has invited inputs from member groups.
 - It aims to **prevent pandemics, save lives, reduce disease burden and protect livelihoods, through strengthening the world’s capacities for preventing, preparing for and responding to, and recovery of health systems from, pandemics.**

6.6.4. VACCINE-DERIVED POLIOVIRUS (VDPV)

Why in News?

A WHO committee, after looking into updates from several countries, stated that while **risk of global spread of wild poliovirus remains**, risk of **circulating vaccine-derived poliovirus (VDPV) ones is higher.**

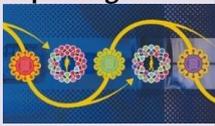
About vaccine-derived poliovirus (VDPV)

- Poliomyelitis (polio) is a highly **infectious disease that invades the nervous system.** There are 3 types of wild polio virus – type 1, type 2, and type 3.
 - **Only type 1 wild poliovirus remains in circulation.**
- There are **two types of vaccinations that work against poliovirus:** inactivated poliovirus (IPV) and oral poliovirus (OPV).
 - **IPV is produced from wild-type poliovirus strains** that have been inactivated (killed) with formalin.
 - **OPV contains an attenuated (weakened) vaccine-virus**, which activates an immune response in the body.
- **However, OPV can lead to rare emergence of VDPVs** when there is prolonged circulation or replication of the vaccine virus.
 - **Types of VDPVs:** circulating VDPV (cVDPV), immunodeficiency VDPV (iVDPV), and ambiguous VDPV (aVDPV).
 - VDPVs are **mostly found in children with immune-deficiency** and among populations with low immunity levels.
- **In 2014, India was officially declared polio-free**, along with the rest of the South-East Asia Region.

6.6.5. OTHER IMPORTANT NEWS

Diseases	
Lymphatic Filariasis (LF)	<ul style="list-style-type: none"> • Recently, Mass Drug Administration (MDA) was launched by Union Ministry of Health and Family Welfare to eliminate LF by 2027, three years ahead of the global target. • LF or elephantiasis, is a neglected tropical disease. Infection is usually acquired in childhood causing hidden damage to the lymphatic system.

	<ul style="list-style-type: none"> ○ Symptoms: Abnormal enlargement of body parts. ○ Caused by: Nematodes (roundworms) of family Filarididae. ○ Transmitted by: Mosquitoes including Culex, Anopheles and Aedes. ○ Global initiative: Global Programme to Eliminate Lymphatic Filariasis by the WHO
Measels and Rubella	<ul style="list-style-type: none"> ● India had set a target to eliminate Measels and Rubella (vaccine-preventable diseases) by 2023 (missed earlier deadline of 2020). <ul style="list-style-type: none"> ○ Measles is caused by a virus that specifically infects the respiratory system. ○ Rubella is caused by a virus that invades lymph nodes, eyes and skin. ● Steps taken by India <ul style="list-style-type: none"> ○ Mission Indradhanush to ramp up vaccinating the unvaccinated population. ○ National strategic plan for measles and rubella elimination. ○ Introduced rubella-containing vaccine (RCV) into the routine immunisation programme. ○ A nationwide measles-rubella supplementary immunisation activity (SIA) catch-up campaign.
Norovirus	<ul style="list-style-type: none"> ● Kerala confirmed cases of Norovirus. ● Norovirus is a highly contagious animal-borne disease that can be transmitted through contaminated water and food. <ul style="list-style-type: none"> ○ Virus is capable of surviving low temperatures, and outbreaks tend to be more common during winter and in colder countries. ● Norovirus causes gastrointestinal illness, including inflammation of lining of stomach and intestines, severe vomiting and diarrhea.
Alzheimer's disease	<ul style="list-style-type: none"> ● US Food and Drug Administration has granted approval to Alzheimer's drug lecanemab (marketed as Leqembi) that has shown to slow cognitive decline in patients in early stages of the illness. ● Alzheimer's disease is a progressive neurologic disorder that causes the brain to shrink (atrophy) and brain cells to die. <ul style="list-style-type: none"> ○ It is the most common cause of dementia — a continuous decline in thinking, behavioral and social skills. ● Lecanemab aims to slow the progression of disease by removing clumps of beta-amyloid — considered one of the main causes of Alzheimer's disease — from the brain.
XBB.1.5	<ul style="list-style-type: none"> ● First case of XBB.1.5 variant is detected in Gujrat. ● It is a new recombinant strain—is highly immune evasive and appears more effective at binding to cells than related subvariants. <ul style="list-style-type: none"> ○ A recombinant strain is where related viruses exchange genetic material to create offspring with genetic material from both parent viruses. ● Omicron subvariants XBB.1.5, BQ.1.1, BQ.1, BA.5, and XBB are causing almost all Covid-19 infections at present.
Controlling diseases	
Dar-es-Salaam Declaration	<ul style="list-style-type: none"> ● It is a declaration on ending AIDS in children by 2030. ● The Declaration was announced at the first ministerial meeting of the Global Alliance to end AIDS in Children, which brings together the 12 African countries with UNAIDS and other health agencies.
eSanjeevani	<ul style="list-style-type: none"> ● eSanjeevani has provided services to 10 crore beneficiaries. ● eSanjeevani- National Telemedicine Service of India- is world's largest telemedicine implementation in primary healthcare. <ul style="list-style-type: none"> ○ It is an e-health initiative of Ministry of Health and Family Welfare. ○ It is a part of Ayushman Bharat Digital Health Mission. ○ It is an alternative to conventional physical consultations via digital platform. ● It comprises two Verticals: <ul style="list-style-type: none"> ○ ESanjeevani Ayushman Bharat-Health and Wellness Centers' (HWCs): Bridge rural-urban digital health divide by providing assisted teleconsultations to beneficiaries of Ayushman Bharat Scheme. ○ eSanjeevaniOPD: Caters to citizens in both rural and urban alike.
Miscellaneous	
Immune Imprinting	<ul style="list-style-type: none"> ● Recently, Scientific studies have found that immune imprinting can make bivalent boosters less effective. <ul style="list-style-type: none"> ○ Bivalent boosters are variant-specific booster shots of vaccines to develop better immunity against coronavirus. ● Immune imprinting is a tendency of the body to repeat its immune response based on the memory of first infection through infection or vaccination.



	<ul style="list-style-type: none"> ○ Imprinting acts as a database for immune system, helping it put up a better response to repeat infections. ○ This makes the variant specific booster dose less effective. ● Concept of immune imprinting came to light for the first time in 1947.
Lead Poisoning	<ul style="list-style-type: none"> ● As per study conducted by NITI Aayog and Council of Scientific & Industrial Research (CSIR) in 2022, 23 states exceed the permissible blood lead level of 5 µg/dL margin. ● Lead is a naturally occurring toxic metal found in Earth's crust. ● Source of lead poisoning <ul style="list-style-type: none"> ○ Occupational sources: Mining, painting, glass manufacturing, pottery, smelting etc. ○ Non occupational sources: Traditional medicine, vehicular exhaust, painted toys, contaminated soil, dust and water etc. ● Impact of Lead poisoning: Damage to brain and nervous system, slowed growth and development, learning problems, Hearing/speech problems leads to reduced intelligence, lower educational attainment etc.

6.7. DEFENCE

6.7.1. MILITARY APPLICATIONS OF DRONES

Why in News?

Indian armed forces have floated the idea for **integrating Unmanned Aerial Vehicles (UAVs) or drones** in its combat systems.

Drone systems in Indian Military

- **Swarm Drones:** Inducted by Indian Army, are **useful in combat operations** for surveillance inputs and undertaking close reconnaissance.
- **Switch VTOL (Vertical Take-Off and Landing) UAVs:** useful in remote areas and difficult terrains. In 2021, Army signed a contract with Mumbai based ideaForge for these drones.
- **Indigenous Drones:**
 - **DRDO Lakshya and DRDO Nishant:** Used for aerial reconnaissance and intelligence gathering.
 - **DRDO TAPAS UAV (Rustom-II):** India's Tactical Advanced Platform for Aerial Surveillance (TAPAS) Medium Altitude Long Endurance (MALE) UAV (in user trial stage).
- **Imported drones in India:**
 - **Israel's Searcher and Heron UAVs:** They are capable of all-weather surveillance. Some variants of Heron can be armed when needed.
 - **Predator armed drones and MQ-9B Sea Guardian drones:** India and USA are moving closer to sign deal for these two drones.



DO YOU KNOW?

- ▶ The concept of drones **originally came for military purposes**. In 1849, Austria attacked Venice using unmanned balloons stuffed with explosives.
- ▶ **First pilotless aircraft** was developed in 1916 by UK, during **World War I**.
- ▶ **India first used military drones during the 1999 Kargil war** against Pakistan for photo-reconnaissance along the Line of Control (LoC).

Defence systems against drones

- **Naval Anti Drone System (NADS):** First indigenously developed comprehensive anti-drone system developed by DRDO.
 - It has **capabilities for both hard kill** (attacking vital drone components) **and soft kill** (misguiding, signal jamming etc.).
- **DRDO's D-4 Drone System:** Acquired by all three forces, it can detect, identify, and neutralize different types of drones within a 4 km radius.
- **Indrajaal:** Indigenous **autonomous drone defence dome** developed by a private Indian firm Grene Robotics.
- **Israel's SMASH 2000 Plus system:** Being used by Indian Navy, this system is installed mainly on assault rifles providing hard kill option.

Drone Regulations in India	
Drone Rules 2021	<ul style="list-style-type: none"> Guidelines by Directorate General of Civil Aviation (DGCA) for use of civil drones. Places restrictions on operating drones in certain areas (Red Zones). Provides for registration and licensing of drones and training of operators. It follows the principle of No Permission – No Take-off (NPNT) and permission is required before every operation of a drone.
Digital Sky Platform	<ul style="list-style-type: none"> Online platform hosted by DGCA for drone management. It includes interactive airspace map with marking of red, yellow and green zones. Platform deals with drone flight plans and permissions to fly.
National Counter Rogue Drone Guidelines	<ul style="list-style-type: none"> Being framed by Indian government, these will include rules about setting up Air Traffic Police, and use of drones in emergency situations etc. These will outline means of detection, interruption and destruction of rogue drones.
Regulations on drone market	<ul style="list-style-type: none"> In 2022, government banned the import of drones, except for research and development, defence and security purposes. However, drone components can be imported. Government approved a Production-Linked Incentive (PLI) scheme for drones and their components.

