



drishti



Current
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Polity and Governance

Highlights

- Redefining Boundaries of UAPA: Delhi High Court
- Right to Reservation in Promotions for PwDs
- Recusal of Judges
- Petition to Poll Results
- Controversial Role of Governors
- Attorney General of India
- Supreme Court's Ruling on ONORC System for Migrant Workers
- Electronic Weighing Machines at Fair Price Shops
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- Improving Employability of the Youth

Redefining Boundaries of UAPA: Delhi High Court

Why in News

Recently, the Delhi High Court granted bail to student activists in a **Unlawful Activities Prevention Act (UAPA), 1967** case.

➤ While delivering the judgement, the court redefined the boundaries of the otherwise “vague” Section 15 of the UAPA.

Key Points

➤ **High Court’s Ruling:**

○ **Extent of Terrorist Activity:**

- Terrorist activity cannot be broadly defined to include ordinary penal offences.
- By doing so, it raised the bar for the State to book an individual for terrorism under the UAPA.

● The extent and reach of terrorist activity must travel beyond the effect of an ordinary crime and must not arise merely by causing disturbance of law and order or even public order.

■ It must be such that it travels beyond the capacity of the ordinary law enforcement agencies to deal with it under the ordinary penal law.

○ **Careful while Defining Unlawful Activities:**

- The courts must be careful in employing the definitional words and phrases used in Section 15 of UAPA in their absolute literal sense, they should differentiate clearly how terrorism is different even from conventional, heinous crime.
- Section 15 of the UAPA defines “terrorist act” and is punishable with imprisonment for a term of at least five years to life. In case the terrorist act results in death, the punishment is death or imprisonment for life.
- The court referred to how the Supreme Court itself, in case of *Kartar Singh v State*

Note:

of Punjab 1994, flagged similar concerns against the misuse of another anti-terror law, the **Terrorists and Disruptive Activities (Prevention) Act, 1987 (lapsed in 1995)**.

- **Intent of Enacting UAPA:**

- To bring terrorist activity within its scope, was, and could only have been, to deal with matters of profound impact on the 'Defence of India', nothing more and nothing less.
- It was neither the intent nor purport of enacting UAPA that other offences of the usual and ordinary kind, however grave, egregious or heinous in their nature and extent, should also be covered by UAPA.

- **Right to Protest:**

- Observed that protests against Governmental and Parliamentary actions are legitimate; and though such protests are expected to be peaceful and non-violent, it is not uncommon for protesters to push the limits permissible in law.
- The line between the constitutionally guaranteed right to protest (Article 19) and terrorist activity seems to be getting somewhat blurred.

- **Significance of the Ruling:**

- This is the first instance of a court calling out alleged misuse of the UAPA against individuals in cases that do not necessarily fall in the category of "terrorism" cases.
- According to data provided by the Ministry of Home Affairs in Parliament in March, a total of **1126 cases were registered under UAPA in 2019**, a sharp rise from 897 in 2015.

Unlawful Activities Prevention Act, 1967

- UAPA was passed in 1967. It aims at effective prevention of unlawful activities associations in India.
 - **Unlawful activity** refers to any action taken by an individual or association intended to disrupt the territorial integrity and sovereignty of India.
- The Act assigns absolute power to the central government, by way of which if the Centre deems an activity as unlawful then it may, by way of an Official Gazette, declare it so.
 - It has **death penalty and life imprisonment as highest punishments**.
- Under UAPA, both Indian and foreign nationals can be charged. It will be applicable to the offenders in

the same manner, even if crime is committed on a foreign land, outside India.

- Under the UAPA, the investigating agency can file a charge sheet in maximum 180 days after the arrests and the duration can be extended further after intimating the court.
- The 2004 amendment added "terrorist act" to the list of offences to ban organisations for terrorist activities, under which 34 outfits were banned.
 - Till 2004, "unlawful" activities referred to actions related to secession and cession of territory.
- In August, Parliament cleared the **Unlawful Activities (Prevention) Amendment Bill, 2019** to designate individuals as terrorists on certain grounds provided in the Act.
 - The Act empowers the Director General of **National Investigation Agency (NIA)** to grant approval of seizure or attachment of property when the case is investigated by the said agency.
 - The **Act empowers the officers of the NIA, of the rank of Inspector or above, to investigate cases of terrorism** in addition to those conducted by the DSP or ACP or above rank officer in a state.

Right to Reservation in Promotions for PwDs

Why in News

The Supreme Court of India has recently held that persons with physical disabilities have the right to reservation in promotions also.

- A disabled particular person can avail the advantage of **reservation** for promotion even when she or he was recruited within the common class or developed the incapacity after gaining employment.

Key Points

- **About the Case:**

- The case was based on a claim under the **Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995**.
 - This Act has been replaced with the **Rights of Persons with Disabilities Act 2016**.
- The Kerala Administrative Tribunal rejected the plea of applicant stating that the rule of Recruitment

Note:

in the State of Kerala, General Rules and other orders issued by the Government under Section 32 of the 1995 Act did not provide for any reservation in promotions.

- The Kerala High Court set aside the decision of the Kerala Administrative Tribunal.

➤ **Importance of Judgement:**

- The 1995 Act recognizes the right to reservation in promotion.
- Identification of posts for reservation as per Section 32 of the 1995 Act is a prerequisite for appointment; but appointment cannot be frustrated by refusing to identify posts.
- The absence of provision for reservation in the recruitment rules will not defeat the right of a PwD as such right flows from the legislation.
- Reservation to promotion can be given to a PwD even if the person was not originally appointed in the PwD quota.
- Further, the responsibility to provide equal opportunities to disabled persons does not end with giving them reservation at the time of recruitment.
- Legislative mandate provides for equal opportunity for career progression, including promotion.
 - Thus, it would be negation of the legislative mandate if promotion is denied to PwD and such reservation is confined to the initial stage of induction in service.
 - This would in fact result in stagnation of the disabled in a consequential frustration.

➤ **Right of Persons with Disabilities Act 2016:**

- It fulfills the obligations to the United National Convention on the Rights of Persons with Disabilities (UNCRPD), to which India is a signatory.
- Disability has been defined based on an evolving and dynamic concept.
 - The types of disabilities have been increased from 7 to 21.
 - The Act added mental illness, autism, spectrum disorder, cerebral palsy, muscular dystrophy, chronic neurological conditions, speech and language disability, thalassemia, hemophilia, sickle cell disease, multiple disabilities including deaf blindness, acid attack victims and Parkinson's disease which were largely ignored in earlier act.

- In addition, the Government has been authorized to notify any other category of specified disability.
- It increases the quantum of reservation for people suffering from disabilities from 3% to 4% in government jobs and from 3% to 5% in higher education institutes.
- Every child with benchmark disability between the age group of 6 and 18 years shall have the right to free education.
 - Government funded educational institutions as well as the government recognized institutions will have to provide inclusive education.
- Stress has been given to ensure accessibility in public buildings in a prescribed time frame along with the Accessible India Campaign.
- The Chief Commissioner for Persons with Disabilities and the State Commissioners will act as regulatory bodies and Grievance Redressal agencies, monitoring implementation of the Act.
- A separate National and State Fund will be created to provide financial support to the persons with disabilities.

➤ **Constitutional Framework for Disabled in India:**

- Article 41 of the Directive Principles of State Policy (DPSP) states that State shall make effective provision for securing right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, within the limits of its economic capacity and development.
- State Subject: The subject of 'relief of the disabled and unemployable' is specified in the state list of the Seventh Schedule of the constitution.

Recusal of Judges

Why in News

Recently, two Supreme Court (SC) judges have recused themselves from hearing cases relating to West Bengal.

Key Points

- **Recusal:**
 - It is the act of abstaining from participation in an official action such as a legal proceeding due to a conflict of interest of the presiding court official or administrative officer.

Note:

➤ **Reason for Recusal:**

- When there is a **conflict of interest**, a judge can withdraw from hearing a case to prevent creating a perception that he carried a bias while deciding the case.
- The **conflict of interest can be in many ways** such as:
 - Having a **prior or personal association** with a party involved in the case.
 - **Appeared for one of the parties** involved in a case.
 - Ex parte **communications with lawyers** or non-lawyers.
 - An appeal is filed in the SC against a **judgement of a High Court (HC) that may have been delivered by the SC judge** when he was in the HC.
 - In a **matter of a company in which he holds shares** unless he has disclosed his interest and there is no objection to it.
- The practice stems from the **cardinal principle of due process of law that nobody can be a judge in her own case.**
 - Any **interest or conflict of interest would be a ground to withdraw** from a case since a judge has a duty to act fair.

➤ **Decision & Process of Recusal:**

- The decision to recuse **generally comes from the judge himself** as it rests on the conscience and discretion of the judge to disclose any potential conflict of interest.
 - Some judges **orally convey to the lawyers involved in the case their reasons for recusal**, many do not. Some explain the reasons in their order.
- In some circumstances, **lawyers or parties in the case bring it up before the judge**. Once a request is made for recusal, the **decision to recuse or not rests with the judge**.
 - While there are some instances where judges have recused even if they do not see a conflict but only because such an apprehension was cast, there have also been several cases where judges have refused to withdraw from a case.
- If a judge recuses, the case is listed before the Chief Justice for allotment to a fresh Bench.

➤ **Rule for Recusal:**

- There are **no formal rules governing recusals**,

although several SC judgments have dealt with the issue.

- In **Ranjit Thakur v Union of India (1987)**, the SC held that the test of the likelihood of bias is the reasonableness of the apprehension in the mind of the party.
- The judge **needs to look at the mind of the party before him**, and decide that he is biased or not.

➤ **Concerns:**

○ **Undermining Judicial Independence:**

- It allows litigants to cherry-pick a bench of their choice, which **impairs judicial fairness**.
- Also, the purpose of recusal in these cases **undermines both independence and impartiality of the judges**.

○ **Different Interpretations:**

- As there are **no rules to determine when the judges could recuse themselves** in these cases, there are different interpretations of the same situation.

○ **Delays the Process:**

- Some requests for recusal are made with the **intent to intimidate the court or to get better of an 'inconvenient' judge** or to **obfuscate the issues** or to cause obstruction and **delay the proceedings** or in any other way frustrate or obstruct the course of justice.

Petition to Poll Results

Why in News

Recently, the West Bengal Chief Minister has filed an **election petition** in the Calcutta High Court challenging the **Assembly election result** of Nandigram constituency.

Key Points

➤ **Election Petition:**

- The **Election Commission's role ends with the declaration of results**, after that, an **election petition is the only legal remedy** available to a voter or a candidate who believes there has been malpractice in an election.
- Such a person **can challenge the result through an election petition submitted to the High Court** of the state in which the constituency is located.

Note:

- Such a petition **has to be filed within 45 days from the date of the poll results**; nothing is entertained by courts after that.
 - Although the **Representative of the People Act (RP Act) of 1951** suggests that the High Court should try to conclude the trial within six months, it usually drags on for much longer, even years.
- **Grounds on which Election Petition be Filed (Section 100 of the RP Act):**
- On the day of the election, the **winning candidate was not qualified** to contest.
 - The winning candidate, his poll agent or any other person with the consent of the **winning candidate has indulged in a corrupt practice**.
 - **Improper acceptance of the nomination** of the winning candidate or **improper rejection** of a nomination.
 - **Malpractice in the counting process**, which includes improper reception, refusal or rejection of any vote, or the reception of any vote which is void.
 - **Non-compliance with the provisions of the Constitution or the RP Act** or any rules or orders made under the RP Act.
- **If Verdict is in favour of the Petitioner (Section 84 of the RP Act):**
- The petitioner may ask that the **results of all or the winning candidates may be declared void**.

Provisions under RP Act 1951

- It **regulates the actual conduct** of elections and by-elections.
- It provides **administrative machinery** for conducting elections.
- It deals with the **registration of political parties**.
- It **specifies the qualifications and disqualifications** for membership of the Houses.
- It provides **provisions to curb corrupt practices** and other offences.
 - **Section 123 of the RP Act** has a detailed list of what amounts to corrupt practice, including **bribery, use of force or coercion, appeal to vote or refrain from voting** on grounds of religion, race, community, and language.
- It lays down the **procedure for settling doubts and disputes** arising out of elections.

- In addition to that, the **petitioner may also ask the court to declare her** (in case the petition is filed by a candidate) or any other candidate as the winner or duly elected.
 - So the verdict on an election petition, if found in favour of the petitioner, **may result in a fresh election or the court announcing a new winner**.
- **History of Election Results Declared Void:**
- The most famous being the **Allahabad High Court verdict of 1975** which set aside **Indira Gandhi's election** from Rae Bareli constituency, four years earlier, on grounds of corrupt practice.

Controversial Role of Governors

Why in News

Recently, the West Bengal Chief Minister described the **Governor** of the state as the **central government's own person**.

- The Chief Minister, including several MPs, have written to the President of India demanding the withdrawal of the Governor.

Key Points

➤ **Constitutional Provisions Related to Governor:**

- Article 153 says that there shall be a Governor for each State. One person can be appointed as **Governor for two or more States**.
 - A Governor is appointed by the President and is a nominee of the Central Government.
- It is stated that the **Governor has a dual role**.
 - He is the **constitutional head of the state**, bound by the advice of his council of ministers (CoM).
 - He functions as a **vital link** between the Union Government and the State Government.
- Articles 157 and 158 specify **eligibility requirements** for the post of governor.
- Governor has the **power to grant pardons, reprieves, etc. (Article 161)**.
- There is a CoM with the CM at the head to aid and advise the Governor in the exercise of his functions, **except some conditions for discretion**. (Article 163).
- Governor appoints the **Chief Minister and other Ministers (Article 164)**.

Note:

- Governor assents, **withholds assent, or reserves** the bill for the consideration of the President passed by the Legislative Assembly (**Article 200**).
 - Governor may promulgate the **Ordinances** under certain circumstances (**Article 213**).
- **Controversies Related to Governor's Role:**
- **Abuse of Power by the Centre:** There are numerous examples of the Governor's position being abused, usually **at the behest of the ruling party at the Centre.**
 - The process of appointment has generally been the cause behind it.
 - **Biased Ideology:** In several cases, politicians and former bureaucrats identifying with a particular political ideology have been appointed as the Governors by the central government.
 - This goes against the constitutionally mandated **neutral seat** and has resulted in bias, as appears to have happened in Karnataka and Goa.
 - **Puppet Rulers:** Recently, the Governor of Rajasthan has been charged with the **violation of the model code of conduct**. His support of the central ruling party is **against the spirit of non-partisanship** that is expected from the person sitting on constitutional posts.
 - Due to such incidents, negative terms like an **agent of the Centre, Puppet and rubber stamps** are used to describe a governor of the state.
 - **Favouring a Particular Political Party:** Governor's discretionary powers to invite the leader of the largest party/alliance, post-election, to form the government has often been misused to favour a particular political party.
 - **Misuse of Power:** A Governor's recommendation for **President's Rule** (Article 356) in a state has not always been based on 'objective material', but on political whim or fancy.

Related Recommendations

- **On Appointment and Removal of Governor:**
- The "Punchhi commission - 2010" recommended that there should be a provision for the **impeachment of the governor by the state legislature.**
 - The **state chief minister should have a say in the governor's appointment.**
- **On the Use of Article 356:**

- The "Punchhi commission - 2010" recommended that **Articles 355 & 356 be amended.**
 - The **Sarkaria Commission (1988)** recommended that **Article 356 should be used in very rare cases** when it becomes unavoidable to restore the breakdown of constitutional machinery in the State.
 - **Recommendations** have also been given by the **Administrative Reforms Commission (1968), Rajamannar Committee (1971) and Justice V.Chelliah Commission (2002).**
- **On Dismissal of State Government under Article 356:**
- **S.R. Bommai Judgment (1994):** The case put an end to the **arbitrary dismissal of State governments by a hostile Central government.**
 - The verdict ruled that the floor of the Assembly is the only forum that should test the majority of the government of the day, and not the subjective opinion of the Governor.
- **On Discretionary Powers:**
- The Supreme Court in the **Nabam Rebia judgment (2016)** ruled that the exercise of **Governor's discretion Article 163 is limited** and his choice of action should not be arbitrary or fanciful.

Attorney General of India

Why in News

The central government has **extended the term of K.K. Venugopal as Attorney General (AG) for one more year.**

- This is the **second time the Centre has extended his tenure.** Venugopal received his first extension of term in 2020.
- Venugopal was appointed the **15th AG of India in 2017.** He succeeded Mukul Rohatgi who was AG from 2014-2017.
- He would be in command of the **government's legal defence in several sensitive cases** pending in the Supreme Court, which includes the challenge to the **abrogation of Article 370** of the Constitution and the **Citizenship Amendment Act.**

Key Points

- **About:**

Note:

- The Attorney General (AG) of India is a part of the Union Executive. AG is the highest law officer in the country.
- Article 76 of the Constitution provides for the office of AG of India.
- **Appointment and Eligibility:**
 - AG is appointed by the President on the advice of the government.
 - S/he must be a person who is qualified to be appointed a judge of the Supreme Court, i.e. s/he must be a citizen of India and must have been a judge of some high court for five years or an advocate of some high court for ten years or an eminent jurist, in the opinion of the President.
- **Term of the Office:** Not fixed by the Constitution.
- **Removal:** Procedures and grounds for the removal of AG are not stated in the Constitution. S/he holds office during the pleasure of the President (may be removed by the President at any time).
- **Duties and Functions:**
 - To give advice to the Government of India (GoI) upon such legal matters, which are referred to her/him by the President.
 - To perform such other duties of a legal character that are assigned to her/him by the President.
 - To appear on behalf of the GoI in all cases in the Supreme Court or in any case in any High Court in which the GoI is concerned.
 - To represent the GoI in any reference made by the President to the Supreme Court under Article 143 (Power of the President to consult the Supreme Court) of the Constitution.
 - To discharge the functions conferred on her/him by the Constitution or any other law.
- **Rights and Limitations:**
 - S/he has the right to speak and to take part in the proceedings of both the Houses of Parliament or their joint sitting and any committee of the Parliament of which s/he may be named a member, but without a right to vote.
 - S/he enjoys all the privileges and immunities that are available to a member of Parliament.
 - S/he does not fall in the category of government servants. S/he is not debarred from private legal practice.
 - However, s/he should not advise or hold a brief against the GoI.

- **Solicitor General of India and Additional Solicitor General of India** assist the AG in fulfillment of the official responsibilities.
- **Corresponding Office in the States:** Advocate General (Article 165).

Supreme Court's Ruling on ONORC System for Migrant Workers

Why in News

Recently, the **Supreme Court** directed all states and Union Territories (UT) to implement the **One Nation, One Ration Card (ONORC) system** by 31st July 2021.

- The scheme allows migrant labourers covered under the **National Food Security Act (NFSA)** to access food at any fair price shop with his or her ration card in any part of the country.

Key Points

- **Right to Food:**
 - The fundamental right to life under Article 21 of the Constitution may be interpreted to include the right to live with human dignity, having the right to food and other basic necessities.
- **Importance of Migrants:**
 - There are around **38 crore workers** engaged in the unorganized sectors (National Statistics Office (NSO) data of 2017-2018).
 - These unorganized workers did not have any permanent source of employment and have engaged themselves in small time vocations and occupations at various places away from their native places.
 - Contributions of these labourers towards different projects, industries, make considerable additions in the economic development of the country.
- **Database:**
 - Criticized the Labour Ministry for not completing the work of the Rs 45.39-crore **National Database for Unorganised Workers (NDUW)** portal to register and identify migrant workers.
 - The Court had ordered the Ministry to finalise the NDUW module way back in 2018.

Note:

- Directed the States/UTs to register establishments and license contractors under the **Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979** and ensure that they provide the authorities complete details of the workers employed with them.
- **Redetermination of Beneficiaries under NFSA:**
 - Directed the Centre “**to undertake exercise under Section 9 of the National Food Security Act, 2013**” to re-determine the total number of persons to be covered under Rural and Urban areas of the State.

ONORC System

- **Background:**
 - Under the National Food Security Act (NFSA), 2013, about 81 crore people are entitled to buy subsidised food grains - **rice at Rs 3/kg, wheat at Rs 2/kg, and coarse grains at Re 1/kg** – from designated fair price shops.
 - However, **NFSA beneficiaries were not able to access their PDS (Public Distribution System) benefits outside the jurisdiction of the specific fair price shop** to which they have been assigned.
 - By introducing ONORC, the idea was to **reform the PDS**, which has been historically marred by inefficiency and leakages.
- **Launch:**
 - ONORC was launched in August, 2019.
- **Aim:**
 - The ONORC scheme is **aimed at enabling migrant workers and their family members** to buy subsidised ration from any fair price shop anywhere in the country under the NFSA.
 - To promote this reform in the PDS, the government has provided **incentives** to states and also set a **precondition for additional borrowing** by states during the Covid-19 pandemic last year.
- **Technology Used:**
 - ONORC is based on technology that **involves details of beneficiaries' ration card, Aadhaar number, and electronic Points of Sale (ePoS)**. The system identifies a beneficiary through biometric authentication on ePoS devices at fair price shops.
 - The system runs with the support of two portals - **Integrated Management of Public Distribution System (IM-PDS)** and **Annavitran**.

- While the **Annavitran portal maintains a record of intra-state transactions** - inter-district and intra-district - the **IM-PDS portal records the inter-state transactions**.

➤ **ONORC Coverage:**

- Till date, 32 states and UTs have joined the ONORC, covering about 69 crore NFSA beneficiaries.
- Four states are **yet to join the scheme** - **Assam, Chhattisgarh, Delhi and West Bengal**.
- While inter-state ration card portability is available in 32 states, the number of such transactions is much lower than that of intra-district and inter-district transactions.

➤ **Benefits:**

- Under the ONORC, the beneficiaries from one state can get their share of rations in other states where the ration card was originally issued.
- ONORC will also give the beneficiaries the opportunity to opt for the dealer of their choice.
- It will be particularly beneficial for women and other disadvantaged groups, given how social identity (caste, class and gender) and other contextual factors (including power relations) provide a strong backdrop in accessing PDS.
- This will help achieve the **target set under SDG(Sustainable development Goals) 2 (Ending hunger by 2030)**. Also, it will address the poor state of hunger in India, as highlighted by the **Global Hunger Index**, where India has been ranked 94 out of 107 countries.

Electronic Weighing Machines at Fair Price Shops

Why in News

The Central Government has **asked the States Governments to buy electronic weighing machines for ration shops from electronic Point of Sale devices (ePoS) savings**.

- For this, the **Ministry of Consumer Affairs has amended the Food Security (Assistance To State Government Rules) 2015** to encourage the states to generate savings through judicious use of e-PoS devices.

Key Points

- **About the Food Security (Assistance to State Government Rules) 2015:**

Note:

- **Additional Margin to Fair Price Shops:** The rules were notified to give additional margin to fair price shop dealers for sale through e-PoS as an incentive to ensure transparent recording of transactions at all levels.
 - The margin on food grain sold through ePoS is provided as “**Fair Price Shop dealers margin**”.
 - It is meant to go towards the **cost of purchase, operation and maintenance of the point of sale device**, its running expenses and incentive for its use.
- **Benefits of Amendment:**
 - The integration of ePoS devices with electronic weighing scales will ensure the right quantity to beneficiaries in the distribution of subsidised food grains under the **National Food Security Act (NFSA), 2013** as per their entitlement.
 - It will ensure greater transparency in the Public distribution system (PDS) regime. It will reduce food grain leakages.
 - The distribution through ePoS devices ensures that subsidised food grains are provided to the rightful beneficiary through biometric authentication.
- **National Food Security Act (NFSA), 2013**
 - **Notified on:** 10th September, 2013
 - **Objective:** To provide for food and nutritional security in the human life cycle approach, by ensuring access to adequate quantities of quality food at affordable prices to people to live a life with dignity.
 - **Coverage:** 75% of the rural population and upto 50% of the urban population for receiving subsidized foodgrains under **Targeted Public Distribution System (TPDS)**.
 - Overall, NFSA caters to 67% of the total population.
 - **NITI Aayog** has recommended reducing the rural and urban coverage under the NFSA to 60% and 40%, respectively.
 - **Eligibility:**
 - **Priority Households** to be covered under TPDS, according to guidelines by the State government.
 - Households covered under existing **Antyodaya Anna Yojana**.
 - **Provisions:**
 - **5 Kgs of foodgrains per person** per month at Rs. 3/2/1 per Kg for rice/wheat/coarse grains.
 - The existing **AAY household** will continue to receive **35 Kgs of foodgrains per household** per month.
 - **Meal and maternity benefit** of not less than Rs. 6,000 to pregnant women and lactating mothers during pregnancy and six months after the child birth.
 - **Meals to children** upto 14 years of age.
 - **Food security allowance** to beneficiaries in case of non-supply of entitled foodgrains or meals.
 - Setting up of **grievance redressal mechanisms** at the district and state level.
- **Public Distribution System (PDS):**
 - The PDS is an **Indian food Security System** established under the **Ministry of Consumer Affairs, Food, and Public Distribution**.
 - PDS evolved as a system of management of scarcity through distribution of food grains at affordable prices.
 - In **June, 1997**, the Government of India launched the **Targeted Public Distribution System (TPDS)** with focus on the poor.
 - **Functioning:**
 - The **Central and State Governments share responsibilities** in order to provide food grains to the identified beneficiaries.
 - The centre procures food grains from farmers at a **minimum support price (MSP)** and sells it to states at central issue prices. It is responsible for transporting the grains to godowns in each state.
 - States bear the responsibility of transporting food grains from these godowns to each fair price shop (ration shop), where the beneficiary buys the food grains at the lower **central issue price**.
 - Many states further subsidise the price of food grains before selling it to beneficiaries.

Gujarat Prohibition Law

Why in News

Recently, the **Gujarat Prohibition Act, 1949** has been challenged before the Gujarat High Court, more than seven decades after it came into effect as the **Bombay Prohibition Act**.

Note:

- The **prohibition on manufacture, sale and consumption of liquor in the state vide the Gujarat Prohibition Act, 1949**, has been challenged on grounds of ‘manifest arbitrariness’ and violation of ‘right to privacy’.

Key Points

➤ Background:

- **Bombay Abkari Act, 1878:** The first hint at the prohibition of liquor was through the Bombay Abkari Act, 1878 (in the Province of Bombay).
 - This Act dealt with levying of duties on intoxicants, among other things and aspects of prohibition via amendments made in 1939 and 1947.
- **Bombay Prohibition Act, 1949:** There were “many lacuna” in the Bombay Abkari Act, 1878, from the point of view of the government’s decision to enforce prohibition.
 - This led to the birth of **Bombay Prohibition Act, 1949**.
 - The **Supreme Court (SC) upheld the Act** broadly barring a few sections in 1951 in the judgment of ***State of Bombay and another versus FN Balsara***.

- **Gujarat Prohibition Act, 1949:**

- Following the **reorganisation of Bombay province into the states of Maharashtra and Gujarat in 1960**, there was continued amendment and **liberalisation in the state of Maharashtra**, especially in 1963.
 - The ground for the liberalisation of the law was to check the business of illicit liquor.
- Gujarat **adopted the prohibition policy in 1960** and subsequently chose to enforce it with greater rigidity, but also made processes easier for foreign tourists and visitors to get liquor permits.
- In 2011, the Act was **renamed as Gujarat Prohibition Act**. In 2017, the **Gujarat Prohibition (Amendment) Act** was passed with provision of up to ten years jail for manufacturing, purchase, sale and transportation of liquor in the dry state.

➤ Grounds for Challenging the Act:

- **The right of privacy:** Any invasion by the state in an individual’s right to choice of food and beverage amounts to an unreasonable restriction and destroys the individual’s decisional and bodily autonomy.

- **Right to privacy** has been held as a fundamental right by the Supreme Court in several judgments since 2017.
- **Ground of Manifest Arbitrariness:** It has been especially highlighted while challenging sections pertaining to grant of health permits and temporary permits to out-of-state tourists.
 - The petitioner says that there are no intelligible differences in the classes thus being created by the state on who gets to drink and who does not and **violates the Right to Equality** under Article 14 of the Constitution.

➤ Counter Argument:

- **Aggravate the Sense of Violence:** Various research and studies have shown that alcohol tends to **aggravate the sense of violence**.
 - Most of the domestic violence crimes against women and children are committed behind closed doors.
- **Constitutional Obligation of State:** Challenging the law, is an “attack on the constitutional obligation of the primary duty of the State as the guardian of the population to protect the health and lives of its people”.
- **National Prohibition** was advocated by **Mahatma Gandhi**.

➤ Arguments Against Prohibition:

- **Loss of Revenue:** Tax revenues from alcohol is a major part of any government’s revenues. These enable the government to finance several public welfare schemes. Absence of these revenues severely impacts state’s ability to run public welfare programmes.
- **Burden on Judiciary:** Bihar introduced complete prohibition in April 2016. While it certainly has led to reduction in alcohol consumption, the related social, economic, and administrative costs have been far too much to justify gains. Prohibition crippled the judicial administration.
 - So far over 2.14 lakh cases have been registered under the Act; 2.55 lakh people have been booked and 1.67 lakh arrests have been made.
 - Ironically, liquor sales in districts in Uttar Pradesh and West Bengal bordering Bihar have seen a sharp rise.
- **Source of Employment:** Today, Indian Made Foreign Liquors (IMFL) industry contributes over

Note:

1 lakh crore in taxes every year. It supports the livelihood of 35 lakh farming families and provides direct and indirect employment to lakhs of workers employed in the industry.

➤ **Prohibition in Other States:**

- Alcohol prohibition is in force in the states of **Bihar, Mizoram, Nagaland and the union territory of Lakshadweep**.

➤ **Related Constitutional Provisions:**

- **State Subject:** Alcohol is a subject in the **State list under the seventh schedule of the Indian Constitution**.
- **Article 47:** The **Directive Principle in the Constitution of India** states that “The state shall undertake rules to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health”.

National Statistics Day

Why in News

Every year, the Statistics Day is celebrated on **29th June**, the birth anniversary of **Prof. Prasanta Chandra Mahalanobis**, to recognise his invaluable contribution in establishing the **National Statistical System**.

Key Points

➤ **Aim:**

- To popularise the use of statistics in everyday life and sensitise the public as to how statistics help in shaping and framing policies.

➤ **Theme for 2021:**

- **Sustainable Development Goal (SDG)- 2 (End Hunger, Achieve Food Security and Improved Nutrition and Promote Sustainable Agriculture).**

Prof. Prasanta Chandra Mahalanobis (1893-1972)

- He is considered **the father of modern statistics in India, founded the Indian Statistical Institute (ISI), shaped the Planning Commission (which was replaced by the NITI Aayog on 1st January 2015) and pioneered methodologies for large-scale surveys**.
- He introduced **innovative techniques for conducting large-scale sample surveys, calculated acreages and crop yields, using the method of random sampling**.

- He also devised a statistical method called '**Fractile Graphical Analysis**', used to compare socio-economic conditions of varied groups.

➤ **Timeline:**

- **1930:** Proposed the Mahalanobis Distance for the first time, which is a measure of comparison between two data sets.
 - The formula is used to find the distance between a point and a distribution, based on measurements in multiple dimensions. It is widely used in the field of cluster analysis and classification.
- **1932:** Founded the ISI in Kolkata which was declared as an institute of national importance in 1959.
- **1933:** Launched 'Sankhya: The Indian Journal of Statistics'.
- **1950:** Established the National Sample Survey and set up the Central Statistical Organisation to coordinate statistical activities.
- **1955:** Became a member of the Planning Commission and continued in that capacity till 1967.
 - He was instrumental in formulating India's second five-year-plan (1956-1961), which laid the blueprint for industrialisation and development in India.
- **1968:** Honoured with the **Padma Vibhushan**.
 - He was also conferred a large number of awards by international organisations.



Reform

Linked Borrowing

Why in News

Indian states were able to borrow an extra Rs. 1.06 lakh crore in 2020-21 (FY21) due to the **Reform Linked Borrowing window**.

- This was announced to provide an additional leeway to states in order to cope with the adverse effects of **Covid-19 pandemic** on the economy.

Note:

Note:

- **Chapter II of Part XII of the Constitution of India** deals with borrowing by the Central Government and State Governments.
- It comprises **two provisions - Article 292** which covers **borrowing by the Central Government** and **Article 293**, which covers **borrowing by State Governments**.
- **Article 293 (3) requires State Governments** that are indebted to the Central Government to seek the consent of the Central Government before raising further borrowings.

Key Points

- **About:**
 - This was a nudge, incentivising the States to adopt progressive policies to avail additional funds.
 - In October 2020, the Central government had linked permission for additional borrowing of 1% of their GSDP (Gross State Domestic Product) to implementation of four critical reforms, which are:
 - Implementation of One Nation One Ration Card System,
 - Ease of doing business reform,
 - Urban Local body/ utility reforms and
 - Power Sector reforms.
 - Under this reforms-linked borrowing window, states were to get access to funds of up to Rs 2.14 lakh crore on completion of all the four reforms.
 - For states completing three of the four reforms, the Centre would provide additional funds assistance of Rs. 2,000 crore for capital expenditure.
 - For FY 2021-22, the net borrowing ceiling for states has been fixed at 4% of the projected GSDP (about Rs 8.46 lakh crore), based on recommendations of the Fifteenth Finance Commission.
- **One Nation One Ration Card System (ONORC) Reforms:**
 - This was aimed to ensure that the beneficiaries under the **National Food Security Act (NFSA)** and other welfare schemes, especially the migrant workers and their families, get ration from any **Fair Price Shop (FPS)** across the country.
 - Other aims of the intended reform were to better target beneficiaries, elimination of bogus/ duplicate/ ineligible ration cards and thus enhance welfare and reduce leakage.

- For this, the reform conditions stipulated **Aadhar Seeding of all Ration Cards**, biometric authentication of beneficiaries and automation of all the FPS in the State.

'Ease of Doing Business' Reforms:

- It is to facilitate a better environment and seamless process for entrepreneurs and companies to operate.
- The reforms stipulated in this category are:
 - Completion of first assessment of '**District Level Business Reform Action Plan**'.
 - **Elimination of the requirements of renewal of registration certificates/approvals/licences** obtained by businesses under various Acts.
 - Implementation of a **computerized central random inspection system** under the Acts.

Urban Local Body/ Utility Reforms:

- These reforms are aimed at **financial strengthening of ULBs (Urban Local Bodies)** in the States and to enable them to provide better public health and sanitation services to citizens.
- It required states to notify floor rates of property tax and of water and sewerage charges. This was in consonance with stamp duty guideline values for property transactions and current costs in urban areas.

Power Sector Reforms:

- There are three parameters a state must meet under the power sector reforms - **reduction in Aggregate Technical & Commercial (AT&C) losses**, targeted **reduction in Average Cost of Supply** and **Average Revenue Realisation (ACS-ARR) gap**, and direct benefit transfer (DBT) of electricity subsidy to farmers.

New Norms on Hallmarking of Gold

Why in News

Recently, the **Ministry of Consumer Affairs, Food & Public Distribution** made it mandatory for the hallmarking of gold jewellery, which will be implemented in a phased manner.

Key Points

- **About Hallmarking:**

Note:

- The **Bureau of Indian Standard (BIS)**, which operates the gold and silver hallmarking scheme in India, defines hallmarking as the “**accurate determination and official recording of the proportionate content of precious metal in precious metal articles.**”
 - So, it is a “**guarantee of purity or fineness**” of precious metal articles, which **started in 2000**.
 - In India, at present **two precious metals** namely **gold and silver** have been brought under the **purview of Hallmarking**.
 - The **BIS certified jewellers** can get their jewellery hallmark from any of the **BIS recognized Assaying and Hallmarking Centres (A&HC)**.
 - Earlier, it was **optional for the jewellers** and thus **only 40% of gold jewellery** was getting hallmark.
- **Implementation in a Phased Manner:**
- In the first phase, gold hallmarking **will be available only in 256 districts** and jewellers having annual turnover above Rs. 40 lakh will come under its purview.
 - A certain category of jewellery and items will also be **exempted** from the mandatory requirement of hallmarking.
 - Jewellery for international exhibitions, jewellery for government-approved B2B (Business-to-Business) domestic exhibitions will be exempted from mandatory Hallmarking.
- **Need of Gold Hallmarking:**
- **India is the biggest consumer of gold.** However, the level of hallmarking jewellery is very low in the country.
 - The mandatory hallmarking will **protect the public against lower caratage** (the fraction of pure gold) and ensure **consumers do not get cheated** while buying gold ornaments.
 - It will help to get the **purity as marked on the ornaments**.
 - It will **bring in transparency** and assure the consumers of quality.
 - It will **weed out anomalies and corruption** in the system of manufacturing of jewellery.

Bureau of Indian Standards

- BIS is the **National Standard Body** of India for the harmonious development of the activities of **standardization, marking and quality certification of goods**.

- **Standards Formulation:** BIS formulates Indian Standards in line with the national priorities for various sectors that have been grouped under 14 Departments like Chemicals, Food and Agriculture, Civil, Electro-technical, Electronics & Information Technology, etc.
- **BIS' International Activities:**
 - BIS is a **founder member of ISO (International Organization for Standardization)** and is actively involved in the development of International Standards.
 - India is **represented in IEC (International Electrotechnical Commission)** through BIS. IEC is the world's leading organization for the preparation and publication of International Standards for all electrical, electronic and related technologies.
 - BIS is the **National Enquiry Point for WTO -TBT (World Trade Organisation – Technical Barriers to Trade)**.
- **Other Initiatives:**
 - **BIS SDO Recognition Scheme:**
 - To attain the **One Nation One Standard** vision of the Government of India, BIS launched a scheme which provides for Recognition of SDO (Standard Developing Organization).
 - **Product Certification Scheme:**
 - BIS operates a Product Certification scheme for ensuring compliance to Indian Standards. Presence of **BIS standard mark (popularly known as ISI mark)** on a product indicates conformity to the relevant Indian Standard.

MoU for Seaplane Services in India

Why in News

The Ministry of Ports, Shipping and Waterways and the Ministry of Civil Aviation signed **Memorandum of Understanding (MoU)** for **Development of Seaplane Services** in India.

- India's **first seaplane service started** operation between Kevadia and Sabarmati Riverfront in Ahmedabad in October 2020, under **Sagarmala Seaplane Services**.

Note:

Key Points

- **About MoU:**
 - This MoU envisages **developing non-scheduled and scheduled operation of seaplane services** within territorial jurisdiction of India.
 - Seaplane services will be **developed as a part of the RCS-UDAN (Regional Connectivity Scheme-Ude Desh Ka Aam Nagrik) initiative of the Civil Aviation Ministry.**
 - The **Shipping Ministry** would identify and develop **waterfront aerodromes and other required infrastructure.**
 - The **Civil Aviation Ministry** will select potential airline operators through a bidding process. It will also incorporate the location and routes as identified by the Shipping Ministry.
- **Benefits:**
 - This MoU will help in **expediting the development of new water aerodromes** and also **operationalisation of new seaplane routes** in India.
 - It will not only **enhance seamless connectivity** across the nation by promoting eco-friendly transportation through seaplanes but also give a boost to the tourism industry.
 - It will **lead to an increase in tourism and hotel business** at the local level. It will also serve **employment to local people.**
 - Establishment of water airports will contribute to an increase in the level of current **social infrastructural facilities** (healthcare, education, community housing, etc.) at the proposed sites.
- **About UDAN Scheme:**
 - **Ude Desh ka Aam Nagrik (UDAN)** was launched as a regional connectivity scheme under the **Ministry of Civil Aviation in 2016.**
 - The **objective of the scheme** is to create affordable yet economically viable and profitable flights on regional routes so that flying becomes affordable to the common man even in small towns.
 - The **scheme envisages providing connectivity to un-served and underserved** airports of the country through the revival of existing air-strips and airports. The scheme is operational for a **period of 10 years.**
 - Under-served airports are those which do not have more than one flight a day, while unserved airports are those where there are no operations.
- **Financial incentives** from the Centre, state governments and airport operators are extended to selected airlines to encourage operations from unserved and under-served airports, and keep airfares affordable.
- **About UDAN 4.1:**
 - The UDAN 4.1 focuses on connecting **smaller airports, along with special helicopter and seaplane routes.**
 - Some new routes have been proposed under the **Sagarmala Seaplane services.**
- **Sagarmala Seaplane Services:**
 - It is an **ambitious project** under the **Ministry of Ports, Shipping and Waterways.**
 - The project is being initiated under a **Special Purpose Vehicle (SPV)** framework through **prospective airline operators.**
 - The project execution and implementation would be through **Sagarmala Development Company Ltd (SDCL)**, which is under the administrative control of the Ministry.
 - To provide connectivity and easier accessibility to remote locations, SDCL is exploring plans to **leverage the potential of the vast coastline and numerous water bodies/rivers** across India by commencing seaplane operations.
 - Several destinations are envisaged for seaplane operations. Seaplanes will utilise the nearby water bodies for take-off and landing and thus connect those places in an economical way as conventional airport infrastructure like a runway and terminal buildings are not required for seaplane operations.
 - The **routes** may be operated under the **government's subsidised UDAN scheme.**

Jal Shakti Abhiyan - II

Why in News

The Minister of Jal Shakti has urged all MPs to support the ongoing “**Jal Shakti Abhiyan: Catch The Rain**” campaign in their respective constituencies and states.

- Such interventions would ensure water source sustainability in rural areas and would strengthen

Note:

the ongoing Jal Jeevan Mission being implemented by the Ministry.

Key Points

➤ About:

- The Abhiyan with the **theme- "Catch the Rain where it falls, when it falls"** was launched on the occasion of **world water day** (22nd March 2021).
- It covers **all rural and urban areas** of all districts of the country.
- **Jal Shakti Abhiyan-I of 2019**, covered **only 1592 water stressed blocks** out of 2836 blocks in **256 districts** of the country.
- **National Water Mission**, under the **Ministry of Jal Shakti**, is the nodal agency for its implementation.
- A total of almost **Rs. 14,000 Cr worth of water conservation related work** is completed/ongoing **under the MGNREGS** (Mahatma Gandhi National Rural Employment Guarantee Scheme) of Dept of Rural Development.

➤ Aim:

- The campaign aims **at tapping rainwater** by constructing artificial recharge structures, revitalizing existing ponds and water bodies, creating new water bodies, provisioning check dams, rejuvenating wetlands and rivers before the onset of monsoon.
- It is also planned to create **a data-base of all water bodies** in the country by **geo tagging** them and using this data to create scientific and data-based district level water conservation plans.

➤ Other Initiatives to Conserve Water:

○ Jal Jeevan Mission:

- An initiative under the **Ministry of Jal Shakti**, aims to ensure access to piped water for every household in rural India.
- Government of India has restructured and subsumed the **National Rural Drinking Water Programme (NRDWP)** into Jal Jeevan Mission (JJM) to provide **Functional Household Tap Connection (FHTC)** to every rural household i.e., Har Ghar Nal Se Jal (HGNSJ).

○ Jal Jeevan Mission (Urban):

- In the **Budget 2021-22**, Jal Jeevan Mission (Urban) was announced under the **Housing and Urban Affairs Ministry** to provide universal coverage of water supply to all households

through functional taps in all statutory towns in accordance with **Sustainable Development Goal- 6** (clean water and sanitation).

○ National Water Mission:

- It was launched with the objective of conservation of water, minimising wastage and ensuring more equitable distribution both across and within states through integrated water resources development and management.

○ NITI Aayog's Composite Water Management Index:

- With the objective of achieving effective utilization of water, NITI Aayog has developed the Composite Water Management Index.

○ Atal Bhujal Yojana:

- It is a central sector scheme worth Rs. 6,000 crore for sustainable management of groundwater with community participation.
- It envisages people's participation through the formation of 'Water User Associations', water budgeting, preparation and implementation of Gram-panchayat-wise water security plans, etc.

Policy for Declassification of War History

Why in News

The Union Defence Minister has approved a policy on archiving, declassification, compilation and publication of war and operations histories by the Ministry of Defence (MoD).

Key Points

➤ Desirability of Authoritative Record:

- Timely publication of war histories would give people an accurate account of the events, provide authentic material for academic research and counter the unfounded rumours.
- The requirement of having war histories written with clear cut policy on declassification was recommended by the **Kargil Review Committee, 2019** headed by **K Subrahmanyam** to analyse the lessons learnt and prevent future mistakes.
- Post Kargil conflict, a **Group of Ministers (GoM) recommendations on national security, 2001** also mentioned the desirability of an authoritative war history.

Note:

➤ **Provisions of Policy:**

- **Transfer of Record:** Each organisation under the MoD such as **Services (Army, Airforce and Navy), Integrated Defence Staff, Assam Rifles and Coast Guard**, will transfer the records, including war diaries, letters of proceedings and operational record books, etc., to the **history division of MoD** for proper upkeep, archival and writing the histories.
- The **History Division** will be responsible for coordination with various departments while compiling, seeking approval and publishing of war and operations histories.
- **Constitution of a Committee:** For compilation of war and operations histories, the policy mandates the constitution of a committee headed by Joint Secretary, MoD and composed of **representatives of the Services, Ministry of External Affairs (MEA), Ministry of Home Affairs (MHA)** and other organisations and **prominent military historians**, if required.
- **Timeline:** The policy sets clear timelines with regard to compilation and publication of war and operations histories.
 - The **committee should be formed within two years** of completion of war and operations.
 - Thereafter, collection of records and **compilation should be completed in three years** and disseminated to all concerned.
 - The records **should ordinarily be declassified** (i.e. no more secret) in **25 years**.
 - **Records older than 25 years** should be appraised by archival experts and transferred to the **National Archives of India** once the war/operations histories have been compiled.
- **Responsibility for Declassification of Records:** This rests with the respective organisations as specified in the **Public Record Act 1993** and the **Public Record Rules 1997**.
- **For Internal Consumption First:** The compiled history on wars and operations, within five years, will be for internal consumption first, and **later the committee may decide to publicly release whole or parts of it**, considering the sensitivity of the subject.
- **Declassification of Older Wars:**
 - The declassification of older wars like the **1962 war** and **Operation Bluestar** is not automatic and will

be taken up on a case by case basis by a committee to be constituted under the new policy.

Corporatization of Ordnance Factory Board

Why in News

Recently, the Union Cabinet approved a plan to corporatise the Ordnance Factory Board (OFB).

Key Points

➤ **New Structure:**

- **41 factories** across the country **will be dissolved** into **seven new Defence Public Sector Undertakings (DPSU)**. The newly created entities **will be 100% owned by the government**.
- These entities **will be responsible for different verticals** of the products such as the **Ammunition and Explosives** group will be engaged in production of ammunition while a **Vehicles group** will engage in production of defence mobility and combat vehicles.
- All **OFB employees** in the production units will be **transferred to the new corporate entities** on a **deemed deputation initially for a period of two years** without altering their service conditions as central government employees.
- **Pension liabilities of the retirees and existing employees** will continue to be **borne by the government**.

➤ **OFB:**

- It is an **umbrella body** for the ordnance factories and related institutions, and is currently a **subordinate office** of the Ministry of Defence (MoD).
 - The first Indian ordnance factory was set up in the **year 1712** by the Dutch Company as a **Gunpowder Factory, West Bengal**.
- It is a **conglomerate of 41 factories, 9 training Institutes, 3 regional marketing centres and 5 regional controllers of safety**.
- **Headquarters:** Kolkata
- **Significance:** A major chunk of the weapon, ammunition and supplies for not just armed forces but also paramilitary and police forces comes from the OFB-run factories.

Note:

The Working of Seven New Entities

While OFB will cease to exist, its 41 factories would be converted into seven government-owned corporate entities.

Ammunition and Explosives Group:

To focus on production of ammunition of various calibre. Will have a huge export potential as well

Vehicles Group:

To make combat vehicles such as tanks, trawls, mine-protected vehicles and armoured troop carriers

Weapons and Equipment Group:

To make small, medium and large calibre guns for security forces

Troop Comfort Group:

To engage in production of uniforms and specialised gear for troops

Others will be an Ancillary Group, OptoElectronics Group and Parachute Group

The Need For Revamp

The military had three major issues with the older OFB structure

The Biggest concern was poor quality of equipment and ammunition delivered, which has led to loss of confidence by the user and a 'lowering of morale of the troops on ground'

High cost of orders placed on the OFB is another worry as the organisation has been nominated for tenders worth thousands of crores without competitive biddings

Lack of adhering to timelines by the OFB was a big concern as it had an cascading effect on the combat readiness of the Army



BCCL

- **Production includes:** Civilian and military-grade arms and ammunition, explosives, propellants and chemicals for missile systems, military vehicles, armoured vehicles, optical devices, parachutes, support equipment, troop clothing and general store items.

➤ Reasons for Corporatization:

- A performance evaluation by the **Comptroller and Auditor General (CAG)** in its report for 2019 on the OFB highlights a few of the lacunae, which ails this organisation.
 - **Overheads** (expenses not directly attributed to creating a product or service) constitute a staggering 33% of the overall allotted budget for the year.
 - The major contributors being supervision costs and indirect labour costs.
 - **Delayed Production:** The Ordnance factories achieved production targets for only 49% of the items.
 - More than half the inventory (52%) was store-in-hand, procured for manufacture but not used within the year by the factories.
- The **Atmanirbhar Bharat initiative**, also calls for the Corporatisation of OFB for: 'improving autonomy, accountability and efficiency in ordnance suppliers'.

➤ Importance of new structure:

- The restructure would also help in overcoming various shortcomings in the existing system of the OFB by eliminating inefficient supply chains and provide these companies incentive to become competitive and explore new opportunities in the market.

- It will allow these companies autonomy as well as help improve accountability and efficiency.

- The restructuring is aimed at transforming the ordnance factories into productive and profitable assets, deepen their specialisation in product range, enhance competitiveness and improve quality and cost-efficiency.

➤ Apprehensions:

- One of the main apprehensions of the employees is that corporatisation (ownership and management lies with the government) would eventually lead to privatisation (transfer of ownership and management rights to the private player).
- The new corporate entities would not be able to survive the unique market environment of defence products that has very unstable demand and supply dynamics.
- Restructuring will result in greater autonomy and lesser government control over the corporation but there is a fear of job loss.

Helpline for Cyber Fraud

Why in News

The Ministry of Home Affairs has operationalised the national Helpline 155260 and Reporting Platform for preventing financial loss due to cyber fraud. The helpline was soft-launched on 1st April.

- The National Helpline and Reporting Platform provides a mechanism for persons cheated in cyber frauds to report such cases to prevent loss of their hard earned money.

Note:

- Also, a **National Cyber Security Strategy 2020** is being formulated by the Office of National Cyber Security Coordinator at the National Security Council Secretariat.

Cyber Security

- **Cyber Security** is protecting cyber space including critical information infrastructure from attack, damage, misuse and economic espionage.
- **Critical Information Infrastructure:** According to **Section 70(1) of the Information Technology Act**, CII is defined as a “computer resource, the incapacitation or destruction of which, shall have debilitating impact on national security, economy, public health or safety”.
- **Cyber Fraud:** It is the crime committed via a computer with the intent to corrupt another individual's personal and financial information stored online.
 - It is the most common type of fraud and individuals and organisations need to be vigilant and protect their information from fraudsters.

Key Points

- **About:**
 - The helpline has been made operational by the **Indian Cyber Crime Coordination Centre (I4C)**, in coordination with the **Reserve Bank of India**, all major banks, **payment banks**, wallets and online merchants.
 - The **Citizen Financial Cyber Fraud Reporting and Management System** has been developed by I4C to integrate Law Enforcement Agencies and Banks and Financial Intermediaries.
 - The facility **empowers both the banks and the police**, by leveraging new-age technologies **for sharing online fraud related information** and taking action in almost real time.
 - Since its soft launch, in a short span of two months, the helpline has assisted in saving **more than Rs 1.85 crore**.
- **Indian Cyber Crime Coordination Centre:**
 - The scheme to set up I4C was approved in **October 2018**, to deal with all types of cybercrimes in a comprehensive and coordinated manner.
 - It has **seven components:**
 - National Cyber Crime Threat Analytics Unit

- **National Cyber Crime Reporting Portal**
- National Cyber Crime Training Centre
- Cyber Crime Ecosystem Management Unit
- National Cyber Crime Research and Innovation Centre
- National Cyber Crime Forensic Laboratory Ecosystem
- Platform for Joint Cyber Crime Investigation Team.

- 15 States and Union Territories have given their consent to set up Regional Cyber Crime Coordination Centres.
- This state-of-the-art Centre is located in **New Delhi**.

➤ Other Initiatives to Tackle Cybercrime:

- **Draft Personal Data Protection Bill, 2018** (based on the recommendation of **Justice BN Srikrishna Committee**) to secure citizens data.
- **Cyber Swachhta Kendra:** The “Cyber Swachhta Kendra” (Botnet Cleaning and Malware Analysis Centre) is a part of the Government of India's **Digital India initiative** under the Ministry of Electronics and Information Technology (MeitY).

- **Indian Computer Emergency Response Team (CERT-IN):** It is an organisation of the MeitY, with the objective of securing Indian cyberspace. It is the nodal agency which deals with cybersecurity threats like hacking and phishing.

➤ Related International Convention (Budapest Convention):

- The **Council of Europe's (CoE) Cybercrime Convention**, also known as the Budapest Convention is the sole legally binding international multilateral treaty on cybercrime. It coordinates **cybercrime investigations between nation-states** and criminalizes certain cybercrime conduct.
- It was opened for **signature in 2001** and came into force in **2004**.
- The Budapest Convention is supplemented by a **Protocol on Xenophobia and Racism** committed through computer systems.
- India is **not a party** to it. India recently **voted in favour of a Russian-led UN resolution** to set up a separate convention. The resolution seeks to set up new cyber norms considered as a counter alternative to the US backed Budapest Accord.

Note:

Inland Vessel Bill 2021

Why in News

Recently, the Union Cabinet approved the **Inland Vessels Bill, 2021**, which will replace the **Inland Vessels Act, 1917** after passing in Parliament.

- The Bill will regulate safety, security and registration of inland vessels.

Key Points

➤ Features of the Bill:

- A key feature of the Bill is a **unified law for the entire country**, instead of separate rules framed by the States.
- The **certificate of registration** granted under the proposed law will be deemed to be valid in all States and Union Territories, and there will be no need to seek separate permissions from the States.
- The Bill provides for a **central database** for recording the details of vessel, vessel registration, crew on an electronic portal.
- All **non-mechanically propelled vessels** will also have to be enrolled at the district, taluk or panchayat or village level.
- It enlarges the definition of '**inland waters**', by including **tidal water limit** and **national waterways** declared by the Central Government.
- It also deals with **pollution control measures** of Inland Vessels. This Bill directs the Central Government to designate a list of chemicals, substances, etc. as pollutants.

➤ Inland Waterways:

○ About:

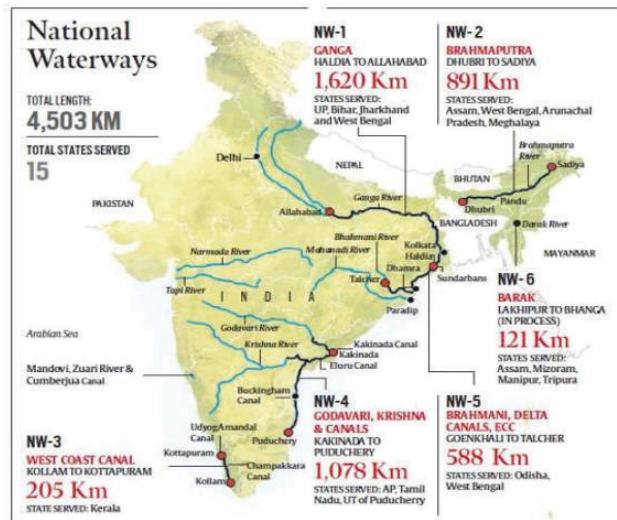
- India has **about 14,500 km of navigable waterways** which comprise of rivers, canals, backwaters, creeks, etc.
- As per the **National Waterways Act 2016**, **111 waterways** have been declared as **National Waterways (NWs)**.
 - **NW-1: Ganga-Bhagirathi-Hooghly River System (Prayagraj-Haldia)** with length 1620 km is the **longest National Waterway in India**.
 - The **Inland Waterways Authority of India (IWAI)** is implementing the **Jal Marg Vikas**

Project (JMVP) for capacity augmentation of navigation on the Haldia-Varanasi stretch of Ganga (part of NW-1) with the technical and financial assistance of the **World Bank**.

○ Utilization:

- About **55 million tonnes of cargo** is being moved annually by **IWT (Inland Water Transport)**, a fuel-efficient and environment-friendly mode.
 - However, **freight transportation by waterways is highly underutilized** in the country as compared to developed countries.
- Its operations are currently restricted to a few stretches in the **Ganga-Bhagirathi-Hooghly rivers, the Brahmaputra, the Barak river** (northeastern India), the **rivers in Goa, the backwaters in Kerala, inland waters in Mumbai** and the **deltaic regions of the Godavari - Krishna rivers**.
- Besides these **organized operations by mechanized vessels, country boats** of various capacities also operate in various rivers and canals and **substantial quantum of cargo and passengers are transported in this unorganized sector** as well.
- In India, IWT has the **potential to supplement the overburdened railways and congested roadways**. In addition to cargo movement, the IWT sector also provides a convenient function in related activities such as **carriage of vehicles {on Roll-on-Roll-off (Ro-Ro) mode of cross ferry} and tourism**.