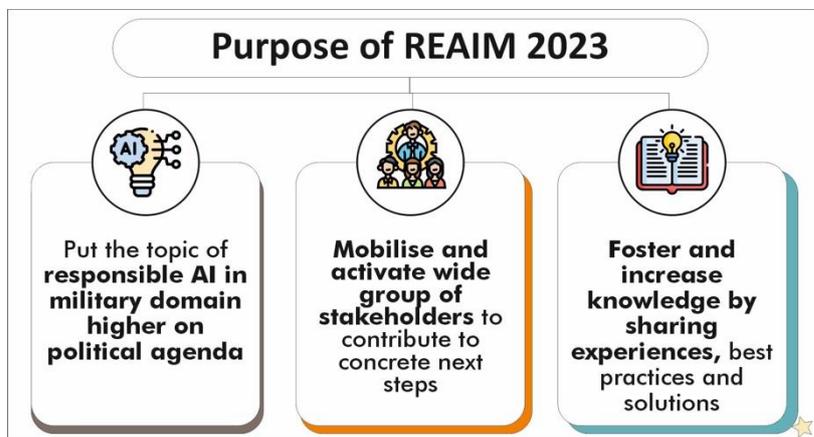
6.7.2. RESPONSIBLE USE OF ARTIFICIAL INTELLIGENCE IN MILITARY (REAIM)

Why in News?

World's first international summit on Responsible use of Artificial Intelligence in Military (REAIM) 2023 held in Hague, Netherlands.

About REAIM

- It's the **first global attempt to prevent proliferation of Lethal Autonomous Weapons (LAWS)** and insert ethics, moral factor into rapidly developing weaponisation technology that has potential for cataclysmic damage.
- Role of AI in military domain**
 - Training and simulation** to provide battlefield experience to soldiers.
 - Surveillance**, specifically in difficult to reach border regions, to provide situational awareness.
 - Offensive capabilities**, such as autonomous armed drones, which can execute targets.
 - Reconnaissance and tactical support** in combat situations such as targeted strikes.
- Concerns associated with use AI in military**
 - Ethical risks, Data biases.**
- Steps taken by India to increase usage of AI in military**
 - Dedicated labs in DRDO** for application orientated research in AI in different domains.
 - Defence AI Project Agency (DAIPA)** enables AI based processes in defence Organisations.



6.7.3. OTHER IMPORTANT NEWS

Weapons	
LORA (Long-Range Artillery) Weapon System	<ul style="list-style-type: none"> Bharat Electronics Ltd (BEL) has signed an MoU with Israel Aerospace Industries (IAI) for domestic manufacture and supply of its LORA Weapon System (LORA) for Indian Tri-services. LORA is a short-range, road-mobile, ground and sea-launched solid fuelled ballistic missile developed and operated by Israel. <ul style="list-style-type: none"> LORA system provides ballistic assault capabilities for multiple ranges (maximum range 280km) with a precision level of 10 meters CEP (Circular Error Probability). It uses Inertial Navigation System/Global Positioning System and TV for terminal guidance, with possible in-flight maneuvering capability. It can carry a warhead of upto 600 kg.
Others	
Electronic Maintenance	<ul style="list-style-type: none"> At Aero India 2023, Ministry of Defense has launched the Indian Air Force e-MMS and SAMAR (System for Advance Manufacturing Assessment & Rating) portal.

Management System (e-MMS) and SAMAR portal	<ul style="list-style-type: none"> E-MMS is one of the largest and technologically complex digital Enterprise Asset Management solutions implemented in world. <ul style="list-style-type: none"> It is a software that helps an organization track the status of maintenance tasks, and schedule equipment repairs. SAMAR is a portal of DRDO's Aeronautical Research and Development Board (AR&DB) and is an outcome of DRDO and Quality Council of India (QCI). <ul style="list-style-type: none"> It is the benchmark to measure the competency of defence manufacturing enterprises.
SPRINT scheme	<ul style="list-style-type: none"> Indian Navy has signed an agreement with Sagar Defence Engineering Pvt. Ltd for armed autonomous boat swarms under 'SPRINT' scheme. SPRINT stands for Supporting Pole-vaulting In R&D through Innovations for Defence Excellence (IdeX), Naval Innovation and Indigenisation Organisation (NIIO) and Technology Development Acceleration Cell (TDAC). <ul style="list-style-type: none"> It aims at development of 75 indigenous technologies by industry for Navy.
KAVACH-2023	<ul style="list-style-type: none"> All India Council for Technical Education (AICTE), Bureau of Police Research and Development (BPR&D) and Indian Cyber Crime Coordination Centre (I4C) jointly launched KAVACH- 2023. KAVACH- 2023 is a national level hackathon to identify innovative ideas and technological solutions for addressing cyber security and cybercrime challenges of 21st century. <ul style="list-style-type: none"> It'll be conducted in two phases. Youth from educational institutions and registered start-ups participated in it. Prize money worth Rs. 20 Lakh will be awarded to winning teams.
Sainya Ranakshetram 2.0 Hackathon	<ul style="list-style-type: none"> Indian Army conducted the second edition of Hackathon. Its objective is to seek solutions to operational cyber challenges and to reduce development time for innovative solutions in the field of Cyber Security.

6.8. ALTERNATIVE ENERGY

6.8.1. NATIONAL GREEN HYDROGEN MISSION

Why in News?

The Union Cabinet has recently approved the **National Green Hydrogen Mission**.

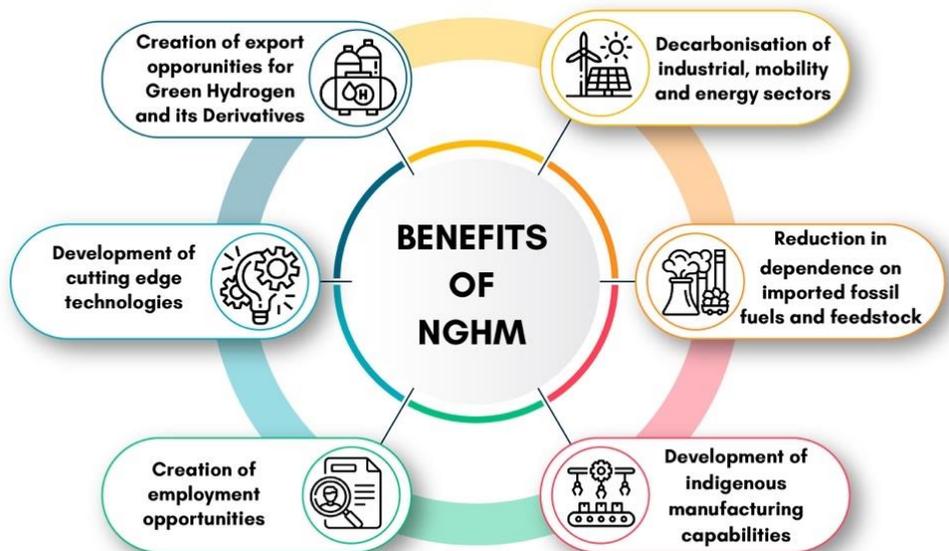
Sub-Components of the Mission

Ministry of New and Renewable Energy (MNRE) is to formulate the **guidelines** for the implementation of the mission.

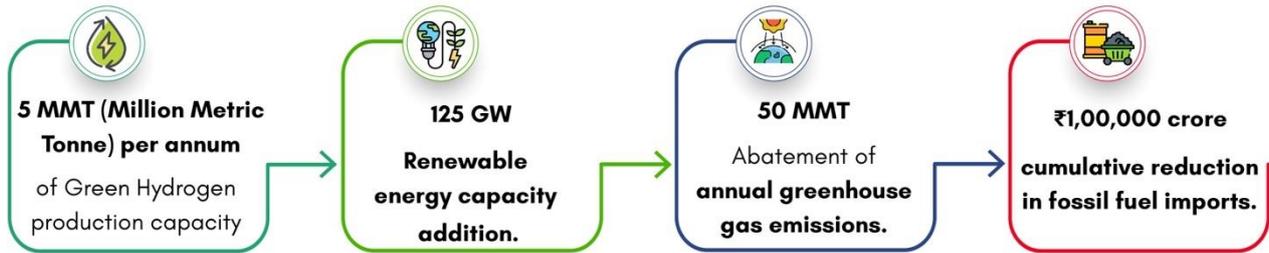
- Strategic Interventions for Green Hydrogen Transition Programme (SIGHT):** to provide incentives for **targeting domestic manufacturing of electrolyzers** and for **production of Green Hydrogen**.
- Pilot projects: in emerging end-use sectors,** supporting large scale production or utilization of Hydrogen will be identified and developed as **Green Hydrogen Hubs**.
- Strategic Hydrogen Innovation Partnership (SHIP):** Public-Private Partnership framework for **R&D**.
- Skill Development** programme.

Advantages of Hydrogen: High calorific value, alternative to coke and coal in steel production, fuel cells in electric vehicles etc.

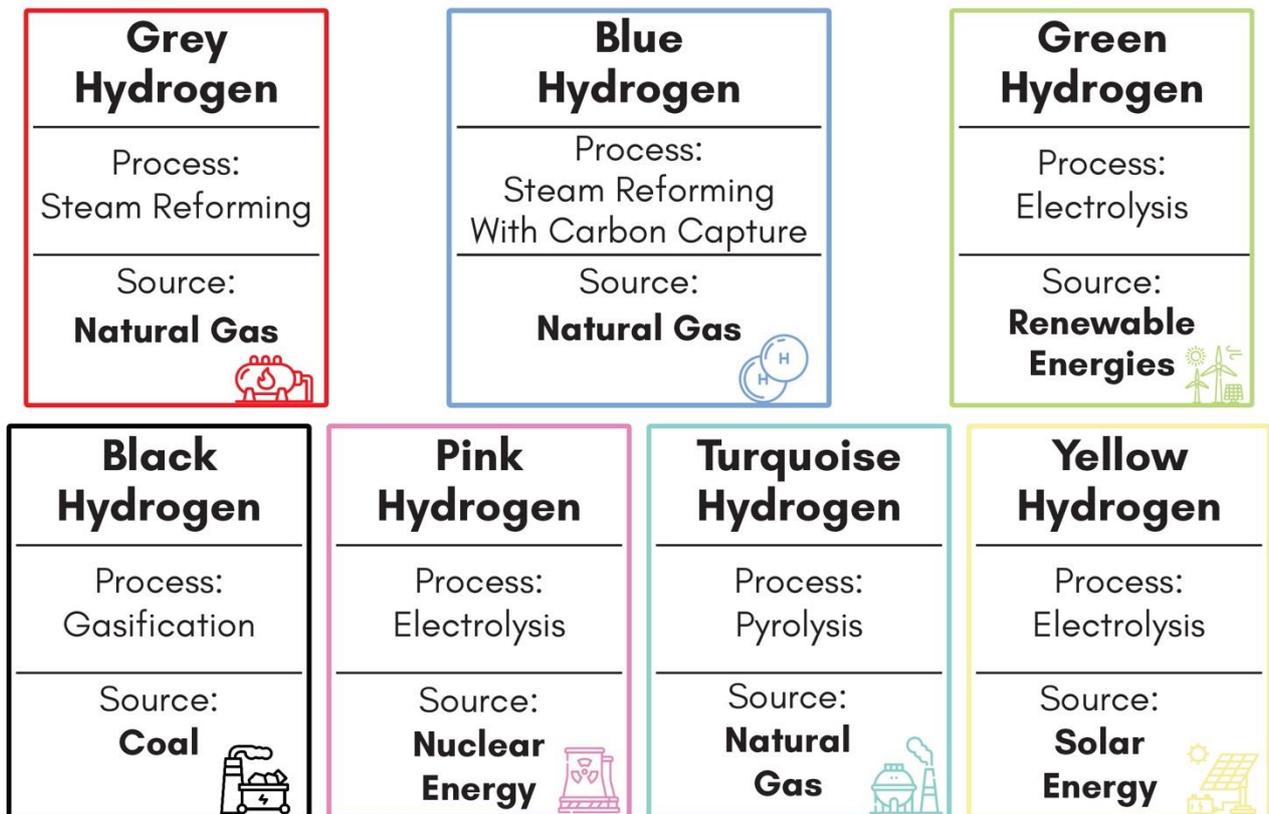
Constraints in using hydrogen: high cost of electrolyser technology, high price of green hydrogen, difficult to transport and store etc.