○ Steps Taken:



Note:

- The waterways will also be linked to the eastern and western Dedicated Freight Corridors (DFCs), as well as the Sagarmala Project, which aims to promote port-led direct and indirect development.
 - Further, the provisions of the Indo-Bangladesh (Sonamura-Daudkandi) and Indo-Myanmar protocol (Kaladan) permitting transhipment of goods through Bangladesh and Myanmar waters – which, in many cases, are a continuum of India's inland waterways – enabling quicker shipments and deeper market penetration in India's North East.
- **Inland Waterways Authority of India:**
- It came into existence on 27th October 1986 for development and regulation of inland waterways for shipping and navigation.
 - It primarily undertakes projects for development and maintenance of IWT (Inland Water Transport) infrastructure on national waterways through grants received from the Ministry of Shipping.
 - It is headquartered at Noida (Uttar Pradesh).

Strategy to Promote Medical, Rural and MICE Tourism

Why in News

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

- India has been ranked 34th out of 140 countries on the World Travel and Tourism Competitiveness Index 2019, released by the World Economic Forum (WEF).

Key Points

- **Medical and Wellness Tourism (MWT):**
- **About:**
 - Describes the rapidly growing practice of travelling across international borders to obtain healthcare services.
 - It may be broadly classified into three categories - Medical Treatment, Wellness & Rejuvenation and Alternative Cures. Now it is often referred to as Medical Value Travel (MVT).

○ **Scope in India:**

- **State of the Art Medical Facilities:** Top of the line medical and diagnostic equipment from global international conglomerates are available.
- **Reputed Healthcare Professionals:** Reputation for high-quality medical training and also fluent in English to converse with foreigners.
- **Financial Savings:** The cost of quality of medical procedures and services are low in India.
- **Alternative Cures:** India has a unique advantage of offering Yoga, Ayurveda & Naturopathy for treatment.

○ **Major Strategy:**

- "Heal in India" Brand for promoting India as a MVT destination.
- Capacity building of MVT facilitator, enterprises and staff.
- Setting up of an online MVT Portal to provide one stop solution to facilitate international patients.
- Convergence of Wellness, Hospitality and Travel businesses.

➤ **Rural Tourism:**

○ **About:**

- Any form of tourism that showcases the rural life, art, culture, and heritage at rural locations, thereby benefiting the local community economically and socially.
- It offers an opportunity to promote sustainable and responsible tourism and fulfill the vision of Atmanirbhar Bharat.

○ **Scope in India:**

- Indian villages have unparalleled culture, craft, music, dance and heritage to offer to the visitors.
- Well-developed agriculture and farms to provide stay facilities and experiences.
- Beautiful climate conditions and Biodiversity.
- India has coastal, Himalayan, desert, forest and tribal areas amongst others for tourists.

○ **Major Strategy:**

- State Assessment and Ranking as a tool for Capacity Building (including that of Panchayati Raj Institutions).
- Enabling Digital Technologies for Rural Tourism like enabling broadband internet infrastructure to rural areas having tourism potential.

Note:

- Developing clusters for rural tourism.
- **MICE (Meetings, Incentives, Conferences and Exhibitions):**
 - **About:**
 - The main purpose is to create a networking platform for business, industry, government and Academic Community and engage in meaningful conversations.
 - MICE is also known as 'Meetings industry' or 'Events industry'.
 - **Scope in India:**
 - Core MICE infrastructure amenities are at par with most developed countries.
 - India has consistently improved its rank in World Bank Ease of Doing Business and WEF Travel and Tourism Competitiveness Rank.
 - Growing Economic Strength of India.
 - India has progressed rapidly in the areas like Information Technology, and Scientific Research.
 - **Major Strategy:**
 - "Meet in India" Brand for promoting MICE Industry.
 - Providing Infrastructure status for financing of MICE infrastructure.
 - Skill development for the MICE industry.

Significance

- **Multiplier Effect:** Not only does the tourism sector provide high-quality jobs, it also enhances investment in India, accelerates development.
- **Push to the Service Sector:** A large number of businesses engaged in the service sector such as airlines, hotels, surface transportation, etc. grows with the growth of the tourism industry.
- **Preservation of National Heritage and Environment and Renewal of Cultural Pride.**
- **Soft Power:** Tourism helps in promoting cultural diplomacy, people to people connect and thereby promotes friendship and cooperation between India and other countries.
- **Boost to Other Forms of Tourism:** India has huge potential for related areas such as Eco-tourism, Nature Reserves, Wildlife tourism, Himalayan tourism. India has 38 world heritage sites that include 30 Cultural properties, 7 Natural properties and 1 mixed site.

Constraints

- **Infrastructure and Connectivity:** Deficiencies in infrastructure and inadequate connectivity hamper tourist visits to some sites.
- **Promotion and Marketing:** Although it has been increasing, online marketing/branding remains limited and campaigns are not coordinated.
- **Tourist information centers:** are poorly managed, making it difficult for domestic and foreign tourists to access information with ease.
- **Lack of Skills:** A limited number of multilingual trained guides, and the limited local awareness and understanding of the benefits and responsibilities associated with tourist growth.
- **Others:**
 - There is a perception about India not being a very hygienic country. This impacts the choice of India as a medical destination.
 - Lack of prioritization for rural tourism at the State and National level.
 - Lack of focussed approach on MICE as an industry.

Major Schemes of the Ministry of Tourism

- **Iconic Tourist Sites Initiative**
- **DekhoApnaDesh Campaign**
- **PRASHAD Scheme**
- **Swadesh Darshan Scheme**

Censorship of Films in India

Why in News

The Ministry of Information and Broadcasting has recently sought public comments on its **draft Cinematograph (Amendment) Bill, 2021**, which proposes to bring back its "revisionary powers" over the **Central Board of Film Certification**.

- The new Bill will also "make the process of sanctioning of films for exhibition more effective, in tune with the changed times and curb the menace of piracy".

Key Points

- **Background:**
 - The **Supreme Court of India (SC)** in November 2000, had upheld a **Karnataka High Court** order which struck down the Centre's "revisional powers

Note:

- in respect of films that are already certified by the Board”.
- However, the SC had opined that the Legislature may, in certain cases, overrule or nullify the judicial or executive decision by enacting an appropriate legislation”.
- **Provision of Draft Cinematograph (Amendment) Bill, 2021:**
 - **Granting Revisionary Powers:** The government on account of violation of **Section 5B(1) of the Cinematograph Act, 1952** can order for “re-examination” by the certification board of an already certified film, following receipt of complaints.
 - **Section 5B(1)** deals with the principles for guidance in certifying films. It is derived from **Article 19(2) of the Constitution** and is non-negotiable.
 - Under **Section 6 of the existing Cinematograph Act, 1952**, the Centre is already empowered to call for the record of proceedings in relation to certification of a film and pass any order thereon.
 - The Central Government, if the situation warranted, has the power to reverse the decision of the Board.
 - **Sub-division of Existing UA Category:** The provisions relating to certification of films under “unrestricted public exhibition (U/A)” category are proposed to be amended so as to sub-divide the existing UA category into age-based categories like U/A 7+, U/A 13+ and U/A 16+.
 - **Film Piracy:** In most cases, illegal duplication in cinema halls is the originating point of piracy. At present, there are no enabling provisions to check film piracy in the Cinematograph Act, 1952. The draft Bill proposes to insert **Section 6AA** which prohibits unauthorised recording.
 - **Punishment for Piracy:** **Section 6AA** of the draft legislation makes piracy a punishable offence.
 - The punishment of **imprisonment for a term upto three years** and with a fine which shall not be less than Rs 3 lakh but which may extend to 5% of the audited gross production cost or with both.
 - The recommendations of the **Justice Mukul Mudgal Committee of 2013** and the **Shyam Benegal Committee of 2016** had also been considered while drafting the legislation.

- **Central Board of Film Certification (CBFC):**
 - It is a **statutory body** under the **Ministry of Information and Broadcasting**, regulating the public exhibition of films under the provisions of the **Cinematograph Act 1952**.
 - The Board consists of **non-official members** and a **Chairman** (all of whom are appointed by Central Government) and functions with **headquarters at Mumbai**.
 - Films can be publicly exhibited in India (on cinema halls, T.V. channels) only after they have been certified by the Central Board of Film Certification.
 - **At present, films are certified under 4 categories:** U, U/A, A & S.
 - Unrestricted Public Exhibition (U)
 - Unrestricted Public Exhibition - but with a word of caution that Parental discretion required for children below 12 years (U/A)
 - Restricted to adults (A)
 - Restricted to any special class of persons (S)
 - **Provisions for Censorship:**
 - **Article 19(2) of the Constitution** authorises the government to impose, by law, reasonable restrictions upon the freedom of speech and expression in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.
 - The **Cinematograph Act, 1952** also provides for similar provisions as stated under Article 19(2).

Inoperable Provision of NDPS Act: Tripura High Court

Why in News

Recently, the Tripura High Court has discovered that an oversight in drafting the 2014 amendments to the **Narcotics Drugs and Psychotropic Substances (NDPS) Act, 1985** had unintentionally rendered a key provision (**Section 27A**) of the Act inoperable.

Key Points

- **Narcotic Drugs and Psychotropic Substances Act, 1985:**

Note:

- India is a signatory to the **United Nations (UN) Single Convention on Narcotics Drugs 1961, the Convention on Psychotropic Substances, 1971 and the Convention on Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.**
 - They prescribe various forms of control aimed to achieve the dual objective of limiting the **use of narcotic drugs and psychotropic substances** for medical and scientific purposes as well as preventing the abuse of the same.
- The basic legislative instrument of the Government of India in this regard is the **NDPS Act, 1985.**
- The Act provides **stringent provisions for the control and regulation of operations** relating to narcotic drugs and psychotropic substances.
- It also provides for **forfeiture of property** derived from, or used in, illicit traffic in narcotic drugs and psychotropic substances.
- It also provides for **death penalty in some cases** where a person is a repeat offender.
- The **Narcotics Control Bureau** was also constituted in 1986 under the Act.

➤ **Section 27A of the NDPS Act:**

- The provision reads that whoever indulges in financing, directly or indirectly, any of the activities specified in **sub-clauses (i) to (v) of clause (viiia) of section 2** or harbours any person engaged in any of the aforementioned activities.
- He shall be punishable with **rigorous imprisonment for a term which shall not be less than ten years** but which may **extend to twenty years** and shall also be liable to fine which shall not be less than one lakh rupees but which may extend to two lakh rupees:
 - Provided that the court may, for reasons to be recorded in the judgment, impose a fine exceeding two lakh rupees.

➤ **Reason of Section 27A getting Inoperable:**

- The text of the provision says that **offences mentioned under Section 2 (viiia) sub-clauses i-v** are punishable through Section 27A.
- However, **Section 2 (viiia) sub-clauses i-v**, which is supposed to be the catalog of offences, **does not exist after the 2014 amendment.**
- So, if Section 27A penalises a blank list or a non-existent provision, it can be argued that it is virtually inoperable.

➤ **NDPS Act 2014 Amendment:**

- It was made to allow for better medical access to **narcotic drugs**. Since the regulation under NDPS was very stringent, despite being a leading manufacturer of morphine, an opioid analgesic used as a painkiller, it was difficult to access the drug even for hospitals.
- The 2014 amendment essentially removed state-barriers in transporting, licensing drugs classified as “**essential narcotic drugs**”, and made it centralised.
- This was done by defining **essential narcotic drugs**, and allowing the manufacture, possession, transport, import inter-State, export inter-State, sale, purchase, consumption and use of **essential narcotic drugs**.
 - The amendment to add the definition of essential narcotic drugs re-lettered the old Section 2(viiia) that was the catalog of offences as Section 2(viib), and under the Section 2(viiia), defined essential narcotic drugs.
 - However, the drafters missed amending the enabling provision in Section 27A to change Section 2(viiia) to Section 2(viib).

➤ **High Courts Ruling:**

- It directed the Central Government, Ministry of Home Affairs to take appropriate steps for amending section 27A of the NDPS Act 1985.
 - It noted that the amendment is yet to take place. However, **criminal laws cannot be amended retrospectively**. So even if the amendment is brought in, the result of the drafting error could lead to more constitutional questions being raised.
- Ordered that both the **Central Government and the State Government shall publish a notification bringing about the content of this order** in short for the **public notice** so that the requirement of Article-20 of the Constitution of India is not diminished.
 - **Article 20** of the Constitution guarantees protection against double jeopardy.
 - **Article 20(1)** says that **no person shall be convicted of any offence except for violation of the law in force at the time of the commission of the act** charged as an offence, nor be subjected to a penalty greater than that which might have been inflicted under the law in force at the time of the commission of the offence.

Note:

Class Action Suits

Why in News

Incidents such as the recent **Oil and Natural Gas Corporation Limited (ONGC)** barge disaster underline the absence of effective class action suits/lawsuits in India.

- 71 people were killed after **Cyclone Tauktae** damaged ONGC's barge vessels off Bombay High.

Oil and Natural Gas Corporation Limited

- It is a **Maharatna** Public Sector Undertaking (PSU) of the Government of India.
- It was **set up in 1995** and is under the **Ministry of Petroleum and Natural Gas**.
- It is the **largest crude oil and natural gas company in India**, contributing around 70% to Indian domestic production.

Key Points

- **About:**
 - It is a **case brought to court by a group representing a larger set of people**, often in thousands, who have **suffered the same loss**. Such a group forms a class.
 - It derives from **representative litigation**, to ensure justice to the ordinary individual against a powerful adversary.
 - The **accused in such cases usually are corporate entities or governments**.
 - Generally, in class action suits, the damages paid may be small at an individual level or may not even be quantifiable.
 - The **total damages calculated, however, could be large**.
 - The difference between **public interest litigation (Article 32 or Article 226 of the Constitution)** and class action suits is that unlike a class action suit, a **public interest litigation cannot be filed against a private party**.
- **History of Class Action Suits:**
 - While class action suits have a **history dating back to the 18th century**, these were formally incorporated into law in the US in **1938** under the **Federal Rules of Civil Procedure**.

- It is a tool extensively used in the US where individuals or small communities, aggrieved by the actions of a large entity, come together to exercise legal options collectively.

- Over the years, class action has become so successful at curbing negligence, that it is **now a part of US corporate and consumer laws, environmental litigation, etc.**

➤ Rules in India for Class Action Suits:

○ Civil Procedure Code 1908:

- The **Code of Civil Procedure, 1908** is a procedural law related to the administration of civil proceedings in India.
- Rule 8 refers to **representative suits**, which is the closest to a classic class action suit in a civil context in India. **It does not cover criminal proceedings**.

○ Companies Act 2013:

- **Section 245** of it allows members or depositors of a company to initiate proceedings against the directors of the company in specific instances.
- There are **threshold limits**, requiring a minimum number of people or holders of issued share capital before such a suit can proceed.
- This type of suit is filed in the **National Company Law Tribunal (NCLAT)** currently.

○ Competition Act 2002:

- Under Section 53(N), it allows a group of aggrieved persons to appear at the NCLAT in issues of anti-competitive practices.

○ Consumer Protection Act 2019 (replaced the 1986 Act):

- The **Supreme Court** has held that in certain complaints under the **Consumer Protection Act 1986**, they can be considered as class action suits. (*Rameshwar Prasad Shrivastava and Ors v Dwarkadhis Project Pvt Ltd and Ors 2018*).

➤ Benefits:

○ Reduced Burden:

- An immediate benefit is that the court has to hear only one case and not several. This **reduces the chance of similar cases clogging the already overburdened courts**.

○ Helps the Weak:

- As not everyone has the means or time to pursue a legal case, a small group of people

Note:

with funds or the ability to raise money can bring justice to other victims who may be disadvantaged.

- Affects Brand Image:

- Companies are reluctant to face such suits as it affects their brand image. They prefer settling such cases faster to minimize the damage to their reputation.
- An advantage for the accused parties, however, is that they have to deal with only one case.

- Challenges:

- Underdeveloped system of torts:

- Tort law has not developed sufficiently in India for a number of reasons, primarily due to the high cost and time-consuming nature of litigation.

- Lack of contingency fees:

- The rules of the Bar Council of India do not allow lawyers to charge contingency fees, i.e., a percentage of the damages claimants receive if they win a case.
- This disincentives lawyers from appearing in time-consuming cases that class action suits inevitably are.

- Lack of Third-party financing mechanisms for litigants:

- Since litigation costs are high, class action suits can be made easier by allowing external parties to fund or sponsor the cost of litigation.
- Some states like Maharashtra, Gujarat, Madhya Pradesh, and Karnataka have made changes in the Civil Procedure Code to allow this.

Little action, no class

India has seen several cases which would likely have become the subject of class action lawsuits in jurisdictions such as the US. These are some of them.



1984
Union Carbide



2015
Nestlé (Maggi)



2018
Johnson & Johnson

The world's biggest industrial disaster in Bhopal killed more than 15,000 people. Union Carbide, however, went scot-free.

Pesticide traces were found in Maggi samples. The product was banned and packets recalled, but Nestlé escaped with little damage.

J&J paid ₹25 lakh to ₹1 crore to at least 67 patients fitted with faulty hip implants on the direction of the Delhi high court and authorities.

Delimitation in Jammu and Kashmir

Why in News

Recently, the delimitation exercise has started in Jammu and Kashmir (J&K).

- The completion of the delimitation exercise will mark the political process in the Union Territory (UT) that has been under Centre's rule since June 2018.

MAP OF UT OF JAMMU & KASHMIR AND UT OF LADAKH



Key Points

- Delimitation:

- Delimitation is the act of fixing or redrawing the limits or boundaries of territorial constituencies (Assembly or Lok Sabha seat) in a country or a province having a legislative body, as per the Election Commission.
- The delimitation exercise is carried out by an independent high-powered panel known as the Delimitation Commission whose orders have the force of law and cannot be questioned by any court.
- The exercise has been carried out over the years to redefine the area of a constituency-based on its population size(based on the last Census).
- Aside from changing the limits of a constituency, the process may result in change in the number of seats in a state.
- This exercise also involves reservation of Assembly seats for Scheduled Castes (SCs) and Scheduled Tribes (STs) in accordance with the Constitution.

- Aim:

Note:

- The key aim is to have equal representation to equal segments of the population in order to ensure a fair division of geographical areas so that all political parties or candidates contesting elections have a level playing field in terms of a number of voters.
- **Constitutional Basis for Delimitation:**
- Under Article 82, the Parliament enacts a Delimitation Act after every Census.
 - Under Article 170, States also get divided into territorial constituencies as per Delimitation Act after every Census.
 - Once the Act is in force, the Union government sets up a Delimitation Commission.
 - However, the first delimitation exercise was carried out by the President (with the help of the Election Commission) in 1950-51.
 - The Delimitation Commission Act was enacted in 1952.
 - Delimitation Commissions have been set up four times — 1952, 1963, 1973 and 2002 under the Acts of 1952, 1962, 1972 and 2002.
 - There was no delimitation after the 1981 and 1991 Censuses.
- **Delimitation Commission:**
- The Delimitation Commission is appointed by the President of India and works in collaboration with the Election Commission of India.
 - **Composition:**
 - Retired Supreme Court judge
 - Chief Election Commissioner
 - Respective State Election Commissioners.
- **Delimitation in Jammu and Kashmir:**
- The delimitation exercise in J&K in the past has been slightly different from those in the rest of the country because of the region's special status.
 - The delimitation of Lok Sabha seats was then governed by the Indian Constitution in J&K, but the delimitation of Assembly seats was governed separately by the Jammu and Kashmir Constitution and Jammu and Kashmir Representation of the People Act, 1957.
 - However, Jammu and Kashmir lost its special status and was divided into two Union Territories (J&K and Ladakh) after the abrogation of its special status under Article 370, on 5th August, 2019.
- Following this, a special delimitation commission was constituted on 6th March, 2020 to carve out Assembly and Parliament seats in the UT.
- **Issues with Delimitation:**
- States that take little interest in population control could end up with a greater number of seats in Parliament. The southern states that promoted family planning faced the possibility of having their seats reduced.
 - In 2002-08, Delimitation was done based on the 2001 census, but the total number of seats in the Assemblies and Parliament decided as per the 1971 Census was not changed.
 - The Constitution has also capped the number of Lok Sabha & Rajya Sabha seats to a maximum of 550 & 250 respectively and increasing populations are being represented by a single representative.

Special Purpose Vehicle for Mission Karmayogi

Why in News

Recently, a three-member task force has been formed to help the government in bringing major bureaucratic reforms through its ambitious “Mission Karmayogi”.

Key Points

- **About:**
- The Centre has recently approved the ‘National Programme for Civil Services Capacity Building – Mission Karmayogi’ to effect a transformational shift from rule based training to role-based capacity development of all civil services in the country.
 - The Programme also aims to enhance citizen experience for government services and improve availability of competent workforce.
 - To effectively roll out this competency driven mission, a Special Purpose Vehicle (SPV), namely ‘Karmayogi Bharat’, would be set up as a not-for-profit company.
 - It will be set up under section 8 of Companies Act, 2013 as a 100% government-owned entity.
 - The SPV will be responsible to deliver and manage design, implement, enhance and manage a digital platform and infrastructure, manage

Note:

- and deliver competency assessment services, and manage governance of telemetry data and ensure provision of monitoring and evaluation.
 - The task force shall submit its recommendations on organisational structure for the SPV aligning its vision, mission and functions.
- **About Mission Karmayogi:**
- **Aim and Objectives:**
 - It is aimed at building a future-ready civil service with the right attitude, skills and knowledge, aligned to the vision of New India.
 - It aims to prepare Indian civil servants for the future by making them more creative, constructive, imaginative, proactive, innovative, progressive, professional, energetic, transparent, and technology-enabled.
 - **Reason for Mission:**
 - At present bureaucracy is facing challenges like- Rule orientation, political interference, inefficiency with promotions, and generalist and specialist conflict.
 - To change the status quo of civil services and bring about the long pending civil services reforms.
 - **Features of the scheme:**
 - **Tech-Aided:** The capacity building will be delivered through iGOT Karmayogi digital platform, with content drawn from global best practices.
 - **Coverage:** The scheme will cover 46 lakh central government employees, at all levels, and involve an outlay of Rs. 510 crores over a five-year period.
 - **Shift from Rules to Roles:** The programme will support a transition from “rules-based to roles-based” Human Resource Management (HRM) so that work allocations can be done by matching an official’s competencies to the requirements of the post.
 - **Integrated Initiative:** Eventually, service matters such as confirmation after probation period, deployment, work assignments and notification of vacancies will all be integrated into the proposed framework.
- **Other Bureaucratic Reforms:**
- The Government has ended the hegemony of the Indian Administrative Service (IAS), the apex

bureaucratic cadre, with respect to appointments at the level of **joint secretary (JS)**.

- Instead, appointments to posts have been drawn from other cadres also like the Indian Revenue Service, Indian Accounts and Audit Service and the Indian Economic Service.
- Similarly, the Union government has also encouraged lateral induction of personnel from the private sector.

Fugitive Economic Offenders

Why in News

The Enforcement Directorate has transferred assets worth Rs. 8,441.50 crore to **public sector banks** that suffered losses to the tune of Rs. 22,585.83 crore due to frauds committed allegedly by Vijay Mallya, Nirav Modi and Mehul Choksi.

- All the three have been declared ‘**Fugitive Economic Offenders**’ by **PMLA (Prevention of Money Laundering Act)** Court in Mumbai.
- Extradition requests to the **United Kingdom (UK), Antigua, and Barbuda**, have also been filed against all the three accused.

Key Points

- **Fugitive Economic Offenders Act, 2018:**
 - **About:** It seeks to confiscate properties of economic offenders who have left the country to avoid facing criminal prosecution or refuse to return to the country to face prosecution.
 - **Fugitive Economic Offender (FEO):** A person against whom an arrest warrant has been issued for committing an offence listed in the Act and the value of the offence is at least Rs. 100 crore.
 - Some of the **offences** listed in the act are:
 - Counterfeiting government stamps or currency.
 - Cheque dishonour.
 - Money laundering.
 - Transactions defrauding creditors.
- **Declaration of a Fugitive Economic Offender:**
 - After hearing the application, a **special court** (designated under the **PMLA, 2002**) may declare an individual as a fugitive economic offender.

Note:

- It may confiscate properties which are proceeds of crime, Benami properties and any other property, in India or abroad.
 - Upon confiscation, **all rights and titles of the property will vest in the central government**, free from encumbrances (such as any charges on the property).
 - The central government may appoint an administrator to manage and dispose of these properties.
- **Bar on Filing or Defending Civil Claims:**
- The Act allows any **civil court or tribunal to prohibit a declared fugitive economic offender from filing or defending any civil claim.**
 - Further, any **company or limited liability partnership** where such a person is a majority shareholder, promoter, or a key managerial person, may also be barred from filing or defending civil claims.
 - The authorities may **provisionally attach properties of an accused**, while the application is pending before the Special Court.
- **Powers:**
- The authorities under the PMLA, 2002 will exercise powers given to them under the Fugitive Economic Offenders Act.
 - These powers will be **similar to those of a civil court**, including the search of persons in possession of records or proceeds of crime, the search of premises on the belief that a person is an FEO and seizure of documents.
- **Prevention of Money Laundering Act (PMLA):**
- **Money Laundering:**
 - Money laundering is **concealing or disguising the identity of illegally obtained proceeds** so that they **appear to have originated from legitimate sources**. It is frequently a component of other, much more serious, crimes such as **drug trafficking, robbery or extortion.**
 - According to the **International Monetary Fund (IMF)**, global Money Laundering is estimated between 2 to 5% of World GDP.
 - **Salient Features:**
 - **Punishment for money-laundering:**
 - Money laundering is punishable with rigorous imprisonment for a minimum of 3 years and a maximum of 7 years and Fine.

- If the crime involves the **Narcotic Drugs and Psychotropic Substances Act, 1985**, the punishment can go up to 10 years, along with fine.
- **Powers of attachment of tainted property:**
 - The property is believed to be “proceeds of crime” and can be provisionally attached for 180 days. Such an order is required to be confirmed by an independent Adjudicating Authority
- **The Enforcement Directorate (ED)** is responsible for investigating offences under the PMLA.
- Also, the **Financial Intelligence Unit – India (FIU-IND)** is the national agency that receives, processes, analyses and disseminates information related to suspect financial transactions.
- **Burden of proof:** A person, who is **accused of having committed the offence of money laundering**, has to prove that alleged proceeds of crime are in fact lawful property.

Enforcement Directorate

- Directorate of Enforcement is a **specialized financial investigation agency** under the Department of Revenue, **Ministry of Finance**.
- On 1st May 1956, an ‘Enforcement Unit’ was formed, in the Department of Economic Affairs, for handling Exchange Control Laws violations under Foreign Exchange Regulation Act, 1947.
- In the year 1957, this Unit was renamed as ‘**Enforcement Directorate**’.
- ED enforces the following laws:
 - **Foreign Exchange Management Act, 1999 (FEMA)**
 - **Prevention of Money Laundering Act, 2002 (PMLA)**

Cyber Capabilities and National Power Report: IISS

Why in News

According to a report by **International Institute for Strategic Studies (IISS)**, an influential think tank, **India's offensive cyber capability** is “**Pakistan-focused**” and “**regionally effective**”, and not tuned towards China.

Note:

Key Points

➤ Countries Under Observation:

- The report has done a qualitative assessment of cyber power in **15 countries**.
- **Four members of the Five Eyes intelligence alliance** – the United States, the United Kingdom, Canada and Australia.
- Three cyber-capable **allies of the Five Eyes states** – France, Israel and Japan.
- **Four countries** viewed by the Five Eyes and their allies as **cyber threats** – China, Russia, Iran and North Korea.
- Four states at **earlier stages in their cyber power development** – India, Indonesia, Malaysia and Vietnam.

➤ Assessment Criteria:

- The methodology analyses the cyber ecosystem of each state and how it intersects with international security, economic competition and military affairs. The countries are assessed in **seven categories**:
 - Strategy and doctrine
 - Governance, command and control
 - Core cyber-intelligence capability
 - Cyber empowerment and dependence
 - Cyber security and resilience
 - Global leadership in cyberspace affairs
 - Offensive cyber capability

➤ Key Observations:

- The report has **divided the 15 states into three tiers of cyber power**:
 - **First Tier:** States with **world-leading strengths across all the categories** in the methodology. The **United States of America** is the only country in this tier.
 - **Second Tier:** States that have **world-leading strengths in some of the categories**. Australia, Canada, China, France, Israel, Russia and the United Kingdom are in this tier.
 - **Third Tier:** States that have **strengths or potential strengths in some of the categories but significant weaknesses in others**. India, Indonesia, Iran, Japan, Malaysia, North Korea and Vietnam are in this tier.
- This report provides confirmation of the **likely durability of US digital-industrial superiority**

for at least the next ten years. There can be **two reasons** for this.

- In advanced cyber technologies and their exploitation for economic and military power, the **US is still ahead of China**.
- Since 2018, the US and several of its leading allies have agreed to **restrict China's access to some Western technologies**.
 - By doing so, these countries have endorsed a partial decoupling of the West and China that could potentially impede the latter's ability to develop its own advanced technology.

➤ India Specific Observations:

- Despite the **geo-strategic instability of its region** and a keen awareness of the cyber threat it faces, India has made only "**modest progress**" in **developing its policy and doctrine** for cyberspace security.
- India has **some cyber-intelligence and offensive cyber capabilities** but they are **regionally focused, principally on Pakistan**.
 - However, the **military confrontation with China** in the disputed Ladakh border area in June 2020, followed by a sharp increase in Chinese activity against Indian networks, has heightened Indian concerns about cyber security, not least in systems supplied by China.
- India is currently aiming to compensate for its weaknesses by building **new capability with the help of key international partners** – including the US, the UK and France – and by looking to concerted international action to develop norms of restraint.
- India's approach towards **institutional reform of cyber governance** has been "**slow and incremental**", with key coordinating authorities for cyber security in the civil and military domains established only as late as 2018 and 2019 respectively.
 - The key authorities work closely with the main cyber-intelligence agency, the **National Technical Research Organisation**.
- The strengths of the Indian digital economy include a **vibrant start-up culture and a very large talent pool**.
 - The private sector has moved more quickly than the government in promoting national cyber security.

Note:

- The country is **active and visible in cyber diplomacy** but **has not been among the leaders on global norms**, preferring instead to make productive practical arrangements with key states.

National Technical Research Organisation

- National Technical Research Organisation (NTRO), established in 2004, is under the **National Security Advisor** in the Prime Minister's Office and focuses on intelligence gathering.
- The agency specializes in **multiple disciplines**, which include remote sensing, data gathering and processing, cyber security, geospatial information gathering, cryptology, strategic hardware and software development and strategic monitoring.
- The **National Critical Information Infrastructure Protection Centre (NCIIPC)**, an agency under the control of **National Technical Research Organisation**, aims to monitor, intercept and assess threats to critical infrastructure and other vital installations from intelligence gathered using sensors and platforms which include satellites, underwater buoys, drones, VSAT-terminal locators and fiber-optic cable nodal tap points.
- NTRO has the same “**norms of conduct**” as the **Intelligence Bureau (IB)** and the **Research and Analysis Wing (R&AW)**.

6 Years of Transformative Urban Missions

Why in News

Recently, the **Ministry of Housing and Urban Affairs (MoHUA)** organised an online event to commemorate six years of the three transformative Urban Missions vis. **Smart Cities Mission (SCM)**, **Atal Mission for Urban Rejuvenation and Urban Transformation (AMRUT)** and **Pradhan Mantri Awas Yojana-Urban (PMAY-U)**.

- The day also marked the 45 years of establishment of **National Institute of Urban Affairs**, an autonomous body of MoHUA, tasked to bridge the gap between research and practice on issues related to urbanization.

Key Points

- Progress/Achievements:
- **PMAY-U:**

- **1.12 crore houses sanctioned** and over 83 lakh houses grounded under PMAY-U.
- 16 lakh families benefited from PMAY-U's **Credit Linked Subsidy Scheme (CLSS)**.

- Government investment under PMAY-U created around **689 crore person days of employment** translating into around **246 lakh jobs**.
- **Affordable Rental Housing Complexes scheme** under PMAY-U for **urban migrants/ poor** has elicited remarkable response on ground.

○ AMRUT:

- So far, **1.05 crore household water tap connections** and 78 lakh sewer/ sepatage connections provided under AMRUT Mission.
- About 88 lakh **street lights were replaced with energy efficient LED lights** leading to energy savings.
- 84.6 lakh tons **carbon footprint was reduced** through various initiatives under AMRUT, as per **The Energy and Resources Institute (TERI)**.

○ SCM:

- 70 cities have developed and operationalised **Integrated Command and Control Centres (ICCCs)** under Smart Cities Mission.

➤ Important Launches/ Releases During the Event:

○ India Smart Cities Awards 2020:

- The awards were given across the themes of Social Aspects, Governance, Culture, Urban Environment, Sanitation, Economy, Built Environment, Water, Urban Mobility.
- Themes such as **Sustainable Business model of ICCC** and **Innovation award** especially in Covid-19 Management are added this year.
- **Indore & Surat won the City Award jointly this year** for their overall development and **Uttar Pradesh won the State award**.

○ Climate Smart Cities Assessment Framework 2.0:

- Launched in September, 2020 with an aim to provide an overarching roadmap to formulate, implement and monitor urban climate actions in India.
- The **top 9 performing** cities which have been **awarded 4 star rating** are Surat, Indore, Ahmedabad, Pune, Vijayawada, Rajkot, Visakhapatnam, Pimpri-Chinchwad and Vadodara.

Note:

○ ICT initiatives under Smart Cities

- **ICCC Maturity Assessment Framework (IMAF):**
 - It is a self-assessment tool kit to help cities identify areas of improvement in their ICCCs to deliver better services to the citizens.
- **Smart Cities ICT standards:**
 - These will **facilitate interoperability** between products in a multi-vendor, multi-network and multi-service environment that exists in a smart city.
 - Organised by **Bureau Of Indian Standards (BIS).**
- **India Smart Cities Fellowship Program:**
 - To promote youth leadership and usher vibrancy in the design of India's urban future.
- **'TULIP-The Urban Learning Internship Program' Report:**
 - It is a platform to connect graduates to Urban Local Bodies and Smart Cities to co-create new solutions for our cities.
- **CITIIS - Knowledge Products:**
 - Launched in partnership with the French Development Agency and the European Union in 2018.
 - It has a novel approach of **developing demonstrative projects** and furthering the agenda of **sustainability and innovation in urban infrastructure.**

Smart City Mission

- **About:** It is an innovative initiative under the **Ministry of Housing and Urban Affairs**, to drive economic growth and improve the quality of life of people by enabling local development and harnessing technology as a means to create smart outcomes for citizens.
- **Objective:** To promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of Smart Solutions.
- **Focus:** On sustainable and inclusive development and to look at compact areas, create a replicable model which will act like a lighthouse to other aspiring cities.
- **Integrated Command and Control Centres (ICCCs)** equip cities to do more with less by graduating to

real time data driven decision making with better situational awareness in an integrated manner. ICCCs are expected to deliver specific outcomes focusing on bringing positive impact on day-to-day life of the citizens.

AMRUT Mission

- **Launch:** June 2015
- **Concerned Ministry:** Housing and Urban Affairs
- **Purpose:**
 - To ensure that every household has access to a tap with the assured supply of water and a sewerage connection.
 - To increase the amenity value of cities by developing greenery and well maintained open spaces (e.g. parks).
 - To reduce pollution by switching to public transport or constructing facilities for non-motorized transport (e.g. walking and cycling).

Pradhan Mantri Awas Yojana – Urban

- **Launch:** 25th June 2015, intends to provide housing for all in urban areas by year 2022.
- **Implemented by:** Ministry of Housing and Urban Affairs
- **Features:**
 - **Addresses Urban housing shortage among the Urban Poor** including the Slum Dwellers by ensuring a pucca house to eligible urban poor.
 - The Mission covers the **entire urban area** consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation which is entrusted with the functions of urban planning & regulations.

Components of PMAY(Urban)

CLSS	Affordable housing scheme under Credit Linked Subsidy Scheme Upfront interest subsidy from 3 to 6.5%
BLC	Beneficiary-Led Individual House Construction or Enhancement Central assistance upto Rs.1.5 lakh per house
AHP	AFFORDABLE housing in partnership with private or public sector Central assistance @ Rs. 1.5 lakh per EWS house
ISSR	IN-SITU SLUM REDEVELOPMENT using land as a resource GoI grant at 1 lakh per house

Note:

PM Formalization of Micro Food Processing Enterprises Scheme

Why in News

The Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) Scheme, launched under the **Atmanirbhar Bharat Abhiyan**, completed its one year on 29th June.

- The PMFME Scheme is currently being implemented in 35 States and Union Territories (UTs).

Key Points

- **Nodal Ministry:**
 - Ministry of Food Processing Industries (MoFPI).
- **Features:**
 - **One District One Product (ODOP) Approach:**
 - The States would identify food products for districts keeping in view the existing clusters and availability of raw material.
 - The ODOP could be a perishable produce based or cereal based or a food item widely produced in an area. E.g. mango, potato, pickle, millet based products, fisheries, poultry, etc.
 - **Other Focus Areas:**
 - Waste to wealth products, minor forest products and **Aspirational Districts**.
 - **Capacity building and research:** Academic and research institutions under MoFPI along with State Level Technical Institutions would be provided support for training of units, product development, appropriate packaging and machinery for micro units.
 - **Financial Support:**
 - **Upgradation of Individual Micro Food Processing Units:** Existing individual micro food processing units desirous of upgrading their units can avail credit-linked capital subsidy at 35% of the eligible project cost with a maximum ceiling of Rs.10 lakh per unit.
 - **Seed Capital to SHG:** Initial funding of **Rs. 40,000- per Self Help Group (SHG)** member would be provided for working capital and purchase of small tools.

- **Implementation:** Over a period of five years from 2020-21 to 2024-25.
- **Funding Details:**
 - It is a **centrally sponsored scheme** with an outlay of Rs. 10,000 crore.
 - The expenditure under the scheme would be shared in 60:40 ratio between Central and State Governments, in 90:10 ratio with North Eastern and Himalayan States, 60:40 ratio with UTs with legislature and 100% by Centre for other UTs.
- **Need:**
 - The **unorganized food processing sector comprising nearly 25 lakh units contributes to 74% of employment** in the food processing sector.
 - The unorganised food processing sector **faces a number of challenges** which limit their performance and their growth. The challenges include lack of access to modern technology & equipment, training, access institutional credit, lack of basic awareness on quality control of products; and lack of branding & marketing skills etc.
- **Status of Indian Food Industry:**
 - The Indian food and grocery market is the **world's sixth largest**, with retail contributing **70% of the sales**.
 - The **Indian food processing industry accounts for 32% of the country's total food market**, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth.
 - It contributes around 8.80 and 8.39% of Gross Value Added (GVA) in Manufacturing and Agriculture respectively, 13% of India's exports and 6% of total industrial investment.
- **Other Schemes Related to Food Processing:**
 - **Production Linked Incentive Scheme for Food Processing Industry (PLISFPI):** Aims to give companies incentives on incremental sales from products manufactured in domestic units.
 - **Mega Food Park Scheme:** Mega Food Parks create modern infrastructure facilities for food processing along the value chain from farm to market with strong forward and backward linkages through a cluster-based approach.

Note:

Not-for-Profit Hospital Model Study: NITI Aayog

Why in News

Recently, the **NITI Aayog** released a comprehensive study on the **Not-for-Profit Hospital Model** in the country.

- It is an initiative in a step towards **closing the information gap on such institutions and facilitating robust policymaking** in this area.

NITI Aayog

- It is a **public policy think tank of the Government of India**, established with the aim to achieve sustainable development goals with cooperative federalism by fostering the involvement of State Governments of India in the economic policy-making process using a bottom-up approach.
- It was established to **replace the Planning Commission**. The Prime Minister is its ex-officio chairman.

Key Points

- Major Findings:
 - **Low Charge:**
 - Most of the not-for-profit hospitals charge lower than the for profit hospitals.
 - Prices of Rural Community Based Hospitals are lower, while Rural Cooperative Hospital prices are comparable with government hospital rates.
 - **Empanelment:**
 - Most of the Not-for-profit Hospitals are empaneled with State or Central Government Healthcare schemes.
 - **Expenditure:**
 - The not-for-profit hospitals use various levers to facilitate their low cost of clinical care and reduced operational expenditure.
 - Following levers are used - multitasking of workforce, In-house manufacturing of equipment, such as beds, dental chairs, etc.
 - Not for profit Hospitals have lower operating costs as compared to For-Profit Hospitals.
 - **Quality:**
 - There is a strong focus on quality care across all categories of not-for-profit hospitals, as

most of them had some form of accreditation for their services.

➤ Challenges:

○ Recruitment:

- Most of the hospitals find it **difficult to recruit and retain doctors and staff**.

○ Reimbursements:

- Delayed **reimbursements and long-pending amounts**, despite their persistence, causing strain in their cash flows, and in turn, burdening their operations.

○ Funding:

- Many of these hospitals are **dependent on external funding** in the form of philanthropy and grants for capital expenditure components, such as infrastructural expansion, purchase of new technology, and advanced equipment.

○ Compliance burden:

- Some of the hospitals, especially those in remote areas, reported challenges because of the **high compliance burden of staffing requirements** of the **Regulations for running a blood bank 1999, Clinical Establishments Act 2010, Pre-Conception and Pre-natal Diagnostic Techniques (PCPNDT) 1994**, and Quality standards.

➤ Suggestions:

○ Policy Interventions:

- Short- and long-term policy interventions—such as **developing criteria to identify these hospitals, ranking them through a performance index**.

○ Tax Exemptions:

- To promote these hospitals, the government should **increase the tax exemption for donations and membership fees** of these hospitals.

○ Using their Expertise:

- Promoting top hospitals for practising philanthropy, among others. It also highlights the **need to use the expertise of these hospitals** in managing human resources with limited finance in **remote areas**.

Not-for-Profit Hospital

➤ About:

- Private hospitals are largely divided into **for-profit hospitals** and **not-for-profit hospitals**.

Note:

- Cumulative cost of care at not-for-profit hospitals is lesser than for-profit hospitals by about **one-fourth in the in-patient department.**
 - For-profit hospitals **account for 55.3% of in-patients**, while not-for-profit hospitals account for only 2.7% of in-patients in the country.
 - **Not-for-profit does not make profits for its owners** from the funds collected for patient services. The owners of these hospitals are often charitable organizations or non-profit corporations.
 - The fees for service at these hospitals are generally lower than for-profit hospitals and the income from fees (above the cost of service) are reinvested in the hospital.
 - These hospitals are a **potential remedy to the challenges of unavailability and unaffordability of healthcare** in India.
- **Significance:**
- The infrastructure, services, and charges of these hospitals are positioned to **cater to the unreached and underprivileged population of the country.**
 - The **not-for-profit hospital sector** provides not only curative but also preventive healthcare.
 - It links healthcare with social reform, community engagement, and education. It uses government resources and grants to provide cost-effective healthcare to people without being concerned about profits.
 - However, over the years, this sector has remained **understudied.**

Recent Initiatives in Health Sector

- Increased Allocation for Health in Budget 2021.
- PM Atmanirbhar Swasth Bharat Scheme
- National Digital Health Mission
- National Medical Commission (NMC) Act, 2019.
- Pradhan Mantri Bhartiya Janaushadhi Pariyojana.
- Ayushman Bharat.

Changes in Cable Television Network Rules

Why in News

The central government issued a notification amending the **Cable Television Network Rules, 1994**

thereby providing a **statutory mechanism for redressal of grievances/complaints of citizens.**

- These grievances/complaints are related to content broadcast by television channels in accordance with the provisions of the **Cable Television Network Act, 1995.**

Key Points

- **About the Notification:** The notification issues **Cable Television Networks (Amendment) Rules, 2021.**
 - It provides for a **three-level grievance redressal mechanism** — self-regulation by **broadcasters**, self-regulation by the **self-regulating bodies** of the broadcasters, and oversight by an Inter-Departmental Committee at the level of the **Union government.**
- **Significance Cable Television Networks (Amendment) Rules, 2021:**
 - Various **Self-regulatory bodies** like News Broadcasters Standards Authority (NBSA) and Broadcasting Content Complaints Council (BCCC) will get legal recognition.
 - At present, there is an institutional mechanism by way of an **Inter-Ministerial Committee** to address grievances of citizens relating to violation of the Programme/Advertising Codes under the Rules.
 - Various **broadcasters** have also developed their **internal self-regulatory mechanism** for addressing grievances.
 - There are **over 900 television channels** that have been granted permission by the Ministry of Information and Broadcasting (MIB).
 - The recent notification is significant as it paves the way for a strong **institutional system for redressing grievances** while placing **accountability and responsibility on the broadcasters** and their self-regulating bodies.
 - This will bring the television's self-regulatory mechanism **at par with that being set-up for OTT players and digital news publishers**, as envisaged in the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021.**
- **Cable Television Network Act, 1995:**
 - **Objective:** The Act aimed at **regulating content and operation** of cable networks. This Act regulates

Note:

the 'haphazard mushrooming of cable television networks'.

- **Important Provisions:**

- **Section 2:** Under the Act, district magistrates, sub-divisional magistrates and police commissioners are the 'authorised officers' to ensure that the Programme Code is not breached.
- **Section 3:** No person shall operate a cable television network unless he is registered as a cable operator under this Act.
- **Section 4A:** It is obligatory for cable operators to transmit programmes of any channel in an encrypted form through a digital addressable system when the centre asks them to do so.
- **Section 16:** Whoever contravenes any of the provisions of this Act shall be punishable.
- **Section 19:** Authorised officer has power to prohibit transmission of certain programmes in public interest if it promotes, disharmony or feelings of enmity, hatred or ill-will between different religious, racial, linguistic or regional groups or castes or communities.
- **Section 20:** Parliament has power to prohibit operation of cable television networks in public interest.

Improving Employability of the Youth

Why in News

Recently, the **Ministry of Labour and Employment** and **UNICEF** have signed a **Statement of Intent** to improve employment outcomes for the youth in India.

- According to **Census 2011**, every fifth person in India is a youth (15-24 years).
- **UNICEF** is a **special program of the United Nations (UN)** devoted to aiding national efforts to improve the health, nutrition, education, and general welfare of children. '**The State of the World's Children**' is UNICEF's flagship report.

Key Points

- **Purpose of this Collaboration:**

- It intends to provide a **platform for cooperation between the Ministry and UNICEF** to leverage the

existing mainstreamed initiatives of both parties in select states.

- This will **co-create and implement solutions** at scale to tackle the **employment and skilling challenges** for adolescents and youth in India, with focus on **vulnerable populations**.
- **Vulnerable Populations** include young people with special needs, youth leaving care institutions, migrant youth, victims of **child labour**, violence, **child marriage** and trafficking and like other matter.

- **Areas of Collaboration:**

- **Connecting young people with employment opportunities.**
- **Upskilling of young people on 21st century skills** including life skills, financial skills, digital skills, vocations skills etc.
- **Strengthening National Career Service (NCS).**
- Support in **Job forecasting** by exploring the gaps.
- Supporting **direct dialogue and the establishment of a feedback mechanism** between youth and policy stakeholders.

- **National Career Service (NCS):**

- **About:**

- It was **launched in 2015**, within the umbrella of the **e-governance plan**.
- It is a **one-stop solution** that provides a wide array of employment and career related services to the citizens of India.
- **Nodal Ministry:** Ministry of Labour & Employment.
- **Three Pillars:** The NCS project reaches out to the people of this country through its three essential pillars i.e.
 - A well designed ICT based portal which is **NCS portal**,
 - Country wide set up of **Model Career Centers** and
 - Interlinkage with all the states through **employment exchanges**.

- **UNICEF's Initiative (YuWaah):**

- The **India chapter of Generation Unlimited (GenU) – YuWaah** – was born in 2018.
- GenU is a **global multi-stakeholder platform** that aims to prepare young people to transition to productive work and active citizenship.

Note:

Other Initiatives Taken to Improve Employability of the Youth

- **National Youth Policy-2014** provides a holistic Vision for the youth of India which is “to empower the youth of the country to achieve their full potential, and through them enable India to find its rightful place in the community of nations”.
- **Prime Minister's Employment Generation Programme (PMEGP)**: It was introduced in 2008 for generation of employment opportunities through establishment of micro enterprises in rural as well as urban areas. It is administered by the **Ministry of Micro, Small and Medium Enterprises**.
- **Pradhan Mantri Mudra Yojana (PMMY)**: It was launched in 2015 for providing loans up to Rs. 10 lakh to the non-corporate, non-farm small/micro-enterprises. It has a focus on self-employment.
- **Pradhan Mantri Rojgar ProtsahanYojana (PMRPy)**: It has been launched by the **Ministry of Labour and Employment** for incentivising employers for promoting employment generation. The Government is paying the entire employer's contribution towards EPF and EPS for all eligible new employees for all sectors for 3 years.

➤ Increased public expenditure on schemes like **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGA)**, **Pt. Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)** scheme run by Ministry of Rural Development and **Deendayal Antyodaya Yojana- National Urban Livelihoods Mission (DAY-NULM)** run by Ministry of Housing & Urban Affairs.

➤ **Other Flagship Programmes which have the Potential to Generate Employment:** Make in India, Digital India, Swachh Bharat Mission, Smart City Mission, Atal Mission for Rejuvenation and Urban Transformation, Housing for All, Industrial corridors, etc.

- In India, by 2030, YuWaah aims to ensure, the following:
 - Build pathways for 100 million young people to aspirational economic opportunities.
 - Facilitate 200 million young people to gain relevant skills for productive lives and the future of work.
 - Partner with 300 million young people as changemakers and create spaces for developing their leadership.

drishti

Note:

Economic Scenario

Highlights

- International MSMEs Day
- Agristack: The New Digital Push in Agriculture
- Toycathon 2021
- Gujarat International Maritime Arbitration Centre (GIMAC)
- Increase in Direct Tax Collections
- Integrated Power Development Scheme
- Biotech-KISAN Programme
- World Competitiveness Index 2021
- Interest Rates on Small Saving Schemes
- US' Digital Millennium Copyright Act
- Guidelines for Other Service Providers (OSPs)
- Proposal to Ban 'Flash sales' on E-commerce Sites
- RBI's Proposals for Microfinance Institutions
- World's First Genetically Modified Rubber: Assam
- G20 Labour and Employment Ministers' Meeting
- Electoral Trust Scheme, 2013
- Drone Survey Mandatory for All National Highways Projects
- Nutrient Loss in Wheat & Rice
- Economic Relief Package after Covid- Second Wave

International MSMEs Day

Why in News

Every year, **Micro, Small and Medium-sized Enterprises (MSMEs) Day** is celebrated on 27th June to recognise the contribution of these industries in the implementation of the Sustainable Development Goals (SDGs).

Key Points

- **History:**
 - The United Nations (UN) designated 27th June as Micro, Small and Medium-sized Enterprises Day through a resolution passed in the UN General Assembly in April 2017.
 - In May 2017, a program titled 'Enhancing National Capacities for Unleashing Full Potentials of MSMEs in Achieving the SDGs in Developing Countries' was launched.
- It has been funded by the 2030 Agenda for Sustainable Development Sub-Fund of the United Nations Peace and Development Fund.
- **Significance:**
 - The UN wants countries to recognise sustainable development goals and create awareness about them.
 - An International Trade Centre survey on Covid-19 impact among businesses in 136 countries has shown that nearly 62% of women-led small businesses have been strongly affected by the crisis, compared to just over half of firms led by men, and women-owned are 27% more likely not to survive the pandemic.
 - Formal and informal MSMEs make up over 90% of all firms and account, on average, for 70% of total employment and 50% of GDP. As such, they are key actors in achieving a green recovery.
- **2021 Theme:**

What's MSME

Revised Classification applicable w.e.f 1st July 2020			
Composite Criteria: Investment in Plant & Machinery/equipment and Annual Turnover			
Classification	Micro	Small	Medium
Manufacturing Enterprises and Enterprises rendering Services	Investment in Plant and Machinery or Equipment: Not more than Rs.1 crore and Annual Turnover ; not more than Rs. 5 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.10 crore and Annual Turnover ; not more than Rs. 50 crore	Investment in Plant and Machinery or Equipment: Not more than Rs.50 crore and Annual Turnover ; not more than Rs. 250 crore

Note:

- MSME 2021: Key to an inclusive and sustainable recovery.
- **Role of MSMEs in Indian Economy:**
 - They are the growth accelerators of the Indian economy, contributing about **30% of the country's gross domestic product (GDP)**.
 - In terms of **exports**, they are an integral part of the **supply chain and contribute about 48% of the overall exports**.
 - MSMEs also play an **important role in employment generation**, as they employ about **110 million people across the country**.
 - Interestingly, MSMEs are intertwined with the rural economy as well, as more than half of the MSMEs operate in rural India.

Initiatives to Promote MSME Sector

- The Ministry of Micro, Small & Medium Enterprises (M/o MSME) envisions a vibrant MSME sector by promoting growth and development of the MSME Sector, including Khadi, Village and Coir Industries.
- The **Micro; Small and Medium Enterprises Development (MSMED) Act was notified in 2006** to address policy issues affecting MSMEs as well as the coverage and investment ceiling of the sector.
- **Prime Minister's Employment Generation programme (PMEGP):** It is a **credit linked subsidy scheme**, for setting up of **new micro-enterprises** and to **generate employment opportunities in rural as well as urban areas of the country**.
- **Scheme of Fund for Regeneration of Traditional Industries (SFURTI):** It aims to properly organize the **artisans and the traditional industries** into clusters and thus provide **financial assistance** to make them competitive in today's market scenario.
- **A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE):** The scheme promotes innovation & rural entrepreneurship through rural Livelihood Business Incubator (LBI), Technology Business Incubator (TBI) and Fund of Funds for start-up creation in the agro-based industry.
- **Interest Subvention Scheme for Incremental Credit to MSMEs:** It was introduced by the Reserve Bank of India wherein **relief is provided upto 2% of interest to all the legal MSMEs on their outstanding fresh/incremental term loan/working capital** during the period of its validity.

- **Credit Guarantee Scheme for Micro and Small Enterprises:** Launched to facilitate easy flow of credit, guarantee cover is provided for collateral free credit extended to MSMEs.
- **Micro and Small Enterprises Cluster Development Programme (MSE-CDP):** It aims to enhance the productivity and competitiveness as well as capacity building of MSEs.
- **Credit Linked Capital Subsidy and Technology Upgradation Scheme (CLCS-TUS):** CLCS aims at facilitating technology upgradation of Micro and Small Enterprises (MSEs) by providing **15% capital subsidy for purchase of plant & machinery**.
- **CHAMPIONS portal:** It aims to assist Indian MSMEs march into the big league as **National and Global CHAMPIONS** by solving their grievances and encouraging, supporting, helping and hand holding them.
- **MSME Samadhan:** It enables them to directly register their cases about delayed payments by Central Ministries/Departments/CPSEs/State Governments.
- **Udyam Registrations Portal:** This new portal assists the government in **aggregating the data on the number of MSMEs in the country**.
- **MSME SAMBANDH:** It is a **Public Procurement Portal**. It was launched to monitor the implementation of the Public Procurement from MSEs by Central Public Sector Enterprises.

Agristack: The New Digital Push in Agriculture

Why in News

Recently, the **Ministry of Agriculture** has signed a **Memorandum of Understanding** with **Microsoft** to run a **pilot programme** for 100 villages in 6 states.

- The MoU requires **Microsoft** to create a '**Unified Farmer Service Interface**' through its cloud computing services.
- This comprises a major part of the ministry's plan of creating '**AgriStack**' (**a collection of technology-based interventions in agriculture**), on which everything else will be built.

Key Points

Note:

➤ **About AgriStack:**

- It is a **collection of technologies and digital databases** that focuses on farmers and the agricultural sector.
- AgriStack will create a **unified platform** for farmers to provide them end to end services across the agriculture food value chain.
- It is in line with the **Centre's Digital India programme**, aimed at providing a broader push to digitise data in India, from land titles to medical records.
 - The government is also implementing the **National Land Records Modernisation Programme (NRLMP)**.
- **Under the programme**, each farmer will have a **unique digital identification (farmers' ID)** that contains personal details, information about the land they farm, as well as production and financial details.
 - Each ID will be linked to the individual's **digital national ID Aadhaar**.

➤ **Need:**

- At present, the **majority of farmers** across India are **small and marginal farmers** with limited access to advanced technologies or formal credit that can help improve output and fetch better prices.
- Among the new proposed digital farming technologies and services under the programme include **sensors to monitor cattle, drones to analyse soil and apply pesticide**, may significantly **improve the farm yields and boost farmers' incomes**.

➤ **Potential Benefits:**

- **Problems** such as inadequate access to **credit and information, pest infestation, crop wastage, poor price discovery and yield forecasting** can be sufficiently addressed by use of digital technology.
- It will also **fuel innovation** and breed **investment** towards the agricultural sector and **augment research** towards more resilient crops.

➤ **Concerns:**

- **Absence of a Data Protection Legislation:**
 - In its absence, it might end up being an exercise where **private data processing entities** may know more about a farmer's land than the farmer himself and they would be able to exploit farmers' data to whatever extent they wish to.

○ **Commercialisation:**

- The formation of 'Agristack' will imply **commercialisation of agriculture extension activities** as they will **shift into a digital and private sphere**.