Expected Mission Outcomes by 2030



Types of Hydrogen based on production methods



Updated Classroom Study Material

Electrolyser

- An electrolyser is a device capable of splitting water molecules into their constituent Oxygen (O₂) and Hydrogen (H₂) atoms.
- The splitting of the O₂ and H₂ atoms by application of electrical energy is called electrolysis.

Types of Electrolysers

- Solid oxide electrolysis cell (SOEC)
- Alkaline electrolyser
- Proton exchange membrane (PEM)

HOW A HYDROGEN ELECTROLYSIS PLANT WORKS

Desalination
Seawater enters through pipelines, is processed for treatment and passes, without salt, to the electrolyser.

1

Electrolysis
Water (H₂O) is shocked with an electric current from a clean source - such as solar or wind-that separates the hydrogen (H₂) and oxygen (O₂) molecules.

2

It is a priority for plants to be in port areas for transport logistics

3 H₂ cylinder
Now in a gaseous state, hydrogen is compressed for distribution to industry.

4 Ship
The gas must be converted into a liquid for sea transport. This can be done by converting the H₂ into ammonia, and reversing the process at the destination.

5 O₂ cylinder
Oxygen generated from electrolysis can be sent to industries or hospitals.

Related news: Hydrogen Blending

National Thermal Power Corporation Limited (NTPC) started India's first green hydrogen blending operation in piped natural gas (PNG) network.

About Hydrogen blending

- Process of integration of concentrations of hydrogen into existing natural gas pipelines and the resulting blends can be used to generate heat and power.
 - Petroleum and Natural Gas Regulatory Board (PNGRB), regulatory body has given approval for 5% vol./vol. blending of green hydrogen with PNG to start with and it would be scaled phase wise to reach 20%.
- Depending on production methods, hydrogen can be grey, blue, green, pink etc.

Know the term



• Natural Gas is a **composition of hydrocarbons** (Almost 95% Methane & rest other Hydrocarbons).



• Piped natural gas (PNG) is same natural gas which is **brought at consumer end through a Pipe Line network.**

6.8.2. NUCLEAR ENERGY PROGRAM

Why in News?

Haryana's first nuclear power plant will be set up in Gorakhpur village.

More on News

Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) will have **two units of 700 MWe capacity each of Pressurised Heavy Water Reactor (PHWR).**

INDIA'S NUCLEAR ENERGY PROGRAM (NEP)

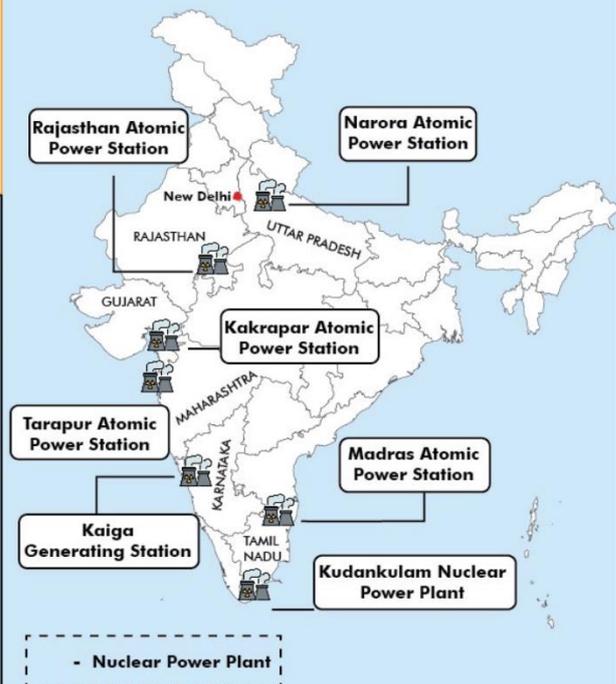
Three Stage NEP

- It is based on a **closed nuclear fuel cycle.**
- It was envisioned by **Homi Bhabha.**
- Reached **first stage in 2013** and is currently on **second stage of program.**
- Nuclear energy is **fifth-largest source** of electricity for India.

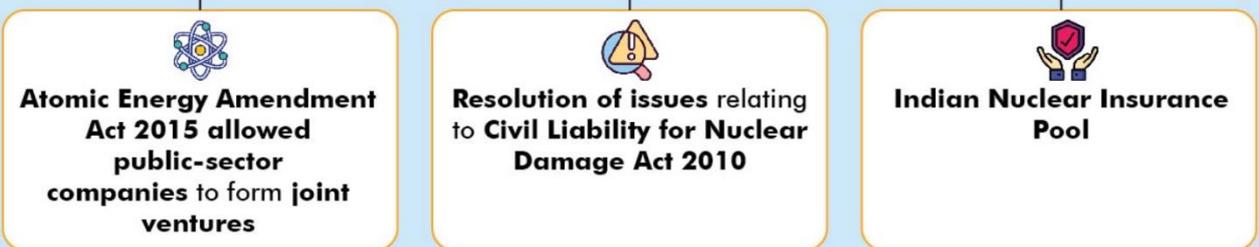
Nuclear Energy Program Stages

Stage I	Stage II	Stage III
<ul style="list-style-type: none"> • PHWRs fuelled by Natural uranium would produce plutonium-239 • Heavy water (D2O) is used as moderator and coolant 	<ul style="list-style-type: none"> • Fast Breeder Reactors (FBRs) utilising plutonium-239 fuel from first stage and formed uranium-238 	<ul style="list-style-type: none"> • Advanced nuclear power systems for utilisation of Thorium

Operational Nuclear Power Plants in India



Steps Taken To Increase Nuclear Power Generation



6.8.3. OTHER IMPORTANT NEWS

<p>Virtual power plants (VPPs)</p>	<ul style="list-style-type: none"> Companies including GM, Ford, Google would work together to establish standards for scaling up use of VPPs. VPP is a network of decentralized power-generating units that pool together thousands of energy resources like electric vehicles (EVs) or electric heaters. <ul style="list-style-type: none"> VPPs use advanced software to react to electricity shortages with techniques like switching households' batteries from charge to discharge mode or prompting electricity-using devices to back off their consumption. VPPs will enable grid planners to better manage growing electricity demand and make sure grid stays reliable even in extreme weather challenges and aging infrastructure. 	<p>The diagram illustrates a Virtual Power Plant (VPP) system. At the center is a yellow box labeled 'Control centre' containing a computer monitor with a line graph. This central hub is connected via dashed lines to several components: <ul style="list-style-type: none"> Energy Sources: Solar parks (solar panels), Hydropower plants (dam), Wind farms (wind turbines), Hydrogen (two H atoms), and Electric vehicles (EVs). Storage: A battery icon labeled 'Storage'. Consumers/Outputs: Power grid (transmission towers), Industrial load (factory), Demand forecast (clock), Production forecast (lightning bolt), and Traded energy markets (candlestick chart). </p>
<p>Tritiated water</p>	<ul style="list-style-type: none"> Fukushima to release radioactive contaminated water which was stored at Fukushima Daiichi Nuclear Power Plant on Japan's east coast due to tsunami. <ul style="list-style-type: none"> Before it is stored, wastewater produced at Fukushima is treated to remove almost all radioactive elements including cobalt 60, strontium 90 and caesium 137. But tritium—a radioactive form of hydrogen—is left behind. When one of hydrogen atoms in water is replaced by tritium, it forms radioactive tritiated water. Tritiated water is chemically identical to normal water, which makes separating it from wastewater expensive, energy intensive and time consuming. 	
<p>Muons</p>	<ul style="list-style-type: none"> Scientists used muons to examine the fortress wall of Xi'an city. Muons are subatomic particles created when particles in Earth's atmosphere collide with cosmic rays. <ul style="list-style-type: none"> About 10,000 muons reach every square metre of Earth's surface a minute. These particles resemble electrons but are 207 times as massive. As they are heavy, they can travel through hundreds of metres of rock. Cosmic Rays are clusters of high-energy particles that move through space at just below speed of light. 	

6.9. MISCELLANEOUS

6.9.1. LITHIUM DEPOSITS IN INDIA

Why in News?

Geological Survey of India has for the first-time established **Lithium inferred resources (G₃) of 5.9 million tonnes** in Salal-Haimana area of Reasi District of Jammu & Kashmir.

Geological Survey of India (GSI)

Kolkata, West Bengal

Genesis: Set up in **1851**, primarily to **find coal deposits for the Railways**. Presently, is an **attached office to the Ministry of Mines**.

Objective: Establishing a repository of geo-scientific information and assessment of mineral resources.

Other key information: It achieves its objectives through ground surveys, air-borne and marine surveys, mineral prospecting and investigations, multi-disciplinary geoscientific, geo-technical, geo-environmental and natural hazards studies, glaciology, seismotectonic study, and carrying out fundamental research.

More on News

- The discovery is **‘inferred’ or preliminary**, the lowest of the three levels of estimations of a mineral deposit and the **second of the four stages of exploration**, as per the UNFC 1997.
- This may be the **seventh largest deposit of the rare element**, accounting for **roughly 5.7% of all the reserves** in the world.
- Previously, in India, lithium reserves have been **reported from Karnataka’s Mandya district**.

Mineral exploration stages

- According to the **United Nations Framework for Classification for Reserves and Resources of Solid Fuels and Mineral Commodities (UNFC 1997)**, resources are categorized using the **three essential criteria affecting their recoverability**:
 - Economic and commercial viability (E).
 - Field project status and feasibility (F).
 - **Geological knowledge (G).**
- Under the **Geological Knowledge**, the exploration for any mineral deposit involves **four stages: reconnaissance survey (G4), preliminary exploration (G3), general exploration (G2) and detailed exploration (G1).**

Lithium

Properties of Lithium

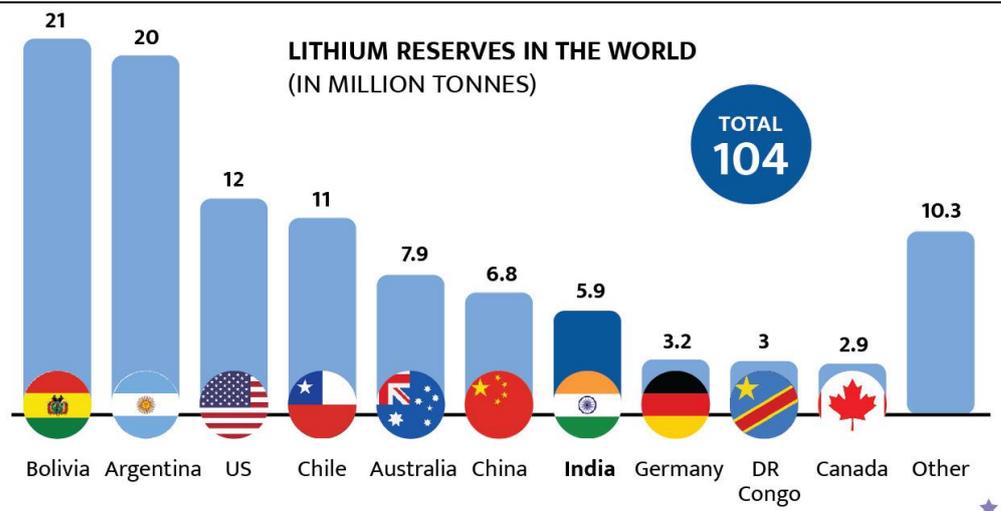
- Soft, shiny grey metal found in the earth's crust
- Lowest density of all metals
- Reacts vigorously with water
- It does not occur as the metal in nature.
- Spodumene, petalite, lepidolite, and amblygonite are the important minerals containing lithium

Applications of Lithium

- Primary Uses**
 - Due to its ability to store energy, it is primarily used to build the **rechargeable batteries** that power modern appliances including mobile phones and Electric Vehicles (EVs).
- Alloys**
 - Lithium alloys are lighter and strong in nature
 - A magnesium-lithium alloy is used for **armour plating**.
 - Aluminium-lithium alloys are used in **aircraft, bicycle frames and high-speed trains**.
- Other Uses**
 - Lithium Oxide: **Special Glasses and Glass Ceramics**
 - Lithium Chloride: One of the **most hygroscopic materials** known, and is used in **air conditioning and Industrial drying systems**
 - Lithium Carbonate: **Drugs** to treat manic depression
 - Lithium Stearate: **all-purpose and high-temperature lubricant** ★

Global Distribution of Lithium

- Though found on each of the six inhabited continents, **Chile, Argentina, and Bolivia** — together referred to as the **“Lithium Triangle”**— hold **more than 75%** of the world’s supply.



- **Significance of Lithium find:** Reducing import dependency, strengthen India’s National Mission on Transformative Mobility and Battery Storage, Strengthening of critical mineral supply chain for emerging technologies etc.
- **Risks from lithium mining in the region:** High risk in ecologically sensitive Himalayas, Environmental pollution, extracting lithium from its ore is highly water-intensive, CO₂ Emissions etc,

Updated Classroom Study Material

6.9.2. OTHER IMPORTANT NEWS

<p>Doomsday Clock</p> 	<ul style="list-style-type: none"> Bulletin of the Atomic Scientists (BAS) moved Doomsday clock to 90 seconds to midnight largely because of mounting nuclear warfare in Ukraine. <ul style="list-style-type: none"> BAS was founded in 1945 by Albert Einstein and University of Chicago scientists who worked on Manhattan Project to build first atomic bomb. Doomsday Clock, created in 1947, is a design that warns the public about how close we are to destroying our world with dangerous technologies of our own making. <ul style="list-style-type: none"> Since its debut, minute hand has been reset 25 times.
<p>Phosphor-Gypsum</p>	<ul style="list-style-type: none"> National Highways Authority of India (NHAI) to explore use of phosphor-gypsum in highway construction. Phosphor-gypsum is a waste by-product from the processing of phosphate rock in plants producing phosphoric acid and phosphate fertilizers. It is contaminated by various impurities, both chemical and radioactive, and is usually stockpiled within special areas. <ul style="list-style-type: none"> Because of contamination, only around 15% of world phosphor-gypsum production is recycled.
<p>Amorphous ice</p> 	<ul style="list-style-type: none"> Scientists have created a new type of ice, called medium-density amorphous ice, that matches the density and structure of water. Significance: Helps in studying water's mysterious properties like Ice is less dense than its liquid form — an unusual property for a crystal. Amorphous ice consists of water molecules arranged in a disordered state, with no large-scale regularity to their orientations or positions. <ul style="list-style-type: none"> This kind of ice is most often found in space, comets, interstellar clouds etc. Crystalline ice consists of water molecules arranged in a geometrically repeating pattern, either cubic or hexagonal. <ul style="list-style-type: none"> Almost all of the ice in natural environment of Earth (e.g. in snow, in polar caps) is crystalline ice.
<p>Marconi prize 2023</p>	<ul style="list-style-type: none"> Indian Computer scientist Hari Balakrishnan has been awarded 2023 Marconi Prize. Marconi Prize is a top honour for computer scientists and is awarded by US based Marconi Foundation annually. <ul style="list-style-type: none"> It is given to those who have made a significant contribution to increasing digital inclusivity through advanced information and communications technology. It includes a \$100,000 honorarium and a work of sculpture.
<p>Indian Science Congress Association (ISCA)</p> 	<ul style="list-style-type: none"> PM inaugurated 108th Indian Science Congress at Rashtrasant Tukadoji Maharaj Nagpur University. <ul style="list-style-type: none"> Theme: “Science Technology for Sustainable Development with Women Empowerment” ISCA owes its origin to the initiative of two British Chemists, namely, Professor J. L. Simonsen and Professor P.S. MacMahon. It aims to promote cause of science in India by holding annual congress, publishing such proceedings, journals and securing and managing funds for promotion of science. The first meeting of the Congress was held in 1914 at Calcutta.
<p>SMART (Scope for Mainstreaming Ayurveda Research in Teaching Professionals) program</p>	<ul style="list-style-type: none"> SMART program has been launched by National Commission for Indian System of Medicine (NCISM) and Central Council for Research in Ayurvedic Sciences (CCRAS) under Ministry of Ayush (MoA). <ul style="list-style-type: none"> It is aimed to boost scientific research in priority healthcare research areas like Iron Deficiency Anaemia, Obesity, etc. through Ayurveda colleges and hospitals. It will motivate teachers for taking up projects in designated areas of healthcare research and create a large database. NCISM is a statutory body established under MoA through NCISM Act, 2020 for regulating medical education. CCRAS is an Autonomous body of MoA for undertaking, coordinating, formulating, developing and promoting research on scientific lines in Ayurvedic Sciences.
<p>Genetically Engineered (GE) trees</p>	<ul style="list-style-type: none"> US scientists field-tested GE version of American chestnut tree (named as Darling 58). GE tree is a tree whose DNA has been modified using genetic engineering techniques. In most cases, it introduces novel traits to plants which do not occur naturally within species. Significance of GE Trees: Fight climate change, boost production, economic benefits for timber, pulp and paper industry etc.

- India has been experimenting with **GE variety of rubber tree** by inserting additional copies of gene **MnSOD (manganese-containing superoxide dismutase)** which enables plant to **tolerate extreme climatic stress**.

6.10. ERRATA

PT 365 Science & Technology (April 2022-December 2022)

- **Article 2.3 Fifth Generation (5G) (Section- About 5G Technologies):** Due to a typographical error, it was written that - “**Beamforcing** a laser beam between transmitting entity and the user”. Kindly note that, the correct term is - “**Beamforming** a laser beam between transmitting entity and the user”.

ENGLISH MEDIUM
17 Feb | 5 PM

हिन्दी माध्यम
27 Feb | 5 PM

- Specific targeted content: oriented towards Prelims exam
- Doubt Clearing sessions and mentoring
- Complete coverage of The Hindu, Indian Express, PIB, Economic Times, Yojana, Economic Survey, Budget, India Year Book, RSTV, etc from April 2022 to April 2023
- Live and online recorded classes that will help distance learning students and who prefers flexibility in class timing

One Year
CURRENT AFFAIRS
FOR PRELIMS 2023 IN 60 HOURS

7. CULTURE

7.1. ARCHITECTURE

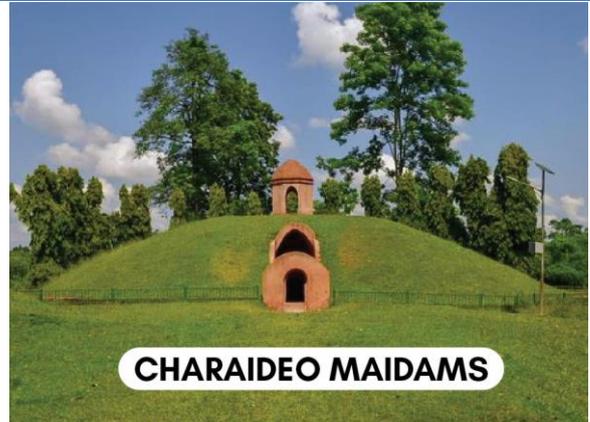
7.1.1. CHARAIDEO MAIDAMS (AHOM BURIAL MOUNDS)

Why in News?

India has decided to nominate Assam's **Charaideo Maidams or Moidams (Ahom Burial Mounds)** for the UNESCO World Heritage Centre for the year 2023.

About Charaideo Maidams

- Mounds containing the **remains of the royalty of the Ahom dynasty.**
- **Location:** along the foothills of the **Patkai range**. These are commonly known as the **Pyramids of Assam.**
- **Source of Information:** **Changrung Phukan** (canonical text developed by Ahoms) provides detail about the different aspects of the Maidams.
- **Structure**
 - They are **vaulted chamber**. They are often **double storied**.
 - **Hemispherical mud-mound layers** of bricks and earth is laid at the top.
 - ✓ And, the base of the mound is reinforced by a polygonal toe-wall and an arched gateway on the west.
 - **Each vaulted chamber has a centrally raised platform** where the body was laid.
 - **Several objects used by royal family** like royal insignia, objects made in wood or ivory or iron, gold pendants, etc. were **also buried with them.**
- **Decline of this Burial System:** After 18th century, many converted to Buddhism and others adopted Hindu method of cremation.
 - Then, they began entombing the cremated bones and ashes in a Maidam.



CHARAIDEO MAIDAMS

DO YOU KNOW?

- Egyptian Pyramids are funerary Tombs and Ceremonial Complexes of the departed **Pharaohs** (Kings).
- The construction of **Pyramid started from mastabas** (mudbrick bench-like structures).
- Placing six mastabas, each smaller than the one beneath, takes the shape of pyramid.
- They are located on the west bank of the Nile River.

Phases of Maidams Construction		
Period	13th CE to 17th CE	18th CE Onwards
Material Used	Wood was used as the primary material for construction.	Stone and burnt bricks of various sizes were used for construction.

7.1.2. SAMMED SHIKHAR AND SHETRUNJAY HILL

Why in News?

Jain community organised protests across the country over the religious site of Samed Shikhar on Parasnath hill in Jharkhand and Shetrunjay hill in Palitana of Gujarat.