○ **Absence of Dispute Settlement:**

- The MoUs provide for **physical verification of the land data gathered** digitally, but there is **nothing** on what will be the **course of action if disputes arise**, especially when historical evidence suggests that land disputes take years to settle.

○ **Privacy and Exclusion Issues:**

- Given that the proposed **farmer ID** will be **Aadhaar-seeded**, further issues of privacy and exclusion would emerge.
- Several researchers have demonstrated the **vulnerability of the Aadhaar database to breaches and leaks**, while **Aadhaar-based exclusion in welfare delivery** has also been well documented in different contexts.
- Also, making **land records the basis for farmer databases** would mean excluding **tenant farmers, sharecroppers and agricultural labourers**.
 - Data shows that the **population of farm labourers** has outstripped that of farmers and cultivators.

Toycathon 2021

Why in News

Recently, the Prime Minister of India urged people to be "vocal for local toys", while interacting with the participants at the **Toycathon 2021**.

Key Points

➤ **Ministry:**

- It was a **joint initiative by the Ministry of Education, WCD (Women and Child Development) Ministry, Ministry of Micro, Small and Medium Enterprises, Textile Ministry, Ministry of Information and Broadcasting and All India Council for Technical Education**.
- It was launched on **5th January 2021** to crowd-source innovative toys and games ideas.

Note:

- **Aim:**
 - To conceptualize innovative toys based on the Indian value system which will inculcate positive behaviour and good value among the children.
 - To promote India as a global toy manufacturing hub (**Atmanirbhar Bharat**).
- **Features:**
 - **Based on:** Indian culture and ethos, local folklore and heroes, and Indian value systems.
 - **Themes:** Nine themes, including fitness and sport and rediscovering traditional Indian toys.
 - **Participants:** Students, teachers, start-ups and toy experts.
 - **Prize:** Participants can get prizes upto Rs. 50 lakhs.
- **Significance:**
 - Toys can play a big role in highlighting India's capabilities, art and culture and society to the world.
 - Toyathon can prove to be effective in making India a Production Hub of Toys and hence can be the creation of '**Toyoconomy**'.
 - Toys can be an excellent medium to further the spirit of '**Ek Bharat, Shreshtha Bharat**'.
 - It will help **reduce imports**.
- **Status of Toy Market:**
 - **Global toy market** is worth nearly \$100 billion.
 - Of which, **India contributes** only around \$1.5 billion.
 - India imports **around 80% of toys from abroad**. Which means crores of rupees of the country are going abroad on them.

Gujarat International Maritime Arbitration Centre (GIMAC)

Why in News

Recently, a **Memorandum of Understanding (MoU)** was signed between the **Gujarat Maritime University** and **International Financial Services Centres Authority** in **GIFT (Gujarat International Finance Tec-City) City**.

- The **objective** of the **MoU** is to jointly support the establishment of the **Gujarat International Maritime Arbitration Centre (GIMAC)**.

Key Points

- **About GIMAC:**

- This will be the **first centre of its kind** in the country that will **manage arbitration and mediation proceedings** with disputes related to the **maritime and shipping sector**.
- The **GIMAC** will be part of a **maritime cluster** that the **Gujarat Maritime Board (GMB)** is setting up in **GIFT City** at Gandhinagar.
- **Need:**
 - **India's Focus on Arbitration:** Recently, the **Arbitration and Conciliation (Amendment) Act, 2021** was notified, considered as the landmark step towards making India as the hub of International Commercial Arbitration.
 - **Arbitration** is a kind of dispute resolution method where the disputes arising between the parties are resolved by the arbitrators appointed by them instead of state's legal bodies.
 - There are over **35 arbitral institutions** in India, however, **none** focus exclusively on the **disputes related to the maritime sector**.
 - With the state continuing to witness a **rapid extension in maritime activities** and inching closer to becoming a **global maritime hub** with the implementation of **Gujarat Maritime Cluster project**, a strong growing and recurring demand is being generated for a specialized facility for maritime arbitration services.
 - The idea is to create a **world-class arbitration centre** focused on maritime and shipping disputes that can help **resolve commercial and financial conflicts** between entities having **operations in India**.
 - The arbitration involving **Indian players** is now heard at the **Singapore Arbitration Centre**.
 - **Globally, London** is the preferred centre for arbitration for the maritime and shipping sector.
- **Benefits:**
 - Facilitate **faster dispute resolution**.
 - Enhance the attractiveness of **GIFT Special Economic Zone (SEZ)** among the International Maritime Community.
 - Increase the **ease of doing business**.
 - Reduce burden on courts.
- **Gujarat Maritime Cluster:**
 - It is conceived as a **dedicated ecosystem** of Ports, Maritime Shipping and Logistics services providers.

Note:

- It will host an array of maritime, shipping industry players and service providers, along with relevant Government regulatory agencies, in GIFT City, Gandhinagar – India's first International Financial Services Centre (IFSC).
- The International Financial Services Centres Authority (IFSCA) is a unified authority for the development and regulation of financial products, financial services and financial institutions in the IFSC in India.
- It will be a one stop solution for all maritime services while attaining economic growth, employment generation and industry – academia confluence in the region.

Increase in Direct Tax Collections

Why in News

India's direct tax collections in the first two and a half months (April - June) of 2021-22 stand at nearly Rs. 1.86 lakh crore, which is double the collections over the same period of last year that was affected by the national lockdown.

- The collections last year over the same period were Rs. 92,762 crore.

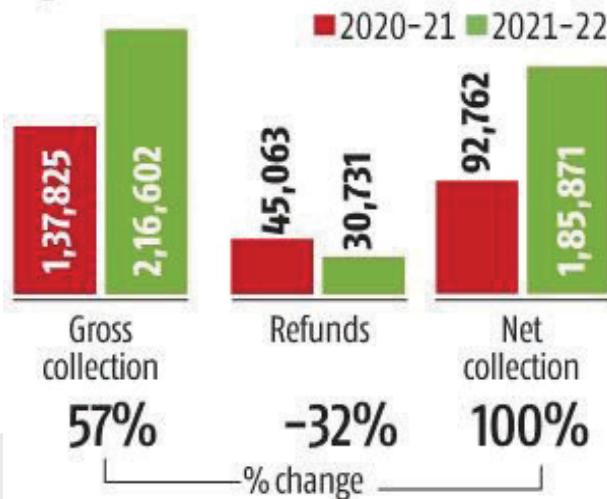
Key Points

- **Surge in Direct Tax Collections:**
 - It includes Corporation Tax collections of Rs. 74,356 crore and Personal Income Tax inflows, which include the Security Transaction Tax of Rs. 1.11 lakh crore.
 - The jump in the direct tax collections reflects healthy exports and a continuation of various industrial and construction activities.
 - It is expected that GDP (Gross Domestic Product) will record a double-digit expansion in Quarter 1 of 2021-22.
- **Direct Tax:**
 - A direct tax is a tax that a person or organization pays directly to the entity that imposed it.
 - An individual taxpayer, for example, pays direct taxes to the government for various purposes, including income tax, real property tax, personal property tax, or taxes on assets.

THE BIG JUMP

Direct tax collection

Figures in ₹ crore, till June 15



Breaking up gross direct tax collection

Figures in ₹ crore, for FY22

Advance tax	28,780
Tax deduction at source	1,56,824
Self assessment tax	15,343
Regular assessment tax	14,079
Dividend distribution tax	1,086
Tax under minor heads	490
Gross Direct tax collection	2,16,602

Advance tax mop-up

2020-21

11,714

2021-22

28,780

% chg

146

Source: Central Board of Direct Taxes

➤ Corporation Tax:

- Corporation tax is a direct tax imposed on the net income or profit that enterprises make from their businesses.

Note:

- Companies, both public and privately registered in India under the **Companies Act 1956**, are liable to pay corporation tax.
 - This tax is **levied at a specific rate** according to the provisions of the **Income Tax Act, 1961**.
 - In September 2019, India slashed corporate tax rates **to 22% from 30%** for existing companies and to **15% from 25%** for new manufacturing companies.
 - Including a surcharge and cess, the effective tax rate for existing companies now stands at 25.17%, down from 35%.
- **Security Transaction Tax (STT):**
- It is a direct tax **charged on purchase and sale of securities** that are listed on the recognized stock exchanges in India.
 - Both purchaser and seller need to pay **0.1% of share value** as STT.
- **Advance Tax Collections:**
- Advance tax is **paid by those who have tax liability of Rs. 10,000 or more** in a financial year. It is **paid by both salaried and businesses**, thus including collections from corporate tax and personal income tax.
 - Advance tax is paid as and when the money is earned **in four instalments** rather than at the end of the **fiscal year**.
 - It is considered an indication of **economic sentiment**.
 - The **first instalment** or 15% of the annual tax is to be paid by 15th June, the **second** by 15th September (30%), the **third by 15th December** (30%), and the rest by 15th March.
- **Dividend Distribution Tax (DDT):**
- **Dividend refers to the distribution of profits to shareholders** of a company.
 - Thus, the dividend distribution tax is a type of tax that is payable on the dividends offered to its shareholders by the corporation.
 - In the **Union Budget for 2020-2021** the DDT was **withdrawn from the tax paid by the dividend payer**. Instead, from April 2021 on, dividends would be taxed in the hands of the recipients, i.e. shareholders of the distributing company.
 - The proposed rate is 10% for dividends paid to shareholders resident in India and 20% if paid to foreign investors.

➤ **TDS/TCS:**

- **Tax Deduction at Source:** A person (deductor) who is liable to make payment of specified nature to any other person (deductee) shall deduct tax at source and remit the same into the account of the Central Government.
 - **Tax Collection at Source:** It is an additional amount collected as tax by a seller of specified goods from the buyer at the time of sale over and above the sale amount and is remitted to the government account.
- **Government Initiatives to Improve Direct Taxes:**
- **For Personal Income Tax** - The Finance Act, 2020 has provided an option to individuals and co-operatives for paying income-tax at concessional rates if they do not avail specified exemption and incentive.
 - **Vivad se Vishwas:** Under **Vivad se Vishwas**, declarations for settling pending tax disputes are currently being filed.
 - This will benefit the Government by generating timely revenue and also to the taxpayers by bringing down mounting litigation costs.
 - **Expansion of scope of TDS/TCS** - For widening the tax base, several new transactions were brought into the ambit of Tax Deduction at Source (TDS) and Tax Collection at Source (TCS).
 - These transactions include huge cash withdrawal, foreign remittance, purchase of luxury cars, e-commerce participants, sale of goods, acquisition of immovable property, etc.
 - **'Transparent Taxation - Honoring The Honest' platform:** It is aimed at bringing transparency in income tax systems and empowering taxpayers.

Integrated Power Development Scheme

Why in News

A 50 kWp Solar rooftop in Solan, Himachal Pradesh was inaugurated under **Integrated Power Development Scheme (IPDS)** of the Ministry of Power.

- The project **further reinforces the 'Go Green' Initiative** of the government envisaged in the Urban Distribution scheme.

Note:

Key Points

- About IPDS:
 - Launch:
 - December 2014.
 - Nodal Agency:
 - **Power Finance Corporation Ltd. (PFC)**, a Navratna Central Public Sector Enterprise (CPSE) under the administrative control of the Ministry of Power.
 - Components:
 - Strengthening of **sub-transmission and distribution networks** in the urban areas.
 - **Metering of distribution transformers / feeders / consumers** in the urban areas.
 - Schemes for **Enterprise Resource Planning (ERP) and IT enablement** of the distribution sector.
 - ERP helps in integrating the important parts of a business.
 - **Underground cabling** to include additional demand of States and **smart metering** solution for performing **UDAY States** and **Solar panels on Govt. buildings** with net-metering are also permissible under the scheme.
 - Objectives
 - 24x7 Power supplies for consumers.
 - Reduction of AT&C (aggregate technical and commercial) losses.
 - Providing access to power to all households.
 - Eligibility:
 - All Power Distribution Companies (Discoms) are eligible for financial assistance under the scheme.
 - Funding Pattern:
 - **GoI (Government of India) Grant:** 60% (85% for special category States).
 - **Additional Grant:** 15% (5% for special category States) - linked to achievement of milestones.
- Power Sector in India:
 - India's power sector is **one of the most diversified** in the world. Sources of power generation range from **conventional sources** such as **coal, lignite, natural gas, oil, hydro and nuclear power** to **viable non-conventional sources** such as **wind, solar, and agricultural and domestic waste**.

- India is the **third-largest producer** and **second-largest consumer** of electricity in the world.
 - Electricity is a concurrent subject (Seventh Schedule of the Constitution).
 - The **Ministry of Power** is primarily responsible for the development of electrical energy in the country.
 - It administers the **Electricity Act, 2003** and the **Energy Conservation Act, 2001**.
 - The Government has released its roadmap to achieve **175 GW** capacity in renewable energy by 2022, which includes **100 GW of solar power** and **60 GW of wind power**.
 - The Government is preparing a 'rent a roof' policy for supporting its target of generating 40 gigawatts (GW) of power through solar rooftop projects by 2022.
 - The **Ministry of New and Renewable Energy (MNRE)** is the nodal Ministry for all matters relating to new and renewable energy.
 - **100% FDI (Foreign Direct Investment)** is permitted under automatic route in the power sector.
- Related Government Initiatives:
- **Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya):** To ensure electrification of all willing households in the country in rural as well as urban areas.
 - **Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY):** The rural electrification scheme provides for (a) separation of agriculture and non-agriculture feeders; (b) strengthening and augmentation of sub-transmission and distribution infrastructure in rural areas including metering at distribution transformers, feeders and consumers end.
 - **GARV (Grameen Vidyutikaran) App:** To monitor transparency in implementation of the electrification schemes, Grameen Vidyut Abhiyanta (GVAs) have been appointed by the government to report progress through the GARV app.
 - **Ujwal Discom Assurance Yojana (UDAY):** For operational and financial turnaround of Discoms.
 - **'4 Es' in the Revised Tariff Policy:** The 4Es include **Electricity** for all, **Efficiency** to ensure affordable tariffs, **Environment** for a sustainable future, **Ease of doing business** to attract investments and ensure financial viability.

Note:

➤ **Achievements:**

- Solar tariffs in India have reduced from Rs. 7.36/kWh in FY15 to Rs. 2.63/kWh in FY20.
- As of December 2020, over 36.69 crore LED bulbs, 1.14 crore LED tube lights and 23 lakh **energy-efficient fans** have been distributed across the country, saving 47.65 billion kWh per year.
- In the first half of November 2020, India's power consumption increased 7.8% to 50.15 billion units (BU), indicating **an improvement in economic activity**.
- Energy generation from thermal sources stood at 472.90 billion units (BU) in April-September 2020.
- India's rank jumped to 22 in 2019 from 137 in 2014 on World Bank's Ease of doing business - "Getting Electricity" ranking.
- As of 28th April, 2018, **100% village electrification** was achieved under **DDUGJY**.

Biotech-KISAN Programme

Why in News

The Ministry of Science and Technology has issued a **Special Call for the NorthEast Region** as a part of its Mission Programme "Biotech-Krishi Innovation Science Application Network (Biotech-KISAN)".

Key Points

➤ **About:**

- It is a **scientist-farmer partnership scheme launched in 2017**.
- It is a **pan-India program**, following a **hub-and-spoke model** and stimulates entrepreneurship and innovation in farmers and empowers women farmers.
- The **Biotech-KISAN hubs** are expected to fulfil the technology required to generate agriculture and bio-resource related jobs and better livelihood ensuring biotechnological benefits to small and marginal farmers.
- Farmers are also **exposed to best global farm management and practices**.

➤ **Ministry:**

- This is a farmer-centric scheme developed by and with farmers under the **Department of Biotechnology, Ministry of Science and Technology**.

➤ **Objective:**

- It was **launched for agriculture innovation** with an objective to connect science laboratories with the farmers to find out innovative solutions and technologies to be applied at farm level.

➤ **Progress:**

- **146 Biotech-KISAN Hubs** have been established covering all 15 agroclimatic zones and 110 **Aspirational Districts** in the country.
- The scheme has benefitted **over two lakhs farmers** so far by increasing their agriculture output and income. **Over 200 entrepreneurship**s have also been developed in rural areas.

➤ **About the Present Call:**

- The present call specifically focuses on the **North East Region (NER)** as it is predominantly agrarian with **70% of its workforce** engaged in agriculture and allied sector for livelihood.
- The region produces **merely 1.5 %** of the country's food grain and continues to be a **net importer of food grains** even for its domestic consumption.
- The **NER has untapped potential** to enhance the income of the farming population by promotion of location specific crops, horticultural and plantation crops, fisheries and livestock production.
- The **Biotech-KISAN Hubs in NER** will collaborate with the top scientific institutions across the country as well as State Agricultural Universities (SAUs) / **Krishi Vigyan Kendras (KVKs)** / existing state agriculture extension services / system in the NER for demonstrations of technologies and training of farmers.

World

Competitiveness Index 2021

Why in News

According to the **World Competitiveness Yearbook (WCY)**, India maintained **43rd rank** on the **annual World Competitiveness Index**.

- The World Competitiveness Index is a **comprehensive annual report** and worldwide reference point on the competitiveness of countries.

Key Points

Note:

➤ **About:**

- **Published by:** WCY was first published in 1989 and is compiled by the **Institute for Management Development (IMD)**.
 - In 2021, the IMD examined the impact of **Covid-19** on economies around the world.
 - It provides **extensive coverage of 64 economies**.
- **Factors:** It measures the prosperity and competitiveness of countries by examining four factors (334 competitiveness criteria):
 - Economic performance
 - Government efficiency
 - Business efficiency
 - Infrastructure

➤ **Top Global Performers:**

- **Europe:**
 - The European countries display regional strength in world competitiveness ranking with Switzerland (1st), Sweden (2nd), Denmark (3rd), the Netherlands (4th).
- **Asia:**
 - The top-performing Asian economies are, in order, Singapore (5th), Hong Kong (7th), Taiwan (8th) and China (16th).
 - Singapore was 1st in the **2020 World Competitiveness Index**.
- **Others:**
 - The **UAE and the USA remain in their same spots** as last year (9th and 10th, respectively).

➤ **India's Performance:**

- **In Comparison to BRICS Nations:** Among the **BRICS nations**, India ranked second (43rd) after China (16th), followed by Russia (45th), Brazil (57th) and South Africa (62nd).
- **Performance on Four Factors:** Among the four indices used, **India's ranking in government efficiency increased to 46 from 50 a year ago**, while its **ranking in other parameters** such as economic performance (37th), business efficiency (32th) and infrastructure (49) **remained the same**.
- **Improvements in Government Efficiency:** Mostly due to relatively stable public finances. Despite difficulties brought by the pandemic, in 2020, the government deficit stayed at 7%. The Government also provided support and subsidies to the private companies.

○ **India's Strengths:**

- India's strengths lie in investments in telecoms (1st), mobile telephone costs (1st), ICT services exports (3rd), remuneration in services professions (4th) and terms of trade index (5th).

○ **India's Weaknesses:**

- India's performance is the worst in sub-indices such as broadband subscribers (64th), exposure to **particulate pollution** (64th), **human development index** (64th), **GDP per capita** (63rd) and **foreign currency reserves per capita** (62nd) among others.

➤ **Analysis:**

- **Qualities of Top Performers:** The qualities such as **investment in innovation, digitalisation, welfare benefits, diversified economic activities, supportive public policy and leadership**, resulting in **social cohesion** have helped countries better manage the crisis and thus ranking higher in competitiveness.
- **Addressed Unemployment:** Competitive economies succeeded in transitioning to a remote work routine while also allowing remote learning.
- **Public Spending:** The effectiveness of key public spending, such as public finance, tax policy and business legislation, are seen to relieve the pressure on the economies hit by the Covid-19.

➤ **Recent Steps Taken by India to Increase its Competitiveness :**

- The government has introduced the **Production-Linked Incentive (PLI) Scheme** in various sectors for enhancing India's manufacturing capabilities and exports.
- The five pillars of '**Atmanirbhar Bharat Abhiyan (or Self-reliant India Mission)**' are - Economy, Infrastructure, System, Vibrant Demography and Demand.

Interest Rates on Small Saving Schemes

Why in News

Government may reduce interest rates on small saving schemes for the July - September Quarter.

- A cut in small savings rates at this point **would further hurt households amid a surge in inflation**, according to economists.

Note:

Key Points

➤ Background:

- Small savings rates were slashed between 0.5% and 1.4% on different instruments in April 2020, bringing the PPF (Public Provident Funds) rate to 7.1% from 7.9%.
- The government decided to further slash interest rates for the first quarter of 2021-22 (April-June), but withdrew its decision terming it an “oversight”.

➤ Small Saving Schemes/Instruments:

○ About:

- They are the major source of household savings in India and comprises 12 instruments.
- The depositors get an assured interest on their money.
- Collections from all small savings instruments are credited to the National Small Savings Fund (NSSF).
- Small savings have emerged as a key source of financing the government deficit, especially after the Covid-19 pandemic led to a ballooning of the government deficit, necessitating higher need for borrowings.

○ Classification:

Small savings instruments can be classified under three heads:

- **Postal Deposits** (comprising savings account, recurring deposits, time deposits of varying maturities and monthly income scheme).
- **Savings Certificates:** National Small Savings Certificate (NSC) and Kisan Vikas Patra (KVP).
- **Social Security Schemes:** Sukanya Samridhhi Scheme, Public Provident Fund (PPF) and Senior Citizens' Savings Scheme (SCSS).

○ Determination of Rates:

- Interest rates on small savings schemes are reset on a quarterly basis, in line with the movement in benchmark government bonds of similar maturity. The rates are reviewed periodically by the Ministry of Finance.
 - For the last one year, yields on benchmark government bonds have ranged between 5.7% and 6.2%. This provides the government the leeway to cut rates on small savings schemes in future.

- The Shyamala Gopinath panel (2010) constituted on the Small Saving Scheme had suggested a market-linked interest rate system for small savings schemes.

➤ Advantage of the Rate Cut:

- Since the central government uses the small savings fund to finance its deficit, the lower rates would reduce the cost of deficit financing.
- A cut in rates would mean that the government wants people to spend and provide impetus to the economy.

➤ Disadvantage:

- Rate cuts would hurt investors, particularly senior citizens and the middle class.
- Moreover, household savings have been shrinking significantly for two quarters in a row even before the second Covid-19 wave.
- This would lead to further rationalisation of fixed deposit rates by banks going forward, and would reduce returns further.
- A lower rate would mean a negative real rate of return on most debt instruments as inflation is hovering around 5%.

Rate of Return and Inflation

- The rate of return is the expected or desired amount of money a person receives from an investment in a savings account, mutual fund or bond.
- The real rate of return is the return on investment after adjusting for the rate of inflation. It is calculated by subtracting the inflation rate from the return on investment.
- Inflation has the power to erode a person's annual rate of return. When the annual inflation rate exceeds the rate of return, the consumer loses money when they invest it because of the decline in purchasing power.
- Inflation refers to the rise in the prices of most goods and services of daily or common use, such as food, clothing, housing, recreation, transport, consumer staples, etc. It is indicative of the decrease in the purchasing power of a unit of a country's currency.

Note:

US' Digital Millennium Copyright Act

Why in News

Recently, the Union Minister for Electronics and Information Technology was locked out of his Twitter account for an hour allegedly over a notice received for **violation of the US' Digital Millennium Copyright Act (DMCA) 1998.**

Key Points

- **Digital Millennium Copyright Act:**
 - It is a law passed in the US and is among the **world's first laws recognising Intellectual Property (IP) on the internet.**
 - The DMCA oversees the implementation of two **1996** treaties signed by **World Intellectual Property Organisation (WIPO)** member nations.
- **Complaint and Compliance:**
 - Any **content creator of any form**, who believes that their original content has been copied by a user or a website without authorisation **can file an application citing their intellectual property has been stolen or violated.**
 - In the **case of social media intermediaries like Facebook, Instagram or Twitter**, content creators **can directly approach the platform** with a proof of them being original creators.
 - Since these companies operate in nations which are signatories to the WIPO treaty, they are **obligated to remove the said content if they receive a valid and legal DMCA takedown notice.**
- **WIPO Treaties:**
 - WIPO members had agreed upon two treaties, namely the **WIPO Copyright Treaty** and the **WIPO Performances and Phonograms Treaty.**
 - India is a member of both the treaties.
 - Both the treaties require member nations and signatories **to provide in their respective jurisdictions, protection to IP** that may have been created by citizens of different nations who are also co-signatories to the treaty.
 - Protection **must not be any less** in any way than the one being given to a **domestic copyright holder.**

- It also **obligates that signatories to the treaty ensure ways to prevent circumvention of the technical measures used to protect copyrighted work.** It also provides the necessary international **legal protection to digital content.**

Intellectual Property

- It is a category of property that **includes intangible creations of the human intellect, and primarily encompasses copyrights, patents and trademarks.**
- It also includes other types of rights, such as **trade secrets, publicity rights, moral rights, and rights against unfair competition.**
- Every year **World Intellectual Property Day** is celebrated on **26th April.**
- Other than WIPO treaties, it is also covered under the **World Trade Organisation's (WTO) Agreement on Trade Related Aspects of Intellectual Property (TRIPS Agreement).**
- India is a member of WTO and hence committed to **TRIPS.**

Guidelines for Other Service Providers (OSPs)

Why in News

Recently, the **Department of Telecommunications (DoT)** has eased the norms for **Other Service Providers (OSPs).**

- The OSP guidelines were earlier liberalised in November **2020** in order to encourage the **BPO (Business Process Outsourcing) industry** in India. The new guidelines have been simplified even further, offering greater ease of business and regulatory clarity.

Key Points

- **Business Process Outsourcing (BPO):**
 - BPO is a **business practice** in which an organization **contracts with an external service provider** to perform an essential business task.
 - BPO offers several benefits, such as lower costs, global expansion, and higher efficiency, while some of the drawbacks include security issues, hidden costs, and overdependence.
 - OSPs or Other Service Providers are companies or firms which **provide secondary or tertiary services**

Note:

- such as telemarketing, telebanking or telemedicine for various companies, banks or hospital chains, respectively.
- The **Indian Information Technology (IT) - BPO industry** was worth \$37.6 billion in 2019-2020, and has the potential to rise to \$55.5 billion over the next four to five years.
- **Important Features of New Policy:**
 - Distinction between Domestic and International OSPs has been removed. A BPO centre with common Telecom resources will now be able to serve customers located worldwide including in India.
 - Now, the **interconnectivity between all types of OSP centres is permitted.**
 - The **Electronic Private Automatic Branch Exchange (EPABX)** of OSPs can now be located anywhere in the world.
 - **Removed the requirement of OSPs submitting their reports** to the DoT on a period basis.
 - Such service providers will have to self-regulate and maintain a call data record, a usage data record and a system log for all customer calls for a certain time period.
 - They will also have to abide by the data security norms prescribed by the Centre.
 - **Other Provisions:**
 - Exempted OSPs from requirement of any registration.
 - No Bank Guarantees were to be furnished.
 - Work from Home and Work from Anywhere was also permitted.
 - Penalties for violations were removed altogether reaffirming the trust the Government has in business.
- **Expected Benefits:**
 - The guidelines will make it easier for BPOs and ITes firms in **cutting down on the cost** of location, rent for premises and other ancillary costs such as electricity and internet bills.
 - The companies will **no longer have to carry the additional compliance burden** of providing the details of OSP employees to the DoT, as they are **recognised as extended or remote agents.**
 - The doing away of registration norms will also mean that there will be **no renewal of such licenses.** This

- will invite foreign companies to set up or expand their other service providing units in India.
- It will allow employees to **opt for freelancing for more than one company** while working from home, thereby attracting more workers in the sector.

Proposal to Ban 'Flash sales' on E-commerce Sites

Why in News

The government proposed changes to the **Consumer Protection (e-commerce) Rules 2020**, banning all "flash sales" in order to monitor the deep discounts offered on e-commerce websites.

Key Points

- **Rationale for Making Changes:**
 - Conventional flash sales by third party sellers are **not banned** on e-commerce platforms but **only the predatory ones.**
 - Small businesses complain of **misuse of market dominance** and **deep discounting** by e-commerce marketplaces such as Amazon and Flipkart.
 - The Ministry of Consumer Affairs has been receiving complaints against **widespread cheating and unfair trade practices** being observed in the e-commerce ecosystem.
 - Certain e-commerce entities are engaging in **limiting consumer choice** by indulging in 'back to back' or 'flash' sales wherein one seller on a platform does not carry any inventory or order fulfilment capability but merely places a 'flash or back to back' order with another seller controlled by platform.