More on News

- In Jharkhand, issue is about **Samed Shikharji in Parasnath hill being declared a tourist spot and an eco-sensitive zone.**

DO YOU KNOW?

Parasnath (1365m) is the highest mountain peak in the state of Jharkhand.

- In Gujarat, the row is over the vandalising of **Adinath Dada's Pagla**, a marble carving representing the feet of **Lord Adinath, the first Jain Tirthankar**.
 - Jain community also expressed their concern over the **illegal commercialisation, mining of Shatrunjaya Hill**.

Sammed Shikhar

- Also known as **Sammet Shikharji** (literal meaning is venerable peak) or Shikharji.
 - It is also called '**Siddha Kshetra**' and '**Tirtharaj**' in **Jainism**, which means, 'King of Pilgrimages'.
- **Situated on the Parasnath hill in Jharkhand**.
 - Named after the **23rd Jain tirthankara 'Parshvanatha'**.
- It is believed that **20 of the 24 Jain Tirthankars** (Except bhagvan Rishabdev, bhagavan Vasupujaya, bhagvan Nemihatha and bhagvan Mahavira) **have attained salvation** at this Shikhar.
 - Tirthankara means "**full moon**", which is a **metaphor for Keval Gnan**.
 - A Tirthankar is **not an incarnation of the God**.
- Shikharji is **worshiped by both Digambaras and Svetambaras**.
- Shikharji is also part of '**Svetambara Pancha Tirth**' (five principal pilgrimage shrines), the other four are **Ashtapad, Girnar, Dilwara Temples of Mount Abu and Shatrunjaya**.

Shetrunjay hill

- Situated at **Palitana in Bhavnagar district of Gujarat**.
- Also known as **Pundarikgiri** (named after **Pundarika, grandson of Adinath**).
- It is situated on the **banks of the Shetrunji River**.
 - It rises at **Chachai hills in Gir Forest of Junagadh district**.
 - **It is an east flowing river** and empties into Gulf of Cambay.
- **Adinath or Rishabhanatha, the first Tirthankara delivered his first sermon at this hill**.
- The temples over the hill were **built in the eleventh and twelfth century**.

Santhals assert their claim over Parasnath Hill

- Union Ministry of Environment, Forest and Climate Change **banned sale of liquor and non-vegetarian food** within 10 km radius of the Parasnath hill.
- Decision was **opposed by the Santhals**, the largest tribal community of Jharkhand.
 - They consider **Parasnath hill as their Marang Buru (hill deity)**.
 - This **decision will affect their religious rituals** such as animal sacrifice.
- During British Period, the **dispute between Santhal and Jains over Parasnath hill was heard by Privy Council**.
 - The Council **ruled in the favour of the Santhal Tribe**.

Other Principal Pilgrimage Shrines of Svetambara



Ashtapad

- ◆ It is located in **Sichuan Province in South West China near the Tibeta border**. It literally means eight steps.
- ◆ It is believed that the first Jain Tithankar, **Rushabhdev** attained nirvana at this place.



Girnar

- ◆ It is located in Gujarat. 22nd Tirthankara Lord **Neminatha** attained nirvana over here. It is also known as **Revatak Parvata**.



Dilwara Temples

- ◆ The Dilwara Temples or Delvada Temples are a **group of Svetambara Jain temples located at Mount Abu in Sirohi District, Rajasthan**.
- ◆ Dilwara Temple complex consist of five major temples devoted to five jain trithankaras namely **Lord Mahaveer, AdiNath, ParshavNath, Rishabdaoji and NemiNath**.
- ◆ They are known for **marvelous marble stone carvings**.
- ◆ These **temples were built between 11th to 13th century AD by Chalukya dynasty**.

7.1.3. PURANA QILA

Why in News?

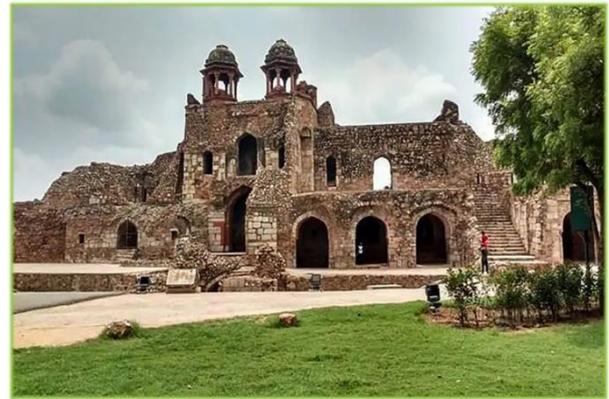
Archaeological Survey of India (ASI) reopened trenches excavated earlier at Purana Qila to find first occupants.

More about News

- ASI undertook **excavations in 1969-73, 2013-14 and 2017-18**.

- Identified as ancient settlement of Indraprastha (capital of Pandavas), a **continuous habitation of 2,500 years was established** in earlier excavations.
- **Findings from earlier excavation include:**
 - **Painted grey ware** from 900 BC, an **earthen pottery sequence** from Maurya to Shunga, Kushana, Gupta, Rajput, Sultanates, and Mughal periods.
 - **Artefacts** such as sickles, parers, terracotta toys, kiln-burnt bricks, beads, terracotta figurines, and seals.

Purana Qila



About Purana Qila

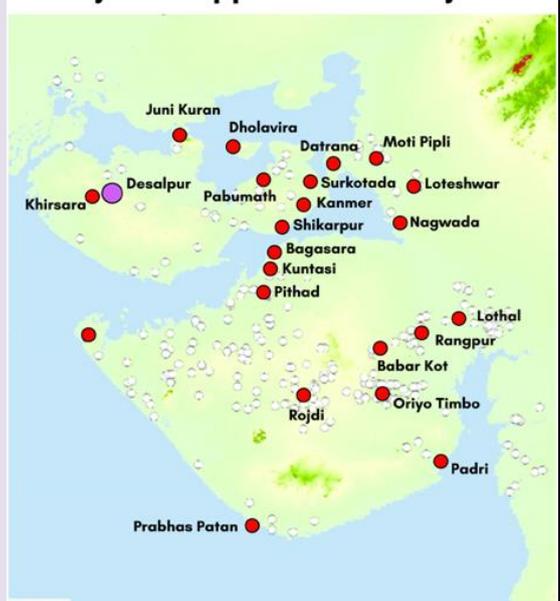
- Purana Qila was **built by Mughal Emperor Humayun** as a **part of his new city of Dinpanah** in the 16th century.
 - Apart from archaeology, **textual sources such as Ain-i-Akbari of Abul Fazal** (16th century), mention that fort was built at site of Indraprastha.
- **Architectural features of Purana Qila Complex**

<p>Qila-e-Kuhna mosque</p> 	<ul style="list-style-type: none"> ● Built by Sher Shah. It reflects a transitional stage between architecture of Lodhis and Mughals.
<p>Sher Mandal</p> 	<ul style="list-style-type: none"> ● Built by Sher Shah, an octagonal structure built in red sandstone and decorated with white and black marble inlay. ● Humayun made it into a library and died after falling from the steps of this structure.
<p>Other structures</p>	<ul style="list-style-type: none"> ● A Baoli for managing water supply and a hammam (bathhouse) is also present. ● Lal Darwaza and Khairul Manazil are also considered part of this complex. ● Three majestic Gateways: Bada Darwaja, Humayun Darwaza, and Talaqi Darwaza. ● Wide moat linked to river Yamuna.

7.1.4. OTHER IMPORTANT NEWS

<p>Excavation at Harappan site in Gujarat</p>	<ul style="list-style-type: none"> ● Excavations at Juna Khatiya village (Kutch district) found rows of graves with skeletal remains, ceramic pots, beaded jewellery, animal bones etc. <ul style="list-style-type: none"> ○ These are from 3,200 BCE to 2,600 BCE, (pre-urban Harappan). ● Key findings <ul style="list-style-type: none"> ○ No major habitation discovered. ○ Site demonstrates transition from earth-mound burials to stone graves. ○ Pottery like those excavated from early Harappan sites in Sindh and Balochistan.
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Major Harappan sites in Gujarat



	<ul style="list-style-type: none"> ○ Pebbles of local rock, basalt, etc and clay was used. ● Major burial practices of Indus Valley Civilization ○ Although varied across sites, there were three known types of burial customs: complete burial, fractional burial, and urn burial (Burial of the ashes after cremation). ○ Most common burial method was placing body with head towards north in a simple pit or brick chamber. ○ Grave goods including food, pottery, and ornaments can be found along with the body. ○ Lothal provides evidence of burial of pairs of male and female together.
<p>Keeladi Excavations</p> 	<ul style="list-style-type: none"> ● Keeladi is a hamlet in Sivaganga district, Tamil Nadu. It is located, near temple city of Madurai, along the Vaigai river. ● 2015 excavations at Keeladi prove that an urban civilisation existed in Tamil Nadu in Sangam age. <ul style="list-style-type: none"> ○ Sangam age in ancient Tamil Nadu was believed to be from third century BCE to third century CE. ○ Based on Keeladi findings Archaeologists have pushed Sangam age further back.
<p>Buddhist monastery complex</p> 	<ul style="list-style-type: none"> ● Excavations revealed Buddhist monastery complex at Bharatpur, West Bengal. ● Other Findings during earlier excavations at location <ul style="list-style-type: none"> ○ A Buddhist stupa. ○ Black and red ware pottery from Chalcolithic or Copper Age. ○ Sculptures of Buddha in Bhumisparsha Mudra (also known as 'earth witness' mudra) -- with all five fingers of the right hand extended to touch the ground. <ul style="list-style-type: none"> ✓ It symbolizes Buddha's enlightenment under bodhi tree, when he summoned the earth goddess, Sthavara, to bear witness to his attainment of enlightenment.
<p>Khajuraho Group of Monuments</p> 	<ul style="list-style-type: none"> ● Parrot lady (returned by Canada in 2015) has been housed at museum in Khajuraho. <ul style="list-style-type: none"> ○ It is a 12th-century idol that belongs to Khajuraho, a town in Madhya Pradesh famous for its temples associated with erotic art. ● Khajuraho Group of Monuments <ul style="list-style-type: none"> ○ A UNESCO World Heritage Site, there were originally a group of Hindu and Jain temples, currently only 20 temples survive. ○ Temples (Nagara-style) at Khajuraho were built during Chandella dynasty, which reached its apogee between 950 and 1050 . 
<p>Saptakoteswar Temple</p> 	<ul style="list-style-type: none"> ● 350-year-old Saptakoteswar temple of Narve in Bicholim, Goa, has been restored by ASI. ● Saptakoteswar is the deity of the royal dynasty of Goa Kadamba. <ul style="list-style-type: none"> ○ It is dedicated to Lord Shiva. ○ Shivaji Maharaj had renovated this laterite cave shrine into a full- fledged temple in 1668.
<p>Jatar Deul Temple</p> 	<ul style="list-style-type: none"> ● Outer wall of Jatar Deul temple is gradually eroding due to climate change induced air salinity. ● Jatar Deul is an 11th century ancient terracotta temple in West Bengal's Sundarbans. <ul style="list-style-type: none"> ○ It is a Shiva temple and is the tallest standing temple in Sundarbans on the bank of Moni River. ○ It has a curvilinear tower like temple architecture of Nagara order of Odisha temples. ○ It has been classified as a Monument of National Importance by ASI.
<p>First G 20 tourism ministerial meeting at the Rann of Kutch</p>	<ul style="list-style-type: none"> ● India will highlight the most successful and innovative initiatives under rural tourism and archaeological tourism like - <ul style="list-style-type: none"> ○ Ladpura Khas village of Madhya Pradesh: In this village, government developed homestays in villages under the Responsible Tourism Mission of the State. ○ Khonoma village of Nagaland: Present the model of Ecotourism Management Board that develops Rural Tourism Products and promotes responsible travel. ○ Dholavira site in Gujarat: Southern centre of the Harappan civilisation and World Heritage Sites since 2021.