Other Important Proposals:

CONSUMER PROTECTION (E-COMMERCE) RULES, 2020

PROVISIONS FOR E-COMMERCE FIRMS	
1	Mandatory display of 'country of origin' on products
2	Display total price of goods & services offered for sale (+ break-up of other charges)
3	Mention the 'expiry date' of goods offered for sale
4	Specify details about return, refund, exchange, warranty and guarantee, delivery and shipment
5	No manipulation of prices for unreasonable profit
6	No cancellation charges
7	Provide information on available payment methods
8	Information about the 'sellers' offering goods and services
9	Violation to attract penal action under Consumer Protection Act, 2019

Note:

- The e-commerce sites are also directed to ensure **appointment of Chief Compliance Officer (CCO)**, a nodal contact person for 24x7 coordination with law enforcement agencies.
 - These companies will also have to name a **resident grievance officer** who has to be a company employee and a citizen of India.
 - To tackle growing concerns of **preferential treatment**, the new rules propose to ensure none of the related parties are allowed to use any consumer information (from the online platform) for ‘unfair advantage’.
 - The companies will also have to **identify goods based on their country of origin** and provide a **filter mechanism** at a pre-purchase stage for customers.
 - They will also have to **offer alternatives to these imported goods** to provide a “**fair opportunity to domestic sellers**”.
 - In the event a seller fails to deliver a good or service, the final liability will fall on the e-commerce marketplace.
 - E-commerce firms operating in India will also have to **register under the Department for Promotion of Industry and Internal Trade (DPIIT), under the Ministry of Commerce and Industry**.
- **Significance of Proposals:**
- This would ensure effective compliance with the provisions of the Consumer Protection Rules, 2020 and also strengthen the grievance redressal mechanism.
 - The proposal comes at a time when large e-commerce marketplaces are being investigated by the **Competition Commission of India (CCI)** for **alleged abuse of market dominance** and giving **preferential treatment** to sellers in which they hold indirect stakes.

E-Commerce

- Electronic commerce or e-commerce is a business model that lets firms and individuals **buy and sell things over the Internet**.
- Propelled by rising smartphone penetration, the launch of 4G networks and increasing consumer wealth, the **Indian e-commerce market is expected to grow to USD 200 billion by 2026 from USD 38.5 billion in 2017**.

- The Indian e-commerce industry has been on an upward growth trajectory and is expected to **surpass the US to become the second-largest e-commerce market in the world by 2034**.

Major Types of E-commerce

TYPE OF E-COMMERCE	EXAMPLE
B2C—Business to Consumer	Amazon.com is a general merchandiser that sells consumer products to retail consumers.
B2B—Business to Business	eSteel.com is a steel industry exchange that creates an electronic market for steel producers and users.
C2C—Consumer to Consumer	eBay.com creates a marketspace where consumers can auction or sell goods directly to other consumers.
P2P—Peer to Peer	Gnutella is a software application that permits consumers to share music with one another directly, without the intervention of a market maker as in C2C e-commerce.
M-commerce—Mobile commerce	Wireless mobile devices such as PDAs (personal digital assistants) or cell phones can be used to conduct commercial transactions.

RBI's Proposals for Microfinance Institutions

Why in News

Recently, the **Reserve Bank of India (RBI)** proposed to lift the interest rate cap on **Microfinance Institutions (MFIs)**, and said all micro loans should be regulated by a common set of guidelines irrespective of who gives them.

Key Points

- **Proposals:**
- RBI has suggested a **common definition of microfinance loans** for all regulated entities.
 - **Microfinance loans** should mean **collateral-free loans to households with annual household income of Rs 1,25,000 and Rs 2,00,000 for rural and urban/semi urban areas, respectively**.
 - For this purpose, ‘household’ means a group of persons normally living together and taking food from a common kitchen.
 - RBI has mooted capping the payment of interest and repayment of principal for all outstanding loan obligations of the household as a percentage of the household income, subject to a limit of maximum 50%.
 - **Non-banking Financial Company (NBFC)-MFIs**, like any other NBFC, shall be guided by a board-

Note:

- approved policy and the fair practices code, whereby disclosure and transparency would be ensured.
- There would be **no ceiling prescribed for the interest rate**. There would be no collateral allowed for micro loans.
- There can be **no prepayment penalty**, while all entities have to permit the borrowers to repay weekly, fortnightly or monthly instalments as per their choice.

BREAKING BARRIERS

- ▶ **Common set of rules** for micro loans, irrespective of the lender
- ▶ **Micro loans to be capped at 50%** of the household income to avoid indebtedness

- ▶ **Interest rate cap on MFIs** to go, multiple lending to be allowed

- ▶ **All lenders have to spell** minimum, average and maximum rates



- ▶ **A common definition of microfinance** loans for all regulated entities

- ▶ **No pre-payment penalty; no requirement of collateral; and greater flexibility of repayment frequency**

- **Significance of Proposal:**
 - RBI has reposed faith in the **maturity of the microfinance sector** with this step.
 - This is a forward-looking step where the **responsibility is of the institution** to fix a reasonable interest rate on transparent terms.

➤ **MicroFinance Institution (MFI):**

- Microfinance is a **form of financial service** which provides small loans and other financial services to poor and low-income households.
- Indian microfinance sector has witnessed **phenomenal growth over the past two decades** in terms of increase in both the **number of institutions** providing microfinance and the **quantum of credit** made available to the microfinance customers.
- Microcredit is delivered through a variety of institutional channels viz.,
 - **Scheduled commercial banks (SCBs)** (including **small finance banks (SFBs)** and **regional rural banks (RRBs)**)
 - Cooperative banks,
 - **Non-banking financial companies (NBFCs)**
 - Microfinance institutions (MFIs) registered as NBFCs as well as in other forms.
- **MFIs** are financial companies that provide small loans to people who do not have any access to banking facilities.
 - The definition of "small loans" varies between countries. In India, all loans that are below Rs. 1 lakh can be considered as microloans.
- **Significance:**
 - It is an economic tool designed to **promote financial inclusion** which enables the poor and low-income households to come out of poverty, increase their income levels and improve overall living standards.
 - It can facilitate achievement of national policies that target **poverty reduction, women empowerment, assistance to vulnerable groups, and improvement in the standards of living**.

Non-Banking Financial Company-Micro Finance Institution

- The NBFC-MFI is a **non-deposit taking financial company**.
- Conditions to qualify as NBFC-MFI:
 - Minimum Net Owned Funds (NOF) of Rs. 5 crore.
 - At least 85% of its Net Assets in the nature of Qualifying Assets.
 - The Qualifying Assets are those assets which have a substantial period of time to be ready for its intended use or sale.

Note:

- The difference between an NBFC-MFI and other NBFC is that while other NBFCs can operate at a very high level, MFIs cater to only the smaller level of social strata, with need of smaller amounts as loans.

World's First Genetically Modified Rubber: Assam

Why in News

Recently, the world's first **Genetically Modified (GM) rubber plant developed by Rubber Research Institute** was planted in Assam.

- The rubber plant is the first of its kind developed exclusively for this region, and is expected to grow well under the climatic conditions of the mountainous northeastern region.

Rubber Board

- It is **headquartered at Kottayam, Kerala**, under the **administration of the Ministry of Commerce and Industry**.
- The Board is responsible for the development of the rubber industry in the country by assisting and encouraging research, development, extension and training activities related to rubber.
- **Rubber Research Institute** is under the Rubber Board.

Key Points

- **About the GM Rubber:**
 - **Genetic modification (GM) technology allows the transfer of genes for specific traits between species** using laboratory techniques.
 - The GM rubber has **additional copies of the gene MnSOD, or manganese-containing superoxide dismutase**, inserted in the plant, which is **expected to tide over the severe cold conditions during winter in the northeast**.
 - The MnSOD gene has the **ability to protect plants from** the adverse effects of severe environmental stresses such as **cold and drought**.
- **Need:**
 - Natural rubber is a **native of warm humid Amazon forests** and is **not naturally suited for the colder conditions in the Northeast**, which is one of the largest producers of rubber in India.

• Growth of young rubber plants remains suspended during the winter months, which are also characterised by progressive drying of the soil. This is the reason for the long immaturity period of this crop in the region.

➤ Natural Rubber:

- **Commercial Plantation Crop:** Rubber is **made from the latex** of a tree called **Hevea Brasiliensis**. Rubber is largely perceived as a **strategic industrial raw material** and accorded special status globally for defence, national security and industrial development.

- **Conditions for Growth:** It is **an equatorial crop**, but under special conditions, it is also grown in tropical and sub-tropical areas.

- **Temperature:** Above 25°C with moist and humid climate.

- **Rainfall:** More than 200 cm.

- **Soil Type:** Rich well drained alluvial soil.

- **Cheap and adequate supply of skilled labour** is needed for this plantation crop.

○ Indian Scenario:

- The British established the **first rubber plantation in India in 1902** on the banks of the river Periyar in Kerala.

- India is currently the **sixth largest producer of NR** in the world with one of the highest productivity (694,000 tonnes in 2017-18).

- **Top Rubber Producing States:** Kerala > Tamil Nadu > Karnataka.

- **Government Initiatives:** **Rubber Plantation Development Scheme** and **Rubber Group Planting Scheme** are examples of government led initiatives for rubber.

- **100% Foreign Direct Investment (FDI)** in plantations of rubber, coffee, tea, cardamom, palm oil tree and olive oil tree.

- **Major Producers Globally:** Thailand, Indonesia, Malaysia, Vietnam, China and India.

- **Major Consumers:** China, India, USA, Japan, Thailand, Indonesia and Malaysia.

➤ India's National Rubber Policy:

- The **Department of Commerce** brought out the **National Rubber Policy in March 2019**.

- The policy includes several **provisions to support the Natural Rubber (NR) production sector** and the entire rubber industry value chain.

Note:

- It **covers** new planting and replanting of rubber, support for growers, processing and marketing of natural rubber, labour shortage, grower forums, external trade, Centre-State integrated strategies, research, training, rubber product manufacturing and export, climate change concerns and **carbon market**.
- It is based on the **short term** and **long term strategies** identified by the **Task Force** constituted on the rubber sector for mitigating problems faced by rubber growers in the country.
- Developmental and research activities for supporting the NR sector for the welfare of growers are carried out through **Rubber Board** by implementing the **scheme Sustainable and Inclusive Development of Natural Rubber Sector in the Medium Term Framework (MTF) (2017-18 to 2019-20)**.
- The developmental activities include **financial and technical assistance for planting, supply of quality planting materials, support for grower forums, training and skill development programme**.

G20 Labour and Employment Ministers' Meeting

Why in News

Recently, the Union Minister for Labour and Employment has said that India is making collective efforts to reduce gender gaps in labour force participation.

- He was delivering the Ministerial Address on Declaration and Employment Working Group Priorities at **G20 Labour and Employment Ministers' Meeting**.

Key Points

- **Issues Discussed:**
 - The Employment Working Group deliberated upon key issues, including **women employment, social security and remote working**.
 - In 2014, G20 Leaders pledged in Brisbane to **reduce the gap in labour force participation rates** between men and women by **25% by 2025**, with the aim of bringing **100 million women into the labour market**, increasing global and inclusive growth, and reducing poverty and inequality.

G20

- It is an informal group of 19 countries and the European Union, with representatives of the International Monetary Fund and the World Bank.
- The G20 membership comprises a mix of the world's largest advanced and emerging economies, representing about two-thirds of the world's population, 85% of global gross domestic product, 80% of global investment and over 75% of global trade.
- **Members:** Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom, United States, and the European Union.

Initiatives Highlighted by India:

- **Educational and Skilling Efforts:**
 - **New National Education Policy, 2020:**
 - It aims for reforms in **school and higher education systems**.
 - India is strengthening its educational and skilling efforts to ensure quality education from preschool to senior secondary stage.
 - **National Skill Development Mission:**
 - It aims to create **convergence across sectors and States** in terms of **skill training activities**.
 - **Pradhan Mantri Kaushal Vikas Yojana:**
 - It enables the youth to take up industry related skill training to assist them in securing better opportunities.
 - **Digital educational content** has been made available on various e-learning platforms like **DIKSHA, SWAYAM**.
- **For Employment Generation:**
 - **Aatmanirbhar Bharat Rozgar Yojana:**
 - The government is paying up to 24% of wages towards EPF contributions for new employees as well as those who lost their jobs in the pandemic and are being re-employed.
- **To Ensure Women Participation:**
 - **New Code on Wages, 2019:**
 - It will reduce gender-based discrimination in wages, recruitment and conditions of employment.
 - **Pradhan Mantri Mudra Yojana:**

Note:

- It provides financial support to women entrepreneurs to start small enterprises.
 - Collateral free loans worth Rs 9 lakh crore have been disbursed under this scheme.
 - There are around 70% of women in this scheme.
 - **New Code on Social Security:**
 - It may now include even self-employed and all other classes of workforce into the folds of social security coverage.
 - **Others:**
 - Women can now work even **during night hours** and the duration of paid **maternity leave** has been increased from **12 weeks to 26 weeks**.
- **G20 Roadmap Towards and Beyond the Brisbane Target:**
- This has been developed for achieving equal opportunities and outcomes for women and men in the labour markets as well as societies in general.
 - The G20 Roadmap Towards and Beyond the Brisbane Target has been set as:
 - Increasing the **quantity and quality of women's employment**.
 - Ensuring **equal opportunities** and achieving better outcomes in the labour market.
 - Promoting a more **even distribution of women and men** across sectors and occupations.
 - Tackling the **gender pay gap**.
 - Promoting a more **balanced distribution of paid and unpaid work** between women and men.
 - **Addressing discrimination and gender stereotypes** in the labour market.

Constraints in Female Labor Force Participation

- **Stereotyping in Society:** India's societal norms are such that women are expected to take the responsibility of family care and childcare. This stereotype is a critical barrier to women's labor force participation.
- Due to this, women are in constant conflict over-allotment of time for work and life is a war of attrition for them.
- **Digital Divide:** In India in 2019, internet users were 67% male and 33% female, and this gap is even bigger in rural areas.

Labour Force Participation

- The labor force participation rate indicates the percentage of all people of working age who are employed or are actively seeking work.
- India continues to struggle to provide its women with equal opportunity.
- In 2019, before the Covid-19 pandemic, female labor force participation in India was 23.5%, according to **ILO** estimates.
- According to the **Periodic Labour Force Survey, 2018-19**, the female labour force participation rates (LFPR) among women aged above 15 years are as low as 26.4% in rural areas and 20.4% in urban areas in India.
- This divide can become a barrier for women to access critical education, health, and financial services, or to achieve success in activities or sectors that are becoming more digitized.
- **Technological Disruption:** Women hold most of the administrative and data-processing roles that artificial intelligence and other technologies threaten to usurp.
- As routine jobs become automated, the pressure on women will intensify and they will experience higher unemployment rates.
- **Lack of Gender-Related Data:** Globally, major gaps in gendered data and the lack of trend data make it hard to monitor progress.
- In India, too, significant gaps in data on the girl child prevent a systematic longitudinal assessment of the lives of girls.
- **Impact of Covid-19:** Owing to Covid-19, global female employment is 19% more at risk than male employment (ILO estimates).

Electoral Trust Scheme, 2013

Why in News

For the first time, an **electoral trust (under Electoral Trust Scheme, 2013)** has declared donation through **electoral bonds** and hasn't revealed the names of the political parties that received the money, citing anonymity guaranteed under the **electoral bond scheme**.

- According to the **Association of Democratic Reforms (ADR)**, this "practice is against the spirit of the **Electoral Trusts Scheme, 2013** and the **Income Tax Rules**,

Note:

1962 which make it mandatory for trusts to furnish each and every detail about the donor contributing to the trust.

- If Electoral trusts start adopting this precedent of donating through bonds, it will be a complete situation of **unfair practices** i.e. total anonymity, unchecked and unlimited funding, free flow of black money circulation, corruption, foreign funding, corporate donations and related conflict of interest etc.

Key Points

➤ About the Electoral Trust Scheme:

- Electoral Trust is a **non-profit organization** formed in India for orderly receiving of the contributions from any person.
- Electoral Trusts are relatively **new in India** and are part of the ever-growing electoral restructurings in the country.
- **Electoral Trusts Scheme, 2013** was notified by the **Central Board of Direct Taxes (CBDT)**.
 - The provisions related to the electoral trust are under **Income-tax Act, 1961** and **Income tax rules-1962**.

➤ Objective:

- It lays down a procedure for grant of approval to an electoral trust which will **receive voluntary contributions and distribute the same to the political parties**.
- A political party registered under **section 29A of the Representation of the People Act, 1951** shall be an **eligible political party** and an electoral trust shall distribute funds only to the eligible political parties.

➤ Criteria for Approval of Trusts:

- An electoral trust shall be considered for approval if it fulfills following conditions, namely:-
 - The company registered for the purposes of **section 25 of the Companies Act, 1956**.
 - The object of the electoral trust shall not be to earn any profit or pass any direct or indirect benefit to its members or contributors.

➤ Contributions to Electoral Trusts:

- **Receive Voluntary Contributions From:**
 - An individual who is a citizen of India;
 - A company which is registered in India; and

- A firm or Hindu undivided family or an Association of persons or a body of individuals, resident in India.

○ Shall not accept contributions From:

- An individual who is **not a citizen of India**.
- Any **other electoral trust** which has been registered as a company under **section 25 of the Companies Act, 1956** and approved as an electoral trust under the Electoral Trusts Scheme, 2013;
- A **Government company** as defined in section 2 of the Companies Act, 2013.
- A **foreign source** as defined in section 2 of the **Foreign Contribution (Regulation) Act, 2010**.
- An electoral trust can accept contributions only by cheque, demand draft or account transfer to the bank.

➤ Other Points:

- The electoral trust may **spend up to 5%** of the total contributions received in a year subject to an aggregate limit of Rs. 5 Lakh in the first year of incorporation and Rs. 3 Lakh in subsequent years.
- The trust obtains a receipt from the eligible political party indicating the name of the political party, its permanent account number etc.

Electoral Bond

- Electoral Bond is a financial instrument for making donations to **political parties**.
- The bonds are **issued in multiples** of Rs. 1,000, Rs. 10,000, Rs. 1 lakh, Rs. 10 lakh and Rs. 1 crore **without any maximum limit**.
- **State Bank of India** is authorised to issue and encash these bonds, which are **valid for fifteen days from the date of issuance**.
- These bonds are **redeemable in the designated account of a registered political party**.
- The bonds are available for purchase by any person (**who is a citizen of India or incorporated or established in India**) for a period of ten days each in the months of January, April, July and October as may be specified by the Central Government.
 - A person being an individual can buy bonds, either **singly or jointly** with other individuals.
 - Donor's name is **not mentioned** on the bond.

Note:

- The trust shall **keep and maintain such books of account** and other documents in respect of its receipts, distributions and expenditure.
 - The trust shall also **maintain a list of persons from whom contributions** have been received and to whom the same have been distributed.
- **Significance of Scheme:**
- Electoral Trusts are designed to bring in **more transparency** in the funds provided by corporate entities to the political parties for their election related expenses.
 - The **Election Commission** had also circulated **guidelines for submission of contribution reports** of electoral trusts to **submit an annual report containing details of contributions** received by the electoral trusts and disbursed by them to political parties in the interest of transparency.

Drone Survey Mandatory for All National Highways Projects

Why in News

The **National Highways Authority of India (NHAI)** has made use of drones mandatory for **video recording of the national highway projects** during different stages of development, construction, operation and maintenance.

- These videos will be saved on **NHAI's portal "Data Lake"** to assess the progress made on the projects.

Key Points

- **Significance:**
- It will **enhance transparency, uniformity and leverage the latest technology**.
 - NHAI officials can use the videos during the physical inspection of the projects to **check the discrepancies and rectifications** made on the earlier observations.
 - Since these videos will be **permanently stored on the 'Data Lake'**, they can also be used as evidence during the **dispute resolution process before Arbitral Tribunals and Courts**.
 - Also the mandatory deployment of **Network Survey Vehicle (NSV)** to carry out road condition surveys on the National Highways will enhance the overall quality of the highways.

- NSV uses the latest survey techniques such as high-resolution digital camera for 360 degree imagery, Laser Road Profilometer and other latest technology for measurement of distress in road surface.

➤ **NHAI's Portal "Data Lake":**

- NHAI has gone '**Fully Digital**' with the launch of cloud based and Artificial Intelligence powered **Big Data Analytics platform – Data Lake and Project Management Software**.
- All project **documentation, contractual decisions and approvals** are now done through the portal only.
- Data Lake software forecasts the delays, likely disputes and gives advance alerts.

○ **Significance:**

- The Data Lake will bring revolutionary changes to NHAI with benefits like No delays, Quick decision making, No question of missing records, Work from anywhere/anytime.
- It will enhance transparency, as all officers and stakeholders connected with the project can see what is going on a real time basis.
- It will also help in carrying out audits by the senior officers and other external agencies.

➤ **National Highways Authority of India (NHAI):**

- NHAI was set up under **NHAI Act, 1988**.
- It has been entrusted with the **National Highways Development Project (NHDP)**, along with other minor projects for development, maintenance and management.
- **NHDP** is a project to upgrade, rehabilitate and widen major highways in India to a higher standard. The project was started in 1998.
- NHAI **maintains the National Highways network** to global standards and in a cost effective manner, thus promoting economic well being and quality of life of the people.

National Highways

- The **major roads** in India are the national and state highways. National Highways (NH) are **built, financed and maintained by the Central government** whereas State Highways (SH) are developed by the respective States' public works department.
- **Constitutional Provisions:**

Note:

- Highways declared by or under law made by Parliament to be national highways - **Union List under Seventh Schedule.**
- **Article 257 (2):** The executive power of the Union shall also extend to the giving of directions to a State as to the construction and maintenance of means of communication declared in the direction to be of national or military importance.
 - Provided that nothing in this clause shall be taken as restricting the power of Parliament to declare highways or waterways to be national highways or national waterways or the power of the Union with respect to the highways or waterways so declared.
- The **Ministry of Road Transport and Highways** is primarily responsible for development and maintenance of NHs.
 - The Ministry has taken up detailed review of NHs network with a view to develop the road connectivity to Border areas, development of Coastal roads including road connectivity for Non-Major ports, improvement in the efficiency of National Corridors, development of Economic Corridors, Inter Corridors and Feeder Routes along with integration with Sagarmala, etc., under **Bharatmala Pariyojana**.
 - NHs in the country are notified under the **National Highways Act, 1956**.
 - **Land for development of National Highways** and associated purposes is acquired under Section 3 of the NHs Act, 1956 and compensation is determined in accordance with the First Schedule of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCLARR) Act, 2013.
 - **BhoomiRashi portal** was launched in 2018, to fully digitize and automate the entire process of land acquisition.
 - The aim of the **Green Highways (Plantation, Transplantation, Beautification & Maintenance) Policy, 2015** is to promote greening of Highway corridors with participation of the community, farmers, private sector, NGOs, and government institutions.

Nutrient Loss in Wheat & Rice

Why in News

Recently, researchers from various institutes under the **Indian Council of Agricultural Research (ICAR)** and Bidhan Chandra Krishi Viswavidyalaya **found depleting trends in grain density of zinc and iron in rice and wheat cultivated in India.**

- The researchers collected seeds of **rice (16 varieties)** and **wheat (18 varieties)** from the gene bank maintained at the **ICAR's Cultivar repositories**.

Indian Council of Agricultural Research

- It is an **autonomous organisation** under the **Department of Agricultural Research and Education (DARE)**, Ministry of Agriculture and Farmers Welfare.
- It is the **apex body for coordinating, guiding and managing research and education in agriculture** including horticulture, fisheries and animal sciences in the entire country.
- It was **established on 16th July 1929** as a registered society under the Societies Registration Act, 1860.
- It is **headquartered at New Delhi**. With **102 ICAR institutes and 71 agricultural universities** spread across the country this is one of the largest national agricultural systems in the world.
- **Cultivar repositories** are nodal institutes that preserve and archive the old cultivars or varieties from our country.

Key Points

- **Observation:**
 - **Concentrations in Rice:**
 - Zinc and iron concentrations in grains of rice cultivars released within the **1960s** were **27.1 mg/kg and 59.8 mg/kg**. This **depleted to 20.6 mg/kg and 43.1 mg/kg**, respectively within the **2000s**.
 - **Concentrations in Wheat:**
 - The concentrations of zinc and iron were **33.3 mg/kg and 57.6 mg/kg** in cultivars of the **1960s**, dropped to **23.5 mg/kg and 46.4 mg/kg**, respectively in cultivars released during the **2010s**.
- **Reason for the Decrease:**

Note:

- 'Dilution effect' that is caused by decreased nutrient concentration in response to higher grain yield.
- This means the rate of yield increase is not compensated by the rate of nutrient take-up by the plants. Also, the soils supporting plants could be low in plant-available nutrients.

➤ **Suggestions:**

- Growing newer-released (1990s and later) cultivars of rice and wheat cannot be a sustainable option to alleviate zinc and iron malnutrition in Indian population.
 - Zinc and iron deficiency affects billions of people globally and the countries with this deficiency have diets composed mainly of rice, wheat, corn, and barley.
- The negative effects need to be circumvented by improving the grain ionome (that is, nutritional make-up) while releasing cultivars in future breeding programmes.
- There is a need to concentrate on other options like biofortification, where we breed food crops that are rich in micronutrients.

Economic Relief Package after Covid – Second Wave

Why in News

Recently, the Ministry of Finance announced a slew of measures to provide relief to diverse sectors affected by the second wave of Covid-19 pandemic.

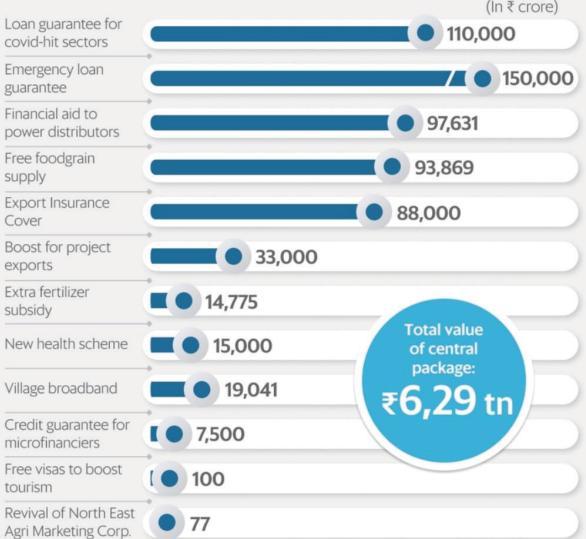
- It aims to prepare the health systems for emergency response and provide impetus for growth and employment. However it will increase the Fiscal Deficit by 0.6% as per a report of State Bank of India.
- A total of 17 measures amounting to Rs. 6,28,993 crore were announced in the Economic Relief Package.

Key Points

- **Economic Relief from Pandemic:**
 - **Loan Guarantee Scheme for Covid Affected Sectors:**
 - Additional credit of Rs 1.1 lakh crore will flow to the businesses. This includes Rs 50,000 crore for the health sector and Rs 60,000 crore for other sectors, including tourism.

A SHOT IN THE ARM

The package that includes two initiatives announced already—fertilizer sops and free foodgrain for vulnerable sections—works out to ₹6.29 tn.



- The health sector component is aimed at scaling medical infrastructure targeting underserved areas (i.e. non-metropolitan areas).
- **Guarantee Coverage:** 50% for expansion & 75% for new projects.
 - For aspirational districts, the guarantee cover of 75% will be available for both new projects and expansion.
- Maximum loan admissible under the scheme is Rs. 100 crore and guarantee duration is up to 3 years.
- **Emergency Credit Line Guarantee Scheme:**
 - Expand the Emergency Credit Line Guarantee Scheme (ECLGS), launched as part of Atmanirbhar Bharat Package in May, 2020, by Rs 1.5 lakh crore.
- **Credit Guarantee Scheme for Micro Finance Institutions:**
 - It is a new scheme which aims to benefit the smallest of the borrowers who are served by the network of Micro Finance Institutions (MFIs).
 - Guarantee will be provided to Scheduled Commercial Banks for loans to new or existing Non-Banking Financial Company (NBFC)-MFIs or MFIs for on lending upto Rs 1.25 lakh to approximately 25 lakh small borrowers.

Note:

- **Extension of Aatmanirbhar Bharat Rozgar Yojana (ANBRY):**
 - ANBRY incentivises employers for creation of new employment, restoration of loss of employment through Employees' Provident Fund Organisation (EPFO).
- **Pradhan Mantri Garib Kalyan Ann Yojana:**
 - To the beneficiaries under the National Food Security Act (NFSA), 2013, 5 kg of food grains per month free will be provided during May–November 2021.
- **Strengthening Public Health:**
 - **New Scheme for Children and Paediatric Care:**
 - A new scheme for strengthening public health infrastructure and human resources with outlay of Rs. 23,220 crore was also announced.
 - It will focus on short term emergency preparedness with special emphasis on children and paediatric care/paediatric beds.
- **Growth & Employment:**
 - Free one month tourist visa to 5 lakh tourists.
 - Additional Subsidy for DAP & P&K fertilizers.
 - **Climate Resilient Special Traits Varieties:**
 - Indian Council of Agricultural Research (ICAR) has developed biofortified crop varieties having high nutrients like protein, iron, zinc, vitamin-A.
 - These varieties are tolerant to diseases, insects, pests, drought, salinity, and flooding, early maturing and amenable to mechanical harvesting also developed.
 - 21 such varieties of rice, peas, millet, maize, soyabean, quinoa, buckwheat, winged bean, pigeon pea & sorghum will be dedicated to the nation.
 - **Revival of North Eastern Regional Agricultural Marketing Corporation:**
 - A revival package of Rs 77.45 crore will be provided to North Eastern Regional Agricultural Marketing Corporation (NERAMAC).
 - NERAMAC has facilitated registration of 13 Geographical Indicator (GI) crops of North-East.
 - It has prepared a plan to give 10-15% higher price to farmers by-passing middlemen/agents.
 - It also proposes to set up North-Eastern Centre for Organic Cultivation, facilitating equity finance to entrepreneurs.

- **Boost for Project Exports:**
 - It has been decided to provide an additional corpus to the National Export Insurance Account (NEIA) over 5 years. This will enable it to underwrite additional Rs. 33,000 crore of project exports.
 - NEIA Trust promotes Medium and Long Term (MLT) project exports by extending risk covers.
 - It provides cover to buyer's credit, given by EXIM (Export-Import) Bank, to less credit-worthy borrowers and supporting project exporters.
- **Boost to Export Insurance Cover:**
 - It has been decided to infuse equity in Export Credit Guarantee Corporation (ECGC) over 5 years to boost export insurance cover by Rs. 88,000 crore.
- **Digital India:**
 - Additional Rs. 19,041 crore will be provided to implement Bharat Net in PPP model in 16 States on viability gap funding basis.
 - This will enable expansion and upgradation of Bharat Net to cover all Gram Panchayats and inhabited villages.
- **Extension of PLI Scheme:**
 - Tenure of Production-Linked Incentive (PLI) scheme for Large Scale Electronics Manufacturing has been decided to be extended by one year i.e. till 2025-26.
- **Reform-Based Result-Linked Power Distribution Scheme:**
 - Revamped Reforms-Based, Result-Linked power distribution scheme of financial assistance to DISCOMS for infrastructure creation, upgradation of system, capacity building and process improvement was announced in the Union Budget of 2021-22.
 - It aims at state specific intervention and to provide assistance for installation of 25 crore smart meters, 10,000 feeders, 4 lakh km of LT overhead lines.
 - The amount available under the scheme is in addition to the allowed additional borrowing of 0.5% of Gross Domestic Product of State

Note:

- which will be available to the States annually for the next four years subject to carrying out specific power sector reforms.
- Ongoing works of **Integrated Power Development Scheme (IPDS)**, **Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY)** and **SAUBHAGYA** will also be merged in the scheme.
 - **New streamlined process for PPP Projects and Asset Monetization:**
- ■ ■
- A new policy will be formulated for appraisal and approval of **Public-Private Partnerships (PPP)** proposals and monetization of core infrastructure assets, including through **Infrastructure Investment Trusts (InvITs)**.
 - The policy will aim to ensure speedy clearance of projects to facilitate private sector's efficiencies in financing construction and management of infrastructure.



Note:

International Relations

Highlights

- Zen Garden - Kaizen Academy
- FATF Retains Pakistan on Grey List
- Global Expansion of Nuclear Arsenal: SIPRI Report
- Tax Inspectors Without Borders Programme
- 8th ADMM-Plus Meeting

- Antonio Guterres: 2nd Term UN Secretary General
- China as a Security Risk: NATO
- Antarctic Treaty
- New Chinese Militia Units for High Altitudes

Zen Garden - Kaizen Academy

Why in News

Recently, Indian Prime Minister virtually inaugurated a Japanese 'Zen Garden - Kaizen Academy' at the Ahmedabad Management Association (AMA) in Gujarat.

Key Points

➤ About:

- It is a joint endeavour of the Japan Information and Study Centre at the AMA and the Indo-Japan Friendship Association (IJFA), Gujarat. It is supported by the Hyogo International Association (HIA) Japan.
- It has traditional Japanese elements such as Red Bridge Guzei, Shoji Interior, Glory of Tori, a 3D art mural, fusion Chabutaro, Taki waterfall, Tsukubai basin and Kimono scroll.
- It will propagate Japan's work culture in India and increase business interactions between Japan and India.



● Zen is a Japanese school of Mahayana Buddhism emphasizing the value of meditation and intuition rather than ritual worship or study of scriptures. Zen in Japan is **meditation in India**.

● Kaizen translates to 'change for the better' or 'continuous improvement'. Kaizen is a Japanese business philosophy that focuses on gradually improving productivity by involving all employees and by making the work environment more efficient.

➤ India-Japan Friendship:

○ Highlights of Recent Telephonic Conversation between the Prime Ministers of India and Japan:

- To overcome challenges posed by the pandemic, there is a need to work together to create resilient, diversified and trustworthy supply chains, ensure reliable supply of critical materials and technologies, and develop new partnerships in manufacturing and skill development.

- Confirmed the importance of Japan-India bilateral and multilateral cooperation, including Japan-Australia-India-US quadrilateral cooperation, towards realising a free and open Indo-Pacific.

- Possible Cooperation in areas like 5G, submarine cables, strengthening of industrial competitiveness and development projects in the northeastern state.

○ Other Recent Developments Between India and Japan:

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

Note:

- Japan has finalised loans and a grant totalling around 233 billion yen for several key infrastructure projects in India, including for a project in the Andaman and Nicobar islands.
- In 2020, India and Japan signed a **logistics agreement** that will allow armed forces of both sides to coordinate closely in services and supplies. The agreement is known as the **Acquisition and Cross-Servicing Agreement (ACSA)**.
- In 2014, India and Japan upgraded their relationship to '**Special Strategic and Global Partnership**'.
- The **India-Japan Comprehensive Economic Partnership Agreement (CEPA)** that came into force in August 2011 covers trade in goods, services, movement of natural persons, investments, Intellectual Property Rights, custom procedures and other trade related issues.
- **Defence Exercises:**
 - India and Japan defence forces organize a series of bilateral exercises namely, **JIMEX** (naval), **SHINYUU Maitri** (Air Force), and **Dharma Guardian** (Army). Both countries also participate in **Malabar exercise** (Naval Exercise) with the USA.

FATF Retains Pakistan on Grey List

Why in News

The **Financial Action Task Force (FATF)** decided to retain Pakistan on "increased monitoring list".

- "Increased monitoring list" is another name for the **Grey List**.

Key Points

- **Background:**
 - The **FATF had issued the 27-point action plan after placing Pakistan on the 'Grey List' in June 2018**. The action plan pertains to **curbing money laundering and terror financing**.
 - During the **October-2020 Plenary**, due to the Covid-19 pandemic, Pakistan was given an extension for full compliance with the 27-point action plan till February 2021.

Note:

- It had then not fully complied with 6 of the 27 directives.
- **In February 2021**, FATF acknowledged Pakistan's significant progress in combating terrorism, however it was still to fully comply with **three of the 27-point action plan**.
 - The three points pertained to effective steps in terms of financial sanctions and penalties against the terror funding infrastructure and the entities involved.
- **About:**
 - The FATF said **Pakistan had failed to take appropriate action against UN-designated terrorists** such as 26/11 accused Hafiz Saeed and JeM chief Masood Azhar. However, **Pakistan has completed 26 of the 27 action items**.
 - The FATF **encourages Pakistan to continue to make progress to address as soon as possible the one remaining Countering Finance of Terrorism (CFT)-related item** by demonstrating that Terror Financing investigations and prosecutions target senior leaders and commanders of UN-designated terrorist groups.
 - In addition, the **FATF has handed down another 6-point list of tasks mainly on money laundering actions to be completed as well**.
 - Pakistan is expected to amend its Money-Laundering Act, crackdown on Designated Non-Financial Businesses and Professions (DNFBPs) like real estate agencies and gemstone traders, confiscate and freeze assets of money laundering entities and monitor businesses for proliferation financing, with sanctions for non-compliance.
- **Significance:**
 - In Pakistan's case, the **FATF has taken cognisance of the inaction against several banned organisations** involved in raising funds for terror activities and those linked to global terrorists like Jaish-e-Mohammed chief Masood Azhar and Lashkar-e-Taiba's Hafiz Saeed and its operations chief Zaki-Ur Rahman Lakhvi.
 - On several occasions, India has also raised the involvement of elements within Pakistan in a number of terror cases, **including the 26/11 Mumbai and Pulwama attacks**.
 - **Perpetual containment of Pakistan on the grey list of FATF would further pressurise Pakistan to**

- take adequate measures to prevent such terrorist attacks on India from its soil.
- Unlike the next level “blacklist”, greylisting carries no legal sanctions, but it attracts economic strictures and restricts a country’s access to international loans.
 - Pakistan’s Foreign Minister had estimated a loss of \$10 billion annually to the Pakistani economy for every year Pakistan has been on the greylst.

Financial Action Task Force

- **About:**
 - It is an inter-governmental body established in 1989 during the **G7 Summit** in Paris.
 - The FATF assesses the strength of a country’s anti-money laundering and anti-terror financing frameworks, however it does not go by individual cases.
- **Objectives:**
 - To set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system.
- **Headquarters:**
 - Its Secretariat is located at the **Organisation for Economic Cooperation and Development (OECD)** headquarters in Paris.
- **Member Countries:**
 - The FATF currently has 39 members including two regional organisations — the European Commission and **Gulf Cooperation Council**. India is a member of the FATF.
- **Lists under FATF:**
 - **Grey List:**
 - Countries that are considered safe haven for supporting terror funding and money laundering are put in the FATF grey list.
 - This inclusion serves as a warning to the country that it may enter the blacklist.
 - **Black List:**
 - Countries known as Non-Cooperative Countries or Territories (NCCTs) are put in the blacklist.
 - These countries support terror funding and money laundering activities.

- The FATF revises the blacklist regularly, adding or deleting entries.

- **Sessions:** The **FATF Plenary** is the decision making body of the FATF. It meets three times per year.

Global Expansion of Nuclear Arsenal: SIPRI Report

Why in News

According to a recent report published in the **SIPRI Yearbook 2021**, the **number of nuclear warheads which are ready and deployed have increased globally**.

- The SIPRI Yearbook is released by the **Stockholm International Peace Research Institute (SIPRI)** which researches international armament and conflict.
- The SIPRI “Yearbook 2021” assesses the current state of armaments, disarmament and international security.

Key Points

- **Nine Nuclear Armed States:**
 - The nine nuclear armed states are: **US, Russia, the U.K., France, China, India, Pakistan, Israel and North Korea**.
 - These countries together possessed an estimated **13,080 nuclear weapons** at the start of 2021.
 - **Russia and the US together possessed over 90% of global nuclear weapons** and have extensive and expensive modernisation programmes under way.
 - Both the US and **Russia have approved** the extension of the **New START treaty**.
 - The Treaty is the last remaining **nuclear Russia-US arms control treaty** which expired in February 2021.
 - **China’s nuclear arsenal consisted of 350 warheads up from 320** at the start of 2020.
 - China is in the middle of a significant modernisation and expansion of its nuclear weapon inventory.
 - **India possessed** an estimated **156 nuclear warheads** at the start of 2021 **compared to 150** at the start of last year, while **Pakistan had 165 warheads, up from 160** in 2020.
 - India and Pakistan are seeking new technologies and capabilities that dangerously undermine each other’s defence under the nuclear threshold.

Note:

- **Low Levels of Transparency:** The availability of reliable information on the status of the nuclear arsenals and capabilities of the nuclear-armed states vary considerably.
- **Largest Military Spenders:**
 - The growth in **total spending in 2020** was largely influenced by expenditure patterns in the **United States and China** (first and second largest spenders respectively).
 - **India's** spending of USD 72.9 billion, an increase of 2.1% in 2020, ranked it as the **third highest spender in the world**.
- **Importers of Major Arms:**
 - SIPRI identified **164 states** as importers of major arms in 2016-20.
 - **Country Wise:** The **five largest arms importers** were **Saudi Arabia, India, Egypt, Australia and China**, which together accounted for 36% of total arms imports.
 - **Region wise:** The region that received the largest volume of major arms supplies in 2016-20 was **Asia and Oceania**, accounting for 42% of the global total, followed by the **Middle East**, which received 33%.
- **Suppliers of Major Arms:**
 - The **five largest suppliers** in 2016-20 - the **United States, Russia, France, Germany and China** - accounted for 76% of the total volume of exports of major arms.
- **Recent Instances of Armed Conflict:**
 - The **territorial conflict between India and Pakistan over Kashmir**. The situation in 2020 largely reverted to the status quo of relatively low levels of armed violence.
 - In June 2020, for the first time in over five decades, the **border tensions between China and India** in the disputed eastern Ladakh region of Kashmir turned deadly.
 - A new armed conflict broke out in the **Tigray region of northern Ethiopia** in November 2020 between federal government forces and the Tigray People's Liberation Front, which killed thousands and forced more than 46,000 refugees to flee into eastern Sudan.

Nuclear Weapons

- **About:**
 - Nuclear weapon is a device designed to release

energy in an explosive manner as a result of nuclear fission, nuclear fusion, or a combination of the two.

- Fission weapons are commonly referred to as **atomic bombs**, and fusion weapons are referred to as thermonuclear bombs or, more commonly, **hydrogen bombs**.
- These have been used in the **bombings of Hiroshima and Nagasaki in 1945**.
- **Treaties Preventing Nuclear Proliferation and Testing**
 - The **Treaty on the Non-Proliferation of Nuclear Weapons (NPT)**.
 - The Treaty Banning Nuclear Weapon Tests In The Atmosphere, In Outer Space And Under Water, also known as the **Partial Test Ban Treaty (PTBT)**.
 - The **Comprehensive Nuclear-Test-Ban Treaty (CTBT)** was signed in 1996 but has yet to enter into force.
 - The **Treaty on the Prohibition of Nuclear Weapons (TPNW)**, which will enter into force on 22nd January 2021.
- **Other Related Initiatives:**
 - **Nuclear Suppliers Group**, the **Missile Technology Control Regime**, the Hague Code of Conduct against Ballistic Missile Proliferation, and the **Wassenaar Arrangement**.
- **India's Nuclear Weapon Program:**
 - India tested its first nuclear device in May 1974, and remains outside both the **Treaty on the Non-Proliferation of Nuclear Weapons (NPT)** and the **Comprehensive Nuclear Test Ban Treaty (CTBT)**.
 - However, India has a facility-specific safeguards agreement in place with the **International Atomic Energy Agency (IAEA)** and a waiver from the **Nuclear Suppliers Group (NSG)** allowing it to participate in global civilian nuclear technology commerce.
 - It was admitted as a member into the **Missile Technology Control Regime (MTCR)** in 2016, **Wassenaar Arrangement** in 2017 and **Australia Group** in 2018.
 - India maintains its official commitment to no-first-use of nuclear weapons.

Note:

Tax Inspectors Without Borders Programme

Why in News

Recently, the Tax Inspectors Without Borders (TIWB), a joint initiative of the **United Nations Development Programme (UNDP)** and the **Organisation for Economic Cooperation and Development (OECD)**, launched its programme in Bhutan.

- **India was chosen as the Partner Jurisdiction** and has provided the Tax Expert for this programme.

Key Points

- **About:**
 - This programme is expected to be of about 24 months' duration.
 - It aims to aid Bhutan in strengthening its tax administration by transferring technical know-how and skills to its tax auditors, and through sharing of best audit practices. The focus of the programme will be in the area of **International Taxation and Transfer Pricing**.
 - Transfer price, also known as transfer cost, is the price at which related parties transact with each other, such as during the trade of supplies or labor between departments. **Multinational companies** can manipulate transfer prices in order to shift profits to low tax regions.
 - This programme is another **milestone in the continued cooperation** between India and Bhutan and India's continued and active support for **South-South cooperation**.
- **Tax Inspectors Without Borders:**
 - TIWB is a capacity-building programme.
 - It is a joint OECD/UNDP initiative launched in July 2015 to strengthen developing countries' auditing capacity and multinationals' compliance worldwide.
 - It deploys qualified experts in developing countries across Africa, Asia, Eastern Europe, Latin America and the Caribbean to help build tax capacity in the areas of audit, criminal tax investigations and the effective use of automatically exchanged information.
 - TIWB assistance has led to increased domestic resource mobilisation in some of the least developed countries in the world.

Note:

8th ADMM-Plus Meeting

Why in News

Recently, the defence minister addressed the 8th ASEAN Defence Ministers Meeting (ADMM) Plus.

- The ADMM-Plus is a platform for **ASEAN and its eight Dialogue Partners**.

Key Points

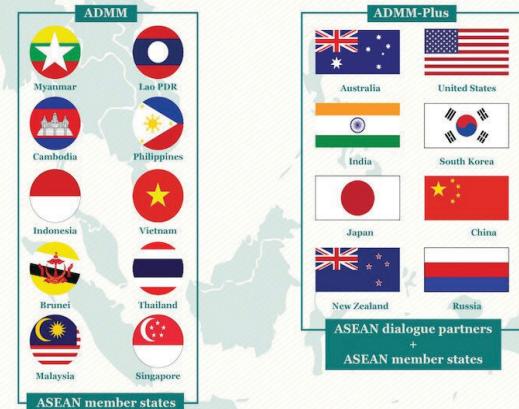
- **Security & Dispute Resolution:**
 - India called for an **open and inclusive order** in **Indo-Pacific** based upon respect for sovereignty and territorial integrity of nations.
 - Supports **freedom of navigation, overflight, and unimpeded commerce in the international waterways** including the **South China Sea**, India hopes that the **Code of Conduct negotiations** (for South China Sea) will lead to outcomes that are in keeping with international law, including the **United Nations Convention on the Law of the Sea (UNCLOS)**.
 - Recently, ASEAN and China agreed to **expedite the resumption of negotiations on the code**, which were halted by the pandemic.
 - China and ASEAN **started negotiations in 2013** on a supposedly binding code of conduct.
 - Stressed on **peaceful resolutions of disputes** through dialogue and adherence to international rules and laws.
 - Need **new systems** to address the emerging challenges to **international peace and security**.
- **Act East Policy:**
 - The key elements of the **Act East Policy** aims to **promote economic cooperation, cultural ties and develop strategic relationships** with countries in the Indo-Pacific region through continuous engagement at bilateral, regional and multilateral levels.
- **Terrorism:**
 - Called for **collective cooperation to fully disrupt terror organisations** and their networks.
 - Identify the perpetrators and hold them accountable and ensure that **strong measures are taken against those who support and finance terrorism** and provide sanctuary to terrorists.
 - As a member of the **Financial Action Task Force**

- (FATF) India remains committed to combat financing of terrorism.
- FATF is the global money laundering and terrorist financing watchdog.
- **Cybersecurity:**
 - Called for a **multi-stakeholder approach, guided by democratic values**, with a governance structure that is open and inclusive and a secure, open and stable internet with due respect to sovereignty of countries, that would drive the future of cyberspace.
- **Covid-19:**
 - Globally available patent free **vaccines**, unhindered supply chains and greater global medical capacities are some of the lines of effort that India has suggested for a combined effort.
 - South Africa and India have called for the **World Trade Organization (WTO)** to suspend intellectual property (IP) rights related to **Covid-19** to ensure equitable sharing of vaccines and new technology to control the pandemic.
- **Humanitarian Assistance and Disaster Relief (HADR) Operations:**
 - India remains one of the first to respond in times of distress in the immediate as well as extended neighbourhood.
 - As a founding member of the **Heads of Asian Coast Guard Agencies Meeting (HACGAM)**, India seeks to enhance capacity building through collaboration in the areas of Maritime Search & Rescue.
 - HACGAM is an **apex level forum facilitating the congregation of all the major Coast Guard Agencies of the Asian region**, it was established in **2004**.
- **ASEAN Centrality:**
 - India **shares a deep connection with ASEAN** and has continued its active engagement in many areas **contributing to regional peace and stability, particularly through ASEAN led mechanisms**, such as:
 - East Asia Summit.
 - ASEAN Regional Forum.
 - ADMM-Plus.
 - The India-ASEAN strategic partnership has been strengthened by virtue of flourishing cultural and civilisational links and enhanced people-to-people cooperation.

ADMM-Plus

- **About:**
 - The **2nd ASEAN Defence Ministers' Meeting (ADMM)** in **2007** at Singapore adopted a resolution to establish the ADMM-Plus.
 - The **first ADMM-Plus was convened at Hanoi, Vietnam in 2010**.
 - **Brunei** is the Chair of the ADMM Plus forum for the year **2021**.
 - It is an **annual meeting of Defence Ministers** of **10 ASEAN countries** and **eight dialogue partner countries**.
 - The **Association of Southeast Asian Nations (ASEAN)** is a regional organization which was established to promote political and social stability amid rising tensions among the Asia-Pacific's post-colonial states.
- **Membership:**
 - The ADMM-Plus countries include **ten ASEAN Member States** and **eight Plus countries**, namely **Australia, China, India, Japan, New Zealand, Republic of Korea, Russian Federation, and the United States**.
- **Aim:**
 - It aims to promote mutual trust and confidence between defence establishments through greater dialogue and transparency.
- **Areas of cooperation:**
 - Maritime security, counter-terrorism, humanitarian assistance and disaster relief, peacekeeping operations and military medicine.

ADMM / ADMM-Plus



Note:

Antonio Guterres: 2nd Term UN Secretary General

Why in News

The United Nations General Assembly appointed Antonio Guterres as the ninth UN Secretary General (UNSG) for a second term beginning 1st January, 2022 and ending on 31st 2026.

- India had expressed its support for the re-election of Guterres as UN Chief.

Key Points

➤ About Antonio Guterres:

- Guterres took oath of office on 1st January, 2017 and his first term ends on 31st December 2021.
- Guterres served as the United Nations High Commissioner for Refugees for a decade from June 2005 to December 2015.
- He was the former Prime minister of Portugal.

➤ Appointment:

- Under the UN Charter, the Secretary-General is appointed by the General Assembly upon the recommendation of the Security Council.
- Each Secretary-General has the option of a second term if they can garner enough support from Member states.
- Guterres was elected after a reformed selection process that included a public informal dialogue session in the General Assembly, involving civil society representatives, aimed at ensuring transparency and inclusivity.

➤ UN Charter:

- The Charter of the United Nations is the founding document of the United Nations. It was signed on 26th June 1945, in San Francisco, at the conclusion of the United Nations Conference on International Organization, and came into force on 24th October 1945.
- The UN can take action on a wide variety of issues due to its unique international character and the powers vested in its Charter, which is considered an international treaty.
- As such, the UN Charter is an instrument of international law, and UN Member States are

bound by it. The UN Charter codifies the major principles of international relations, from sovereign equality of States to the prohibition of the use of force in international relations.

➤ About UNGA:

- The General Assembly occupies a central position as the chief deliberative, policymaking and representative organ of the United Nations.
- Composed of all 193 Members of the United Nations, it provides a unique forum for multilateral discussion of the full spectrum of international issues covered by the Charter.
- It also plays a significant role in the process of standard-setting and the codification of international law.

➤ UN Security Council:

- Established by the UN charter in 1945, the Security Council has the primary responsibility of maintaining international peace and security.
- The Security Council has 15 members.
 - There are five permanent members: the United States, the Russian Federation, France, China and the United Kingdom.
 - The non-permanent members of the Security Council are elected for a term of two years. Recently, India has been elected.
- Each member of the Security Council has one vote. Decisions of the Security Council on matters are made by an affirmative vote of nine members including the concurring votes of the permanent members. A "No" vote from one of the five permanent members blocks the passage of the resolution.
- Any member of the United Nations which is not a member of the Security Council may participate, without vote, in the discussion of any question brought before the Security Council whenever the latter considers that the interests of that member are specially affected.

➤ Challenges Pertaining to UN:

- UNGA has no control over veto power exercised by UNSC and it cannot take any decisive action against permanent members of UNSC.
- The 15-member Security Council is by far the most powerful arm of the United Nations. However, the veto power is used by five permanent countries

Note:

- to serve the strategic interest of **themselves and their allies**.
- The **UN charter is vague** in defining the duties of the secretary general, the United Nations' top official.
- Recently, the **World Health Organization (WHO)** has been criticised by the US on account of mishandling of the **Covid-19 pandemic** and subsequently suspended its financial contribution to WHO.
 - Also, WHO has been under pressure from the US government to adopt an approach that favours interests of US pharma companies.
 - WHO is a **specialised agency of the UN**.

China as a Security Risk: NATO

Why in News

The recently held **North Atlantic Treaty Organization (NATO) summit** for the **first time has explicitly described China as a security risk**.

- The other two threats identified by the NATO 'declaration' are **Russia and terrorism**.

Key Points

- **North Atlantic Treaty Organization's (NATO):**
 - **Formation:** NATO was established by the **North Atlantic Treaty** (also called the **Washington Treaty**) of **4th April, 1949**, by the United States, Canada, and several Western European nations to provide collective security against the Soviet Union.
 - It is **headquartered at Brussels, Belgium**.
 - **Political and Military Alliance:** NATO's primary goals are the **collective defence** of its members and the maintenance of a **democratic peace in the North Atlantic area**.
 - The collective defence principle enshrined in **NATO's Article V** states that "an attack against one ally is considered as an attack against all allies".
 - **NATO's Forces:** NATO has a **military and civilian headquarters** and an **integrated military command structure** but very few forces or assets are exclusively its own.
 - Most forces remain under full national command and control until member countries agree to undertake NATO-related tasks.

- **NATO's Decisions:** A "NATO decision" is the expression of the collective will of **all 30 member countries** since all decisions are taken by consensus.

➤ Analysis of NATO's Performance:

- **Cold War Era:** NATO was completely successful in its mission of protecting the "Euro-Atlantic area" from Soviet expansion and preventing war between the two superpowers.
 - The formation of NATO, and its Soviet counterpart, the **Warsaw Pact**, in 1955, inaugurated the **Cold War era** (approximately 1945 until 1991).
- **Post-Cold War Era:** When **Soviet Union collapsed in 1991**, NATO witnessed a paradigm shift from collective defence, which implied a known adversary, to collective security, which is open-ended, and might require action against any number of threats, including unknown ones and non-state actors.
 - When the Balkans conflict broke out in 1999, NATO got the chance to prove its utility in a post-Cold War Europe.

➤ Mutually Beneficial Arrangement:

- **For Europe,** it was an attractive bargain where, **in exchange for a marginal loss in autonomy, it enjoyed absolute security** at a cheap price.
 - Not having to spend massively on defence allowed Europe to focus on building powerful economies and invest its surplus in a strong welfare state.
- NATO also **offered the added bonus of keeping Germany down**, historically a major factor for peace and stability in the region.
- A collective military force organised and managed by the Europeans themselves may offer a way out of American oversight and occasional bullying.
 - However, it carried the **danger of one or two of the stronger and wealthier states, such as Germany or France, dictating terms to the smaller ones**, a danger attractively absent in the NATO arrangement.

➤ NATO and China:

- NATO leaders **declared China a constant security challenge** and said the Chinese are working to **undermine global order**.
 - This is **in sync with US President efforts** to get allies to speak out with a more unified voice against China's trade, military and human rights practices.

Note:

- The US' growing conviction is that China is a threat to its global supremacy and must be contained.
 - However, both France and Germany sought to put some distance between NATO's official position and their own perception of China.
 - NATO's European member states may view China as an economic rival and adversary, but they are unconvinced by the American line that it is an outright security threat.
 - **China's Stand:** It has urged NATO to "view China's development rationally, stop exaggerating various forms of 'China threat theory' and not to use China's legitimate interests and legal rights as excuses for manipulating group politics artificially creating confrontations".
- **NATO and Russia:**
- Tensions with Russia are an inevitable outcome of **NATO's bid to expand eastward into what Russia considers its sphere** of influence.
 - Trying to bring countries such as **Ukraine, Georgia and Moldova** under the NATO umbrella has led to a confrontation with Russia.
 - As Russia sought to protect its interests by "annexing" Crimea and stationing troops in Georgia and Moldova, NATO accused it of acting irresponsibly and breaking the "**rules-based international order**".