7.2. PAINTINGS AND OTHER ART FORMS

<p>Thullal</p> 	<ul style="list-style-type: none"> • Ottanthullal (or Thullal) is a recite-and-dance art-form of Kerala that is famous for its humour and social satire. <ul style="list-style-type: none"> ○ It was introduced in 18th century by legendary poet Kunchan Nambiar. • It is marked by its simplicity as opposed to more complex dance-forms like Kathakali and Koodiyattam. • Thullal performer is supported by a singer who repeats the verses and is accompanied by an orchestra of mridangam or thoppimaddalam (percussions) and cymbals. • It has spawned into three separate versions which include Ottanthullal, Seethankan thullal and Parayan thullal.
<p>Mohiniyattam</p> 	<ul style="list-style-type: none"> • Famous Mohiniyattam exponent Kanak Rele passed away. • Mohiniyattam is a classical dance form of Kerala. • It is performed by women in honour of god Vishnu in his incarnation as enchantress Mohini. <ul style="list-style-type: none"> ○ Conventionally a solo dance performed by female artists, it emotes a play through dancing and singing. ○ Instruments used: Maddalam, Mridangam, Veena, Kuzhitalam or Cymbals, Edakka etc. ○ It has its roots in sage Bharata Muni's text called 'Natya Shastra'. • 8 Classical dances are Bharatnatyam, Kathak, Kathakali, Kuchipudi, Odissi, Sattriya, Mohiniyattam and Manipuri.
<p>Etikoppaka Toy</p> 	<ul style="list-style-type: none"> • C.V. Raju, the craftsman involved in Etikoppaka wooden toy craft, has been conferred Padma Shri. • Etikoppaka toys of Andhra Pradesh received Geographical Indication (GI) tag in 2017. • Wood for toys is sourced from locally grown ankudu or Wrightia tinctoria trees and is soft in nature. • Art of toy making is also known as Turned wood Lacquer craft. • Toys are made with natural colors with lacquer coating, providing high gloss and shiny surfaces.

7.3. PERSONALITIES

7.3.1. MAHARISHI DAYANAND SARASWATI

Why in News?

The Prime Minister inaugurated the year-long celebrations commemorating the **200th birth anniversary** of **Maharishi Dayanand Saraswati**.

KNOW THE TERM



• Shuddhi Movement

- It was initiated by **Swami Dayanand Sarsawati**, to bring back **Islamic or Christian converts** into **Hinduism**.
- This became a very **popular movement** by the **early 20th century**, especially aimed at **lower caste converts** who were given a **higher social status and self-esteem** under the more egalitarian **Arya Samaji philosophy**. ★



Maharishi Dayanand Saraswati



About

- He was a **social reformer**.
- His **views on religion, politics and society** were published in his famous work, **Satyarth Prakash (1875)**.

His Philosophy

Advocation of Dharma

- Which he believed to be **free from any partiality**.
- **Adharma was anything that was not just or fair** and was **opposed to the teachings of the Vedas**.

Supremacy of Vedas

- **Emphasised "return to Vedic principles"**.
- Gave the **slogan 'Go back to Vedas'**.

Others

- Preached **Non-violence and respect for other human beings**.
- **Activities for benefit of humankind** rather than individuals or even idols and religious symbols.
- **Against untouchability** and advocated **Vedic education for all castes**.
- Campaigned for **women education, opposed child marriage**.

Contribution Made

Political Contribution

- **Considerable influence on personalities** like Lala Lajpat Rai, Savarkar, Madam Cama, Ram Prasad Bismil, MG Ranade, Subhash Chandra Bose, Bhagat Singh etc.
- Credited to have **first used the term swaraj** (self-rule) in 1875.
- **Criticised British** from a religious point of view as well as providing an ancient Indian alternative.
- **Supported Swadeshi**.

Contribution to Education

- **Introduced Anglo-Vedic schools** to offer **Vedas along with contemporary English education**.
- **Dayanand Anglo Vedic (DAV) schools in 1886** to realise his vision. First DAV at Lahore.
- He founded **multiple Vedic schools** and Gurukuls which provided an **Indian alternative to missionary schools**.

Arya Samaj

Genesis: Dayanand Saraswati **founded Arya Samaj** in 1875 in Bombay **to counter social inequities**.

Objective: To **move the Hindu religion away from the fictitious beliefs**. 'Krinvan to Vishvam Aryam' was the motto of the Samaj, which means, "**Make this world noble**".

○ Promoted a **united Hindu society on the basis of Vedic teachings**.

○ **Condemn ritualistic practices** like idol worship, pilgrimage and bathing in holy rivers, animal sacrifice etc.

Role of Arya Samaj: Cultural and social awakening through its **emphasis on social reforms and education**.

○ **Supported widow remarriage, education of girl child and opposed child marriage**.

Paropkarini Sabha: established under Arya Samaj to propagate Vedic traditions through Gurukuls and publications as mediums.

7.3.2. OTHER IMPORTANT NEWS

<p>Goswami Tulsidas</p> 	<ul style="list-style-type: none"> • Ramcharitmanas poem was written in Awadhi dialect in 16th century by Goswami Tulsidas. It is based on sage Valmiki's great epic Ramayana. <ul style="list-style-type: none"> ○ Poem is divided into seven chapters (Kand) that tell the story of Lord Ram from birth to his becoming King of Ayodhya. • Goswami Tulsidas was a Brahmin and his original name was Ram Bola Dubey. <ul style="list-style-type: none"> ○ He is believed to have been born in Rajapur in today's Banda district in UP. ○ He composed Ramcharitmanas on the bank of Ganga in Varanasi. ○ He lived in the time of Emperor Akbar.
<p>Rani Velu Nachiyar</p> 	<ul style="list-style-type: none"> • Rani Velu Nachiyar, also known as Veeramangai (brave women) in Tamil language) was daughter of King Chellamuthu Vijayaragunatha Setupathy of Ramanathapuram. • She became the queen of Sivaganga estate (in present day Tamil Nadu) from 1780-1790. • She built an army of women called Udaiyaat. • She was the first queen to wage war against East India Company. • She formed an alliance with Hyder Ali against British in 1780.
<p>Santh Sevalal Maharaj</p> 	<ul style="list-style-type: none"> • Ministry of Culture has announced a year-long commemoration of birth anniversary of Banjara Dharmaguru Santh Sevalal Maharaj. • Born in 1739 in Shivamogga district of Karnataka. • He was a social reformer and spiritual teacher of Banjara Community. <ul style="list-style-type: none"> ○ Spread across India, Banjara Community is a nomadic community with nearly 10-12 crore population. ○ They are classified as SC, ST and OBC in different states. • Having sound knowledge in Ayurveda and Naturopathy, he eradicated myths and superstitions prevalent among forest dwellers and nomadic tribe.
<p>Veer Narayan Singh</p> 	<ul style="list-style-type: none"> • Government of Chhattisgarh named "Shaheed Veer Narayan Singh International Cricket Stadium" to honour him. • He was a landlord from Sonakhan, Chhattisgarh. • He spearheaded the 1857 war in Chhattisgarh. He is also considered as "The 1st Chhattisgarhi freedom fighter". • His ancestors were from the Gond tribe. Later on, they changed their affiliation from the Gond to the Binjhar tribe.
<p>Hemu Kalani</p> 	<ul style="list-style-type: none"> • Born in Sindh region of United India, he was a revolutionary and a freedom fighter during the Indian Independence Movement. • Also known as Bhagat Singh of Sindh, he joined Swaraj Sena (a youth organization). • He distributed anti-British literature and also joined the Quit India Movement in 1942. • In 1942, he attempted to derail and loot the British train loaded with weapons to crush the ongoing Balochistan agitation. <ul style="list-style-type: none"> ○ But he was caught and hanged at the young age of 19 years.

7.4. MONUMENTS OF NATIONAL IMPORTANCE

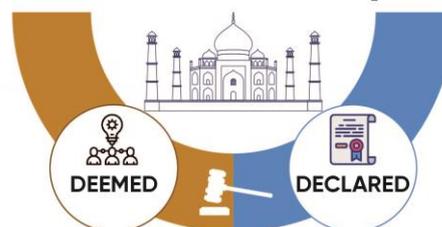
Why in news?

Recently, the **Economic Advisory Council to the Prime Minister (EAC-PM)** has released its report '**Monuments of National Importance (MNI): Urgent Need for Rationalization**'.

India's Cultural Heritage and Provisions for its Protection

- **Legal protection to MNIs: Article 49** directs the state to protect monuments and places and objects of national importance across the country.
 - Accordingly, the **Ancient Monuments and Archaeological Sites and Remains Act, 1958 (AMASR Act, 1958)** was enacted.

Monuments of National Importance



Under **Section 3 of AMASR Act**, it includes all **ancient and historical monuments and archaeological sites and remains** which have been **declared** by the:

- **Ancient and Historical Monuments and Archaeological Sites and Remains (Declaration of National Importance) Act, 1951**, or
- **By Section 126 of the States Reorganisation Act, 1956**, to be of national importance.

Under **Section 4 of AMASR Act**, it includes **any ancient monument or archaeological sites and remains** which is

- **Declared by the Central Government** through **notification in the Official Gazette** and are not included in **section 3** is of national importance.



- **The AMASR Act (amended in 2010)** provides for the preservation of ancient and historical monuments and archaeological sites and remains which are **deemed or declared to be of ‘national importance’ under the law (refer image).**
- **Management of MNI:** Ministry of Culture manages all the **Centrally Protected Monuments (CPMs) of National Importance**, through the **Archaeological Survey of India.**
 - **National Monuments Authority (NMA)**, established in **2010** under **‘The Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act, 2010’**, helps Central Government in grading and classifying **Monuments of National Importance (MNI).**
 - NMA also **looks after the limits of prohibited and regulated areas.**
 - ✓ **Prohibited Area**, i.e., **100-meter (m) radius** of the monument having a **ban on construction activities**, and
 - ✓ **Regulated Area**, i.e., **200 m** further away from prohibited area with **regulations on construction.**
- Over **60%** of MNIs are in just **five states** (Uttar Pradesh, Karnataka, Tamil Nadu, Madhya Pradesh, and Maharashtra).

7.5. ROOTS OF DEMOCRATIC VALUES IN INDIA

Why in News?

In a recent episode of Mann ki Baat PM while observing that India is a democratic society by nature stated that democracy has been an integral part of our daily lives for centuries.

Institutions/practices mentioned by PM

Particulars	About
Uthiramerur Inscriptions 	<ul style="list-style-type: none"> ● Dated around 920 A.D in reign of Parantaka Chola-I (907-955 AD). ● It is an ancient Chola village once known as Chaturvedimangalam and is located near Chennai in Tamil Nadu. ● Chola self-government was built upon 'general assemblies' or 'sabhas' or 'maha sabha' of villages. ● As per Uthiramerur inscriptions on Chola Kudavolai Election System, every village was categorised as kudumbu (ward in modern day parlance) where representatives of general assembly were elected. ● Qualification for contesting: Must own land, own a house built on legally owned site, have knowledge of 'Mantrabrahmana', and above 35 years of age and below 70 years. ● Disqualification: of elected members for acts of misconduct included accepting bribes, misappropriating else's property.
Anubhava Mantapa of Lord Basaveshwara	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;"> <ul style="list-style-type: none"> ● Established to facilitate gathering for philosophy and experience. ● Anubhava Mantapa was one of the earliest Parliament in history of mankind. <ul style="list-style-type: none"> ○ Prabhudeva, a great Yogi, was the President and Lord Basava acted as the Prime Minister. ● Only difference between the present-day parliament and Anubhava Mantapa is that members were not elected by people but were picked up or nominated by higher authorities of Mantapa. </div> <div style="flex: 1; background-color: #f4cccc; padding: 5px; border: 1px solid #ccc;"> <p>Lord Basaveshwara (1105-1167)</p>  <ul style="list-style-type: none"> ● He was a 12th century poet and born in Karnataka. ● Known for Socio-Religious Reforms, Anubhava Mantapa, Vachana Literature and Lingayat Movement in south India. ● Basava Purana, written by Palkuriki Somanatha in 13th-century, holds full account to Basavanna's life and ideas. </div> </div>
Kakatiya Tradition	<ul style="list-style-type: none"> ● It ruled the region comprising present-day Telangana and Andhra Pradesh from 12th to 14th centuries, with Warangal as Capital. ● There were elected committees in the villages to look after installation and maintenance of tanks, canals, and reservoirs.
Bhakti movement	<ul style="list-style-type: none"> ● Bhakti movement facilitated the accommodation of interpretations of freedom and equality and paved the way for the emergence of a secular democratic society. ● It also aimed at supporting the cause of establishing egalitarian society, women empowerment, and community development based on social democracy.

First Independent Ruler Kakatiya Dynasty		Time Period 12th-14th Century AD
Prominent rulers	<ul style="list-style-type: none"> Rudradeva: First independent ruler (1158 AD). Kakatiyas were earlier feudatories of Western Chalukyas. Ganapatideva: Expanded kingdom from Bay of Bengal in the east to Kanchipuram in the south. Rudradevi: One of the few female rulers during medieval period. 	
Major cities	<ul style="list-style-type: none"> Warangal was the capital. Motupalli was the famous trading seaport. 	
Culture	<ul style="list-style-type: none"> Built various temples such as Rammappa Temple, Rudreswara Temple etc. Warangal fort was built by King Ganapati. 	
Language	<ul style="list-style-type: none"> Telugu was the favoured language. Sanskrit was also used. 	
Administration	<ul style="list-style-type: none"> Renowned for building a system of water storage tanks for drinking and irrigation. 	
Social-religious conditions	<ul style="list-style-type: none"> Women actively shared their responsibility in social activities along with their husbands. Society was patriarchal. 	
Kakatiya dynasty eventually fell to the Delhi Sultanate.		

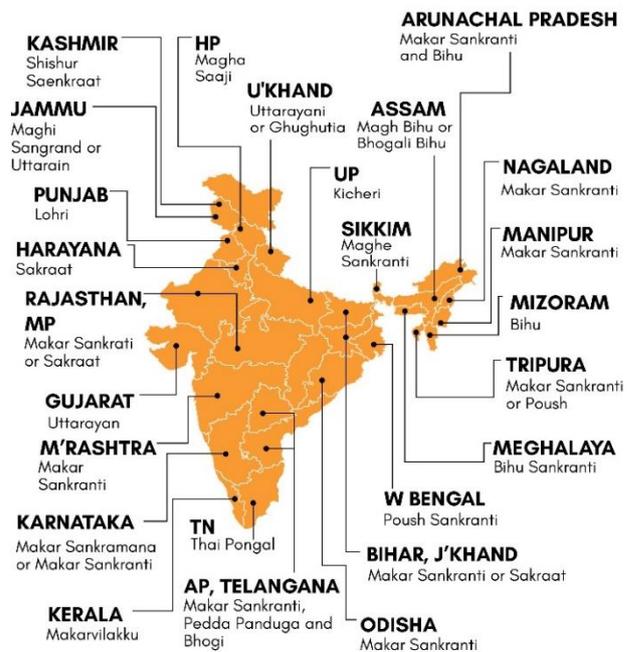
7.6. FESTIVALS IN NEWS

7.6.1. HARVEST FESTIVALS OF INDIA

- Makar Sankranti is **major harvest festival celebrated** across India and different states celebrate festival **under different names, traditions, and festivities.**
 - Festival is **dedicated to Sun God, Surya** and marks the first day of sun's transit into **Makara (Capricorn).**
 - Makar Sankranti **heralds end of winter and start of longer days** as sun moves northward.

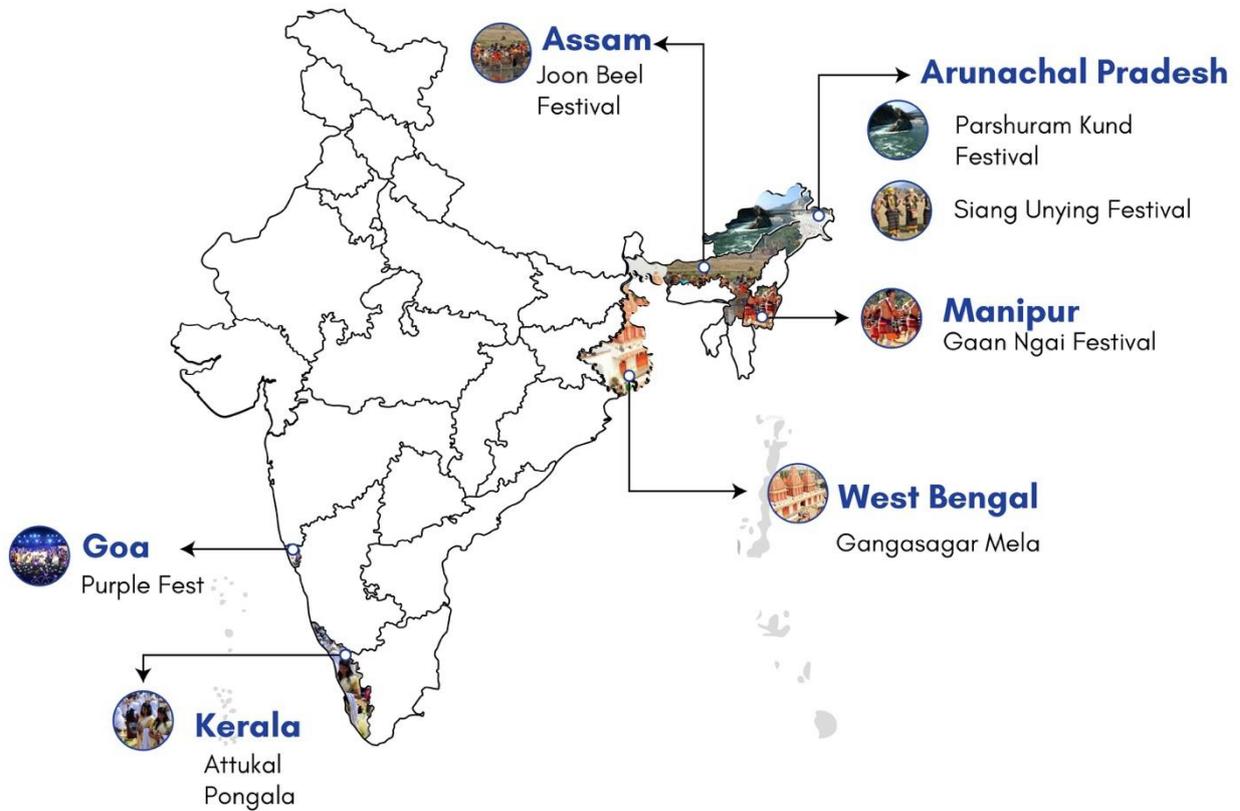
Makar Sankranti: Many names

Different names of winter harvest festival across India



7.6.2. OTHER IMPORTANT FESTIVALS IN NEWS

Festivals in News



<p>Gangasagar Mela</p> 	<ul style="list-style-type: none"> West Bengal demanded a national status for Gangasagar mela. It takes place every year on the island of Gangasagar in state's 24 South Parganas. <ul style="list-style-type: none"> Devotees gather at confluence of Ganga and Bay of Bengal to take a sacred dip during Makar Sankranti (mid-January). Gangasagar is an island in Ganges delta located on continental shelf of Bay of Bengal. It is said to be India's second largest pilgrimage gathering after Kumbh Mela.
<p>Gaan Ngai Festival</p> 	<ul style="list-style-type: none"> Zeliangrong community of Manipur celebrates Gaan Ngai festival. <ul style="list-style-type: none"> It is the biggest post-harvest and cultural festival across the state. Zeliangrong community comprises three Naga tribes - Rongmei, Liangmai, and Zeme tribes- living at tri-junction of Assam, Manipur and Nagaland. <ul style="list-style-type: none"> Zeliangrong is Southern group of Naga languages belonging to Tibeto-Burman languages under Sino-Tibetan Language Family. In Nagaland, Liangmais and Zeme are recognised as Zeilang. Rongmei Nagas are also known as Kabui.
<p>Parshuram Kund Festival</p> 	<ul style="list-style-type: none"> Parshuram Kund Festival held in Arunachal Pradesh. <ul style="list-style-type: none"> It is an annual religious fair when pilgrims come for a holy dip at Parshuram Kund on Makar Sankranti. Parshuram, son of Sage Jamadagni, was sixth incarnation of Lord Vishnu. Parshuram Kund is a sacred pond located in Tailung area of Mishmi plateau in lower reaches of Lohit River in Lohit District. Kund falls within Kamlang Reserve Forest Area and is surrounded by dense forest of Rudraksha trees of Elaeocarpaceae family.
<p>Joon Beel Mela</p>	<ul style="list-style-type: none"> This mela is organised annually on Magh Bihu (celebrated in the (mid-January), in the Morigaon District of Assam.

Updated Classroom Study Material

	<ul style="list-style-type: none"> Organised under the traditional king of the Tiwa tribe called Gobha Deoraja that once ruled the area. <ul style="list-style-type: none"> Magh Bihu is a traditional harvest festival of Assam. It has kept alive the system of barter as a means of procuring goods. Tribal communities like Tiwa, Karbi, Khasi, and Jaintia from nearby hills participate in the fair.
<p>Siang Uying Festival</p> 	<ul style="list-style-type: none"> Siang Uying Festival is an important festival of Adi community was celebrated at Boleng, Arunachal Pradesh. <ul style="list-style-type: none"> It is celebrated to mark beginning of Adi community's new year i.e., arrival of spring season; and to strengthen the bond among community. Adi constitutes a major group that inhabit lower part of Lower Dibang Valley district especially Roing and Dambuk areas. <ul style="list-style-type: none"> Adis are basically dependent on agriculture. Both wet rice cultivation and shifting cultivation are practiced. Padams, Milangs, Komkars, Minyongs and Pasis collectively call themselves as Adi meaning hill people.
<p>Attukal Pongala</p> 	<ul style="list-style-type: none"> The Attukal Pongala held in Attukal Temple, Thiruvananthapuram (Kerala). It is the largest congregation of women for a festival in the world. <ul style="list-style-type: none"> Pongala, which means 'to boil over', is the ritual in which women prepare sweet payasam and offer it to the Goddess or 'Bhagavathy'. 'The ten-day-long celebration commences in the Malayalam month of Makaram-Kumbham (Feb - March) on the Karthika star.

7.7. AWARDS IN NEWS

7.7.1. PADMA AWARDS

Why in News?

Padma Awards were presented by President.

Padma Awards

-  Instituted in 1954, **one of the highest civilian honours of India.**
-  Announced **every year on the occasion of Republic Day** (except in 1978 and 1979 and 1993 to 1997).
-  Award **does not amount to a title** and **cannot be used as a suffix or prefix.**

<div style="text-align: center; border: 1px solid black; padding: 5px; margin-bottom: 10px;">Categories</div> <div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid red; padding: 5px; text-align: center;">  <p>Padma Vibhushan For exceptional and distinguished service</p> </div> <div style="border: 1px solid green; padding: 5px; text-align: center;">  <p>Padma Bhushan For distinguished service of a high order</p> </div> <div style="border: 1px solid black; padding: 5px; text-align: center;">  <p>Padma Shri For distinguished service</p> </div> </div>	<div style="border: 1px solid yellow; padding: 5px; margin-bottom: 10px; text-align: center;">Recommendations /Nominations</div> <ul style="list-style-type: none">  By Padma Awards Committee (constituted by Prime Minister every year)  Self-nomination can be made.  Government servants (except doctors and scientists) are not eligible.
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-  **Recognize achievements in all fields or disciplines** where an element of public service is involved.
-  **Total number of awards** to be given in a year (excluding posthumous awards and to NRI/foreigners/OCIs) **should not be more than 120.**
-  Awardees are **presented a Sanad** (certificate) **signed by the President and a medallion.** There is **no cash prize.**

7.7.2. OTHER AWARDS IN NEWS

<p>Param Vir Chakra (PVC)</p>	<ul style="list-style-type: none"> On Parakram Diwas, 21 largest unmanned islands of Andaman & Nicobar Islands were named after 21 Param Vir Chakra (PVC) awardees. <ul style="list-style-type: none"> Parakram Diwas is celebrated on occasion of the birth anniversary of Netaji Subhas Chandra Bose. PVC is India's highest military decoration, awarded for displaying distinguished acts of valor during wartime. <ul style="list-style-type: none"> It was designed by Mrs. Savitri Khanolkar. Cast in bronze, it carries state emblem at centre on a raised circle surrounded by four replicas of Indra's Vajra, flanked by sword of Shivaji. <ul style="list-style-type: none"> Major Somnath Sharma (Posthumous) was first PVC awardee. 	<p style="text-align: center;">Param Vir Chakra</p> 
<p>Jeevan Raksha Padak Series of Awards-2022</p>	<ul style="list-style-type: none"> President approved conferment of Jeevan Raksha Padak Series of Awards-2022. Awards is given to a person for meritorious act of human nature in saving the life of a person. <ul style="list-style-type: none"> It is given in three categories, namely Sarvottam Jeevan Raksha Padak; Uttam Jeevan Raksha Padak and Jeevan Raksha Padak. Persons of all walks of life are eligible for these awards. It can also be conferred posthumously. 	

7.8. OTHER IMPORTANT NEWS

<p>Ganjam kewda</p>	<ul style="list-style-type: none"> There is a rising demand for kewda oil from Odisha's Ganjam region. Ganjam kewda (<i>Pandanus fascicularis</i>) oil is steam-distilled from the flower of aromatic screwpine plant and used as an aromatic in the food industry and other sectors. <ul style="list-style-type: none"> Male spike is attractive for its characteristic aromatic odour, whereas female spike is odourless and develops into a woody drupe. It is registered under Geographical Indications of Goods (Registration and Protection) Act, 1999. 	
<p>Yuva Sangam Portal</p>	<ul style="list-style-type: none"> Yuva Sangam registration portal was launched. It is an initiative of Government of India to strengthen people to people connect especially between youth belonging to North Eastern India and other States. It will focus on conducting exposure tours of youth between 8 North Eastern States and other States. It is conceptualized under Ek Bharat Shreshtha Bharat (EBSB) in collaboration with various other ministries and departments such as Culture, Tourism, Railways etc. <ul style="list-style-type: none"> EBSB aims to promote mutual understanding between people of different states/UTs through state/UT pairing. 	
<p>Runestone</p>	<ul style="list-style-type: none"> Archaeologists in Norway have claimed to found the world's oldest runestone (Stone with runic inscriptions). <ul style="list-style-type: none"> Inscriptions are up to 2,000 years old and date back to earliest days of history of runic writing. Runes are the characters in several Germanic alphabets that were used in northern Europe from ancient times until the adoption of Latin alphabet. <ul style="list-style-type: none"> They have been found on stones and different household object. Early runic inscriptions were written from right to left like the earliest alphabets. 	
<p>Hakku Patra</p>	<ul style="list-style-type: none"> The PM has recently distributed the Hakku patra to the members of Banjara tribes in Karnataka. Hakku Patra <ul style="list-style-type: none"> It is a legal document that details a person's legitimate inheritance or ownership of a particular property. With the help of this document, the bearer is eligible to purchase and sell land to which the title deed is granted by the government. The Banjaras, are also known as Lambadi, Gour Rajput, Labana. They are a historically nomadic trading caste who may have origins in the Mewar region of Rajasthan. 	

7.9. ERRATA

PT 365 Culture (April 2022-December 2022)

- **Article 1.4. QUTB SHAHI ARCHITECTURE:** The map showing Qutb Shahi Dynasty, the region was incorrectly indicated as undivided Andhra Pradesh. The correct map is given below.
- **Article 2.2. TOYS OF INDIA:** In the Indian Toys Map, Choppu Saman has been incorrectly mentioned in Telangana. The correct information is **Choppu Saman is from Tamil Nadu.**

 Founder: Sultan Quli Qutb-ul Mulk Qutb Shahi Dynasty: Successor of Bahamani Kingdom 1518-1687 AD	
Prominent rulers 	<ul style="list-style-type: none"> • Ibrahim Quli Qutub Shah • Muhammad Quli Qutub Shah (founder of Hyderabad city) • Abul Hasan Tana Shah (Last ruler)
Major cities 	<ul style="list-style-type: none"> • Muhammad Nagar: One of the leading cities of east, well known for its trade in diamonds and precious stones. • Hyderabad: Planned and founded by Muhammad Quli Qutub Shah.
Culture 	<ul style="list-style-type: none"> • Belonged to Turkish tribe 'Qara Quyunlu' - which had black sheep as its emblem. • Mahakali Jatara in name of Mankal Maisaram was performed annually during Qutb Shahi rule. • No pilgrim tax on Hindus to visit any temple.
Language 	<ul style="list-style-type: none"> • Persian was court language whereas Telugu was language of the people. • Ibrahim Quli Qutub Shah patronized and encouraged learning and writing of Telugu in kingdom.
Administration 	<ul style="list-style-type: none"> • No discrimination in appointments to public services based on religion, caste and creed. • Hindus and Muslims were equally eligible to all posts from clerk to Prime Minister post.
Social-religious conditions 	<ul style="list-style-type: none"> • Qutb Shah Sultans belonged to Shia sect of Muslims. Shias had taken high positions in administration of Qutb Shahis. • Social evils like child marriages, dowry system, sati was prevalent among Hindus of kingdom. • Contemporary Telugu author Ponnaganti Telaganarya in his work Yayathi Chritra informs about poor status of women in society.
Dynasty ended with Mughal Emperor Aurangzeb seizing fortress of Golconda	



Indian Toys

Market Value

Around **\$1.5 bn** making up **0.5%** of global market share

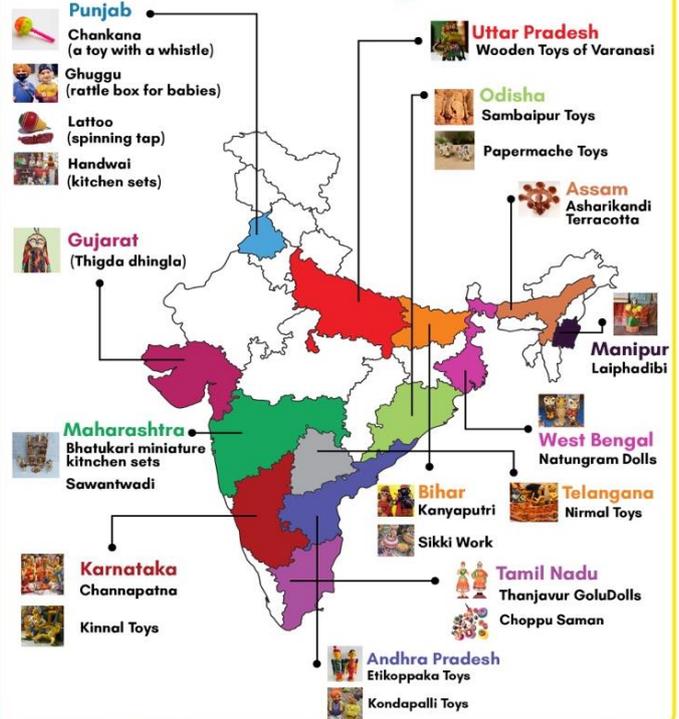
Initiatives Taken

National Action Plan for Indian Toy Story
To boost local manufacturing

Handicrafts Toy Clusters
Under Scheme of Funds for Re-generation of Traditional Industries (SFURTI) of Ministry of Micro, Small & Medium Enterprises

National Education Policy 2020
Toy-making to students from sixth standard onwards

Manufacturing Location



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