Antarctic Treaty

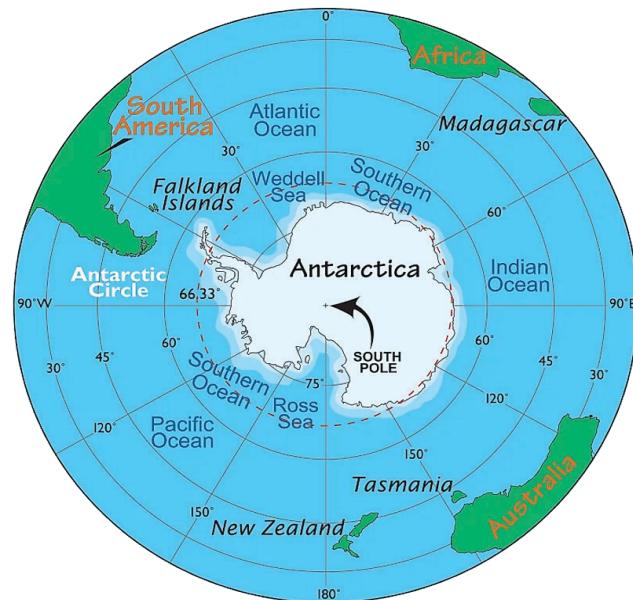
Why in News

Recently, the **60th anniversary** of the **Antarctic Treaty** was celebrated.

- The Antarctic treaty remains the only example of a **single treaty that governs a whole continent**.
- It is also the foundation of a **rules-based international order** for a continent without a permanent population.

Key Points

- **About:**
- The Antarctic Treaty was signed between **12 countries in Washington on 1st December 1959** for making the **Antarctic Continent a demilitarized zone to be preserved for scientific research only**.
 - The **twelve original signatories** are Argentina, Australia, Belgium, Chile, France, Japan, New



Zealand, Norway, South Africa, the Union of Soviet Socialist Republics, the UK and the US.

- It **entered into force in 1961** and has since been acceded by many other nations.
- Antarctica is defined as all of the **land and ice shelves south of 60°S latitude**.
 - Recently, an enormous **iceberg 'A-76'** has calved from the **western side of the Ronne Ice Shelf**, lying in the **Weddell Sea**, in Antarctica.

➤ **Members:**

- Currently it has 54 parties. **India became a member of this treaty in 1983**.

➤ **Headquarters:**

- Buenos Aires, Argentina.

➤ **Major Provisions:**

- Promoting the **freedom of scientific research**.
- Countries can use the continent only for **peaceful purposes**.
- Prohibition of **military activities, nuclear tests** and the **disposal of radioactive waste**.
- Neutralising **territorial sovereignty**, this means a limit was placed on making any new claim or enlargement of an existing claim.
- It put a **freeze on any disputes between claimants** over their territories on the continent.

➤ **Dispute & Resolution:**

- There have been tensions from time to time. **Argentina and the UK, for instance, have overlapping claims to territory on the continent**.

Note:

- However, a key reason why the treaty has been able to survive has been its **ability to evolve through a number of additional conventions** and other legal protocols.
 - These have **dealt with the conservation of marine living resources, prohibitions on mining, and the adoption of comprehensive environmental protection mechanisms.**
 - As disputes have arisen over the years, many have been addressed through the expansion of the treaty framework with these agreements. This framework is now referred to as the **Antarctic Treaty System.**
- **Antarctic Treaty System:**
- **About:**
 - It is the whole **complex of arrangements** made for the purpose of **regulating relations among states in the Antarctic.**
 - Its purpose is to **ensure in the interests of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes** and shall not become the scene or object of international discord.
 - **It is a global achievement** and has been a hallmark of **international cooperation for more than 50 years.**
 - These agreements are **legally binding and purpose-built for the unique geographical, environmental and political characteristics of the Antarctic** and form a robust international governance framework for the region.
 - **Major International Agreements of the Treaty System:**
 - The 1959 **Antarctic Treaty.**
 - The 1972 **Convention for the Conservation of Antarctic Seals.**
 - The 1980 **Convention on the Conservation of Antarctic Marine Living Resources.**
 - The 1991 **Protocol on Environmental Protection to the Antarctic Treaty.**

Indian Antarctic Programme

- **About:**
- It is a scientific research and exploration program under the **National Centre for Antarctic and Ocean Research (NCPOR).** It started in **1981** when the **first Indian expedition to Antarctica was made.**

○ **NCPOR** is the **nodal agency for planning, promotion, coordination and execution** of the entire gamut of polar and **southern ocean scientific research** in the country as well as for the associated logistics activities.

- It was **established in 1998.**

➤ **Dakshin Gangotri:**

- Dakshin Gangotri was the **first Indian scientific research base station established in Antarctica**, as a part of the Indian Antarctic Program.
- It has weakened and become just a supply base.

➤ **Maitri:**

- **Maitri is India's second permanent research station in Antarctica.** It was built and finished in **1989.**
- Maitri is **situated on the rocky mountainous region** called Schirmacher Oasis. India also built a freshwater lake around Maitri known as Lake Priyadarshini.

➤ **Bharti:**

- **Bharti, India's latest research station operation since 2012.** It has been constructed to help researchers work in safety despite the harsh weather.
- It is India's first committed research facility and is **located about 3000 km east of Maitri.**

➤ **Other Research Facilities:**

- **Sagar Nidhi:**
 - In 2008, India commissioned the Sagar Nidhi, for research.
 - An ice-class vessel, it can cut through the thin ice of 40 cm depth and is **the first Indian vessel to navigate Antarctic waters.**

New Chinese Militia Units for High Altitudes

Why in News

Recently, Chinese Military has raised **new militia units** comprising local Tibetan youth for **high-altitude warfare.**

Key Points

- **About:**
- The new units named **Mimang Cheton** are presently undergoing training, and are to be **deployed mostly**

Note:



in upper Himalayan ranges, both in the eastern and western sectors of the India-China border.

- They are being trained for a variety of tasks, including using **high-tech equipment** such as **drones** on the one hand, as well as **mules and horses** to reach regions in the Himalayan range that can't be accessed by modern means.
 - They have been **raised near Eastern Ladakh**, the site of the **recent border tensions** along the **Line of Actual Control (LAC)**, as well as near its borders with **Sikkim and Bhutan**.
 - The **LAC** is the demarcation that separates Indian-controlled territory from Chinese-controlled territory.
 - Trained units have already been deployed along various locations in the Chumbi valley and at Rutog in Tibet, near the **Pangong Tso (lake)** in eastern Ladakh.
 - The deployment of the new Mimang Cheton units mirrors India's elite and decades-old **Special Frontier Force (SFF)**.
 - Just like the SFF which relies on the knowledge of Tibetans, the Mimang Cheton also **relies on the local knowledge of Tibetans as well as locals' resistance to High Altitude Sickness, a problem in alpine warfare**.

➤ **Objectives:**

 - **High Altitude WarFare:**
 - The new units will be used for **high-altitude warfare as well for surveillance**.
 - **Socio Cultural Aspect:**
 - A new feature of the units is that upon completion

of training, they are **being blessed by Buddhist monks in Tibet**, which is being interpreted as a sign of greater socio-cultural outreach from the PLA to ethnic Tibetans.

- This is possibly a new strategy of the PLA to get some mileage in the Tibet region.

➤ Recent Chinese Developments along the Border:

○ Railway Line:

- China has started the first bullet train line in Tibet, linking **Lhasa to Nyingchi** near the border with Arunachal Pradesh.
 - It is the second major rail link to Tibet after the **Qinghai-Tibet railway that opened in 2006**.

○ Highway:

- In 2021, China completed construction of a **strategically significant highway** enabling greater access to remote areas **along the disputed border** with Arunachal Pradesh in India.

○ New Villages:

- In January 2021, there were reports of Chinese construction of three villages in Arunachal Pradesh 5 kilometres from the Bum La pass.
 - In 2020, satellite images emerged showing a new village called Pangda built 2-3 km into what Bhutan sees as its land.
 - In 2017, the Tibet Autonomous Region (TAR) government launched a plan to build moderately well-off villages in border areas.
 - Under this plan 628 first line and second line villages — referring to those right on the border and others in remote areas slightly further within — would be developed along China's borders with India, Bhutan and Nepal.

➤ **Concerns for India:**

○ Strategic Location:

- Such development in view of the strategic location of Chumbi Valley creates a concern for India.
 - **Chumbi Valley** is a 100-km protrusion of Chinese territory located between Bhutan in the east and Sikkim in the west.
 - The **valley's location has long resulted in concerns** that it could be **used to launch operations** to snap strategic communications links in the Siliguri Corridor.
 - **Siliguri Corridor** is a narrow stretch of land located around the city of Siliguri in West

Note:

Bengal. It **connects northeastern states with the rest of the country**, and is also known as **chicken's neck**.

- **China's Strengthening Position:**

- These developments have come against the backdrop of the **border standoff** that began in May 2020 and a **rapid build-up of infrastructure on the Chinese side** along the LAC, including airports, helipads, missile facilities and air sites.

- **Steps Taken by India to Strengthen its Border:**

- India has its own **High Altitude Warfare School (HAWS)** in Gulmarg, Jammu and Kashmir.
- India will spend **10% funds of the Border Area Development Programme (BAPD)** only to improve the infrastructure along the China border.
- The **Border Roads Organisation (BRO)** constructed the **Daporijo bridge** over Subansiri river in Arunachal Pradesh.
 - It links roads leading upto the LAC between India and China.
- A **tunnel at Nechiphu in West Kameng district of Arunachal Pradesh** will shorten travel time for troops till the LAC through Tawang, which China claims to be its territory.

- A **tunnel** is being constructed under the **Se La pass in Arunachal Pradesh** which connects Tawang to the rest of Arunachal and Guwahati.
- The state government of Arunachal Pradesh has advocated **selection of 10 census towns along the India-China border** as pilot projects for infrastructure development in order to **stop people living along its international borders, specifically with China, from migrating to faraway urban centres in the State**.
- **Sisseri River Bridge**, located at lower Dibang Valley in Arunachal Pradesh, connects Dibang Valley and Siang.
- In 2019, the Indian Air Force inaugurated resurfaced runway at India's **easternmost Village-Vijaynagar (Changlang district)** in Arunachal Pradesh.
- In 2019, the Indian Army conducted **exercise 'HimVijay'** in Arunachal Pradesh and Assam with its newly created Integrated Battle Groups (IBG).
- **Bogibeel bridge**, which is **India's longest road - rail bridge** connecting Dibrugarh in Assam to Pasighat in Arunachal Pradesh was inaugurated in 2018.

Note:

Science and Technology

Highlights

- *Ebola Virus*
- *Antibodies against Nipah Virus in Bats*
- *Covid-19 Delta Plus Variant*
- *Gain-of-function Research*
- *Peter Pan Syndrome*
- *Deep Ocean Mission*
- *China's Shenzhou-12 Manned Mission*
- *Herbicide Tolerant (HT) Bt Cotton*
- *New Doppler Radars in Maharashtra: IMD*
- *LIDAR Based Survey of Forest Areas*

Ebola Virus

Why in News

Recently, the World Health Organisation (WHO) has declared that the Ebola outbreak, that started in February 2021 in Guinea, is over now.

- In its **first deadly wave in 2013-2016**, the Ebola outbreak killed 11,300 people, mostly in Guinea, Sierra Leone and Liberia.
- The WHO in its list of "**Ten threats to global health in 2019**" also **included Ebola**.

Key Points

- **About Ebola Virus Disease (EVD):**
 - EVD, formerly known as **Ebola haemorrhagic fever, is transmitted to people from wild animals and spreads in the human population through human to human transmission.**
 - Ebola virus was **first discovered in 1976 near the Ebola River** in what is now the **Democratic Republic of Congo**.
- **Transmission:** Fruit bats of the Pteropodidae family are natural Ebola virus hosts.
 - **Animal to Human Transmission:** Ebola is introduced into the human population through close contact with the blood, secretions, organs or other bodily fluids of infected animals such as fruit bats, chimpanzees, gorillas, monkeys, forest antelope or porcupines found ill or dead or in the rainforest.
 - **Human-to-Human Transmission:** Ebola spreads via direct contact (through broken skin or mucous membranes) with:

- Blood or body fluids of a person who is sick with or has died from Ebola.
- Objects that have been contaminated with such body fluids (like blood, feces, vomit).

➤ Symptoms:

- These can be sudden and include: Fever, Fatigue, Muscle pain, Headache, Sore throat, Vomiting, Diarrhoea, Symptoms of impaired kidney and liver function, in some cases, both internal and external bleeding.

➤ Diagnosis:

- It can be **difficult to clinically distinguish** Ebola from other infectious diseases such as **malaria, typhoid fever, and meningitis** but confirmation that symptoms are caused by Ebola virus infection are made using the following diagnostic methods:
 - **ELISA** (antibody-capture enzyme-linked immunosorbent assay).
 - **Reverse transcriptase polymerase chain reaction (RT-PCR)** assay, etc.

➤ Vaccines:

- The **Ervebo vaccine** has been shown to be effective in **protecting people from the species Zaire ebolavirus**.
- In May 2020, the European Medicines Agency recommended granting marketing authorization for a **2-component vaccine** called **Zabdeno-and-Mvabea** for individuals 1 year and older.

➤ Treatment:

- Two **monoclonal antibodies (Inmazeb and Ebanga)** have been approved for the treatment of Zaire ebolavirus infection in adults and children by the US.

Note:

Antibodies against Nipah Virus in Bats

Why in News

A recent survey has found the **presence of antibodies** against the **Nipah virus (NiV)** in some **bat species** from a cave in **Mahabaleshwar**, a popular hill station in **Maharashtra**.

- The survey was conducted by the **Indian Council of Medical Research (ICMR) - National Institute of Virology (NIV)**.

Key Points

- **About the Survey:**
 - The NIV team looked at **Rousettus leschenaultii** and **Pipistrellus pipistrellus bats** that are common in India.
 - **Pteropus medius bats**, which are large **fruit-eating bats**, are the **reservoir for NiV in India** as both **NiV RNA** and **antibodies** were detected in the samples of these bats collected during previous NiV outbreaks.
 - A **bat's immune system** is especially **adept at** withstanding **viral infection** because of its **ability to limit excessive inflammation** — which uniquely allows viruses to thrive without proving deadly to the mammal.
- **Nipah virus (NiV):**
 - **About:**
 - It is a **zoonotic virus** (it is transmitted from animals to humans).
 - The **organism which causes Nipah Virus encephalitis** is an **RNA or Ribonucleic acid virus of the family Paramyxoviridae, genus Henipavirus**, and is **closely related to Hendra virus**.
 - Hendra virus (HeV) infection is a **rare emerging zoonosis** that causes severe and often fatal disease in both **infected horses and humans**.
 - It first broke out in **Malaysia and Singapore in 1998 and 1999**.
 - It first appeared in **domestic pigs** and has been found among several species of domestic animals including dogs, cats, goats, horses and sheep.
 - **Transmission:**

- The disease **spreads through fruit bats or 'flying foxes,' of the genus Pteropus**, who are natural reservoir hosts of the Nipah and Hendra viruses.
- The virus is present in bat urine and potentially, bat faeces, saliva, and birthing fluids.

○ Symptoms:

- The human infection presents as an **encephalitic syndrome** marked by fever, headache, drowsiness, disorientation, mental confusion, coma, and potentially death.

○ Prevention:

- Currently, there are **no vaccines** for both humans and animals. Intensive supportive care is given to humans infected by Nipah virus.

Covid-19 Delta Plus Variant

Why in News

Recently, the **Union Ministry of Health and Family Welfare (MoHFW)**, has warned people against the new **Covid-19** strain '**Delta Plus**' (DP).

- There is fear that this new variant **may spark the third wave of Covid-19**.

Key Points

- **About:**
 - Delta plus (B.1.617.2.1/(AY.1)) is a new variant of the SARS-CoV-2 coronavirus formed due to a mutation in the Delta strain of the virus (B.1.617.2 variant). It is technically the **next generation of SARS-COV-2**.
 - This mutant of Delta **was first detected in Europe in March 2021**.
 - The Delta variant that was **first detected in India (in February 2021)** eventually became a **huge problem** for the whole world. However, the **Delta Plus variant**, at present, is **limited to smaller areas** in the country.
 - It is **resistant to monoclonal antibodies cocktail**. Since it's a new variant, its **severity is still unknown**.
 - People **reported symptoms** like headaches, sore throats, runny noses, and fever.
 - The **World Health Organisation (WHO)** is tracking **this variant** as part of the Delta variant, it is doing so for other **Variants of Concern** with additional mutations.

Note:

- **Transmissibility:**
 - It has **acquired the spike protein mutation called K417N** which is also found in the Beta variant first identified in South Africa.
 - The spike protein is used by SARS-CoV-2, the virus which causes Covid-19, to enter the host cells.
 - Some scientists fear that the mutation combined with other existing features of the Delta variant could make it more transmissible.
- **Major Concerns:**
 - Multiple studies are ongoing in India and globally **to test the effectiveness of vaccines against the Delta plus Covid-19 mutation.**
 - India's **health ministry warned** that regions where it has been found "**may need to enhance their public health response by focusing on surveillance, enhanced testing, quick contact-tracing, and priority vaccination.**"

Virus Variant

- Variants of a virus have one or more **mutations** that **differentiate it from the other variants that are in circulation.** While most mutations are deleterious for the virus, some make it easier for the virus to survive.
- The **SARS-CoV-2** (Corona) virus is evolving fast because of the scale at which it has infected people around the world. High levels of circulation mean it is easier for the virus to change as it is able to replicate faster.
- The original pandemic virus (founder variant) was Wu.Hu.1 (Wuhan virus). In a few months, variant **D614G** emerged and became globally dominant.
- **Indian SARS-CoV-2 Consortium on Genomics (INSACOG)** is a multi-laboratory, multi-agency, pan-India network **to monitor genomic variations in the SARS-CoV-2.**
- **Global Initiative on Sharing All Influenza Data (GISAID)** is a public platform started by the **World Health Organization (WHO)** in 2008 for countries to share genome sequences.
 - The GISAID Initiative **promotes the international sharing of all influenza virus sequences**, related clinical and epidemiological data associated with human viruses, and geographical as well as species-specific data associated with avian and other animal viruses.

Note:

- There are worries **Delta Plus would inflict another wave of infections on India** after it emerged from the world's worst surge in cases only recently.
- Just over 4% of Indians are fully vaccinated and about 18% have received one dose so far.

Gain-of-function Research

Why in News

The **Wuhan Institute of Virology** was said to have conducted **gain-of-function research** on coronaviruses which may possibly have caused the lab-leak origin of the **SARS-CoV-2 (Covid-19 pandemic).**

Key Points

➤ Gain-of-function Research:

- **About:**
 - In virology, gain-of-function research involves **deliberately altering an organism in the lab, altering a gene, or introducing a mutation** in a pathogen to study its transmissibility, virulence and immunogenicity.
 - This is done by **genetically engineering the virus** and by allowing them to grow in different growth mediums, a technique called **serial passage.**
 - **Serial Passage** refers to the process of growing bacteria or a virus in iterations. For instance, a virus may be grown in one environment, and then a portion of that virus population can be removed, and put into a new environment.
- **Significance:**
 - This would allow researchers to study **potential therapies** and **ways to control the disease** better in future.
 - Gain-of-function studies, which enhance viral yield and immunogenicity (relating to immune response), are **required for vaccine development.**
- **Issues:**
 - Gain-of-function research involves manipulations that make certain pathogenic **microbes more deadly or more transmissible.**
 - There is also '**loss-of-function**' research, which involves **inactivating mutations**, resulting in a **significant loss of original function**, or no function to the pathogen.

- When mutations occur, they alter the structure of the virus, resulting in **altered functions** which might weaken the virus or enhance its function.
 - Gain-of-function research reportedly carry inherent **biosafety and biosecurity risks** and are thus referred to as '**dual-use research of concern**' (**DURC**).
 - This indicates that while the research may result in benefits for humanity, there is also the potential to cause harm — accidental or deliberate escape of these altered pathogens from labs may even cause pandemics (Like it is said to be in case of **Covid-19**).
- **Situation in India:**
- All activities related to genetically engineered organisms or cells and hazardous microorganisms and products are regulated as per the "**Manufacture, Use, Import, Export and Storage of Hazardous Microorganisms/Genetically Engineered Organisms or Cells Rules, 1989**".
 - In 2020, the Department of Biotechnology issued guidelines for the establishment of containment facilities, called '**Biosafety labs**'.
 - The notification provides operational guidance on the **containment of biohazards and levels of biosafety** that all institutions involved in research, development and handling of these microorganisms must comply with.
- **Debate over Gain-of-function:**
- **Proponents:**
 - It makes science and governments **battle-ready for future pandemics**.
 - Proponents of gain-of-function research believe that "nature is the ultimate bioterrorist and we need to do all we can to stay one step ahead".
 - **Critic:**
 - After the Covid-19 pandemic, more concerns are raised on carrying out such kinds of research.
 - This may cause the extinction of the living things or may change their genetic makeup forever.

Peter Pan Syndrome

Why in News

Recently, a special court in Mumbai granted bail to an accused of sexually assaulting a minor as he was suffering from **Peter Pan Syndrome (PPS)**.

- A **syndrome** is a **combination of symptoms and signs** that together **represent a disease process**.

Key Points

- **About:**
- PPS is a **psychological condition** that is used to describe an adult who is **socially immature**.
 - People who develop similar behaviours of living life carefree, finding responsibilities challenging in adulthood, and basically **never growing up** suffer from **PPS**.
 - The term was coined by **psychologist Dan Kiley** to explain the behaviour of such men who 'refuse to grow' and behave their age in **1983**.
 - Dan Kiley got the idea of PPS after noticing Peter Pan, a **fictional character created by Scottish novelist** James Matthew Barrie.
 - Peter Pan was a **care-free young boy, who never grew up**.
 - While the **WHO (World Health Organization)** does not recognise Peter Pan Syndrome as a health disorder, **many experts believe it is a mental health condition** that can affect one's quality of life.
- **Symptoms:**
- PPS hasn't officially been diagnosed as a health disorder, **there are no clearly-defined symptoms or characteristics** or even reasons which cause it.
 - However, it could affect **one's daily routine**, relationships, work ethic, and result in **attitudinal changes**.
- **People Affected:**
- It can affect anyone, irrespective of gender, race or culture. However, it appears to be **more common among men**.
 - It affects people who do not want or feel unable to grow up, people with the body of an adult but the mind of a child.
 - They don't know how to or don't want to stop being children and start being mothers or fathers.
 - It is not currently considered a **psychopathology**. However, a large number of adults are presenting emotionally immature behaviors in Western society.
 - **Psychopathology** is a term which refers to either the **study of mental illness or mental distress** or the manifestation of behaviours and experiences which may be indicative of mental illness or psychological impairment.

Note:

Wendy Syndrome

- The Psychologist who defined PPS also used the term **Wendy Syndrome (WS)** to describe **women who act like mothers with their partners or people close to them.**
- People suffering from WS are often seen **making decisions, tidying up messes, and offering one-sided emotional support.**

Deep Ocean Mission**Why in News**

Recently, the **Cabinet Committee on Economic Affairs** has approved the proposal of the Ministry of Earth Sciences (MoES) on the **Deep Ocean Mission (DOM)**.

- The **blueprint of the DOM** to explore the deep recesses of the ocean was unveiled in 2018. Earlier, MoES had also rolled out the **draft Blue Economy Policy**.

DEEP OCEAN MISSION

- Deep Sea Mining through 'Underwater Vehicles' and 'Underwater Robotics'
- Asserting exclusive rights to explore polymetallic nodules from seabed **over 75,000 sq km of areas in international water**

➤ Estimated polymetallic nodules resource potential: **380 million tonnes (MT)**

- Development of ocean climate change advisory services

- Technology for sustainable utilisation of marine bio-resources

THESE POLYMETALLIC NODULES CONTAIN

Manganese **92.6 MT**

Nickel **4.7**

Copper **4.3**

Cobalt **1**

(*figures are rounded off)

- Deep ocean survey and exploration
- Energy from the ocean and offshore-based desalination
- Krill fishery from southern ocean

- It will be a **mission mode project to support the Blue Economy Initiatives** of the Government of India.

- **Blue Economy** is the **sustainable use of ocean resources** for economic growth, improved livelihoods and jobs, and ocean ecosystem health.

- The **technology and expertise** needed in such missions is now available with only five countries - US, Russia, France, Japan and China.

- India will now be the sixth country to have it.

Major Components:

- **Development of Technologies for Deep Sea Mining, and Manned Submersible:**

- A **manned submersible** will be developed to **carry three people** to a depth of 6,000 metres in the ocean with a **suite of scientific sensors and tools**.

- An **Integrated Mining System** will be also developed for mining **polymetallic nodules** at those depths in the central Indian Ocean.

- **Polymetallic nodules** are rocks scattered on the seabed containing iron, manganese, nickel and cobalt.

- The exploration studies of minerals **will pave the way for commercial exploitation in the near future**, as and when commercial exploitation code is evolved by the **International Seabed Authority**, an **United Nations (UN)** organisation.

- **Development of Ocean Climate Change Advisory Services:**

- It entails developing a suite of observations and models **to understand and provide future projections of important climate variables** on seasonal to decadal time scales.

- **Technological Innovations for Exploration and Conservation of Deep-sea Biodiversity:**

- **Bio-prospecting of deep sea flora and fauna** including microbes and studies on sustainable utilization of deep sea bio-resources will be the main focus.

- **Deep Ocean Survey and Exploration:**

- It will explore and identify **potential sites of multi-metal Hydrothermal Sulphides mineralization** along the Indian Ocean mid-oceanic ridges.

- **Energy and Freshwater from the Ocean:**

Note:

- Studies and detailed engineering design for off-shore **Ocean Thermal Energy Conversion (OTEC)** powered **desalination plants** are envisaged in this proof of concept proposal.
 - OTEC is a technology which **uses ocean temperature differences** from the surface to depths lower than 1,000 meters, **to extract energy**.
- **Advanced Marine Station for Ocean Biology:**
 - It is aimed at the development of human capacity and enterprise in ocean biology and engineering.
 - It will translate research into **industrial application and product development** through on-site business incubator facilities.
- **Significance:**
 - **Oceans**, which cover **70% of the globe**, remain a key part of our life. About **95% of the Deep Ocean remains unexplored**.
 - **Three sides of India are surrounded by the oceans** and around **30% of the country's population living in coastal areas**, the ocean is a major economic factor supporting fisheries and aquaculture, tourism, livelihoods and blue trade.
 - India has a unique maritime position. Its **7517 km long coastline is home to nine coastal states and 1382 islands**.
 - The Government of India's **Vision of New India by 2030** announced in February 2019 highlighted the Blue Economy as one of the ten core dimensions of growth.
 - Oceans are also a **storehouse of food, energy, minerals, medicines, modulator of weather and climate and underpin life on Earth**.
 - Considering the importance of the oceans on sustainability, the UN has declared the decade, **2021-2030 as the Decade of Ocean Science for Sustainable Development**.
- **Other Blue Economy Initiatives:**
 - **India-Norway Task Force on Blue Economy for Sustainable Development:**
 - It was inaugurated jointly by both the countries in 2020 to develop and follow up joint initiatives between the two countries.
 - **Sagarmala Project:**
 - The **Sagarmala project** is the strategic initiative for port-led development through the extensive

- use of IT enabled services for modernization of ports.
- **O-SMART:**
 - India has an umbrella scheme by the name of O-SMART which aims at regulated use of oceans, marine resources for sustainable development.
- **Integrated Coastal Zone Management:**
 - It focuses on conservation of coastal and marine resources, and improving livelihood opportunities for coastal communities etc.
- **National Fisheries Policy:**
 - India has a National Fisheries policy for promoting 'Blue Growth Initiative' which focuses on sustainable utilization of fisheries wealth from marine and other aquatic resources.

China's Shenzhou-12 Manned Mission

Why in News

Recently, a Chinese spaceship "**Shenzhou-12**" carrying a **three-person crew** docked with China's new space station module **Tianhe-1**.

- This has come after the launch of the **Tianzhou-2 cargo spacecraft**, which carried vital supplies for the space station.

Key Points

- **About Mission:**
 - The **Shenzhou-12 craft** connected with the **Tianhe space station module** about six hours after takeoff from the **Jiuquan launch center in Gobi Desert**.
 - The **three-man crew** will spend **three months on the Tianhe module**, which is orbiting at some **340km to 380km** above the earth.
 - China is **the third country** after the former **Soviet Union** and the **United States** to carry out a **manned mission** on its own.
 - This is the **first of two manned space missions** planned for this year, part of an intense schedule of launches aimed at completing the **Chinese space station in 2022**.
 - At least **five more missions** are planned for the year, with the **Shenzhou-13** manned mission, also carrying three astronauts, set for later this year.

Note:

- The three astronauts are the first to take up residency in the main living module and **will carry out** experiments, test equipment, conduct maintenance and prepare the station for receiving two laboratory modules next year.
- It was **China's seventh crewed mission to space** but marked a **number of firsts for the country** – the first manned one during the construction of China's space station, the first in nearly five years after the country's **last manned mission in 2016** and China's **longest crewed space mission** to date.

➤ **Purpose of the Mission:**

- It will help test technologies related to **long-term astronaut-stays** and health care, the recycling and life support system, the supply of space materials, extravehicular activities and operations, and in-orbit maintenance.

➤ **China's Space Station:**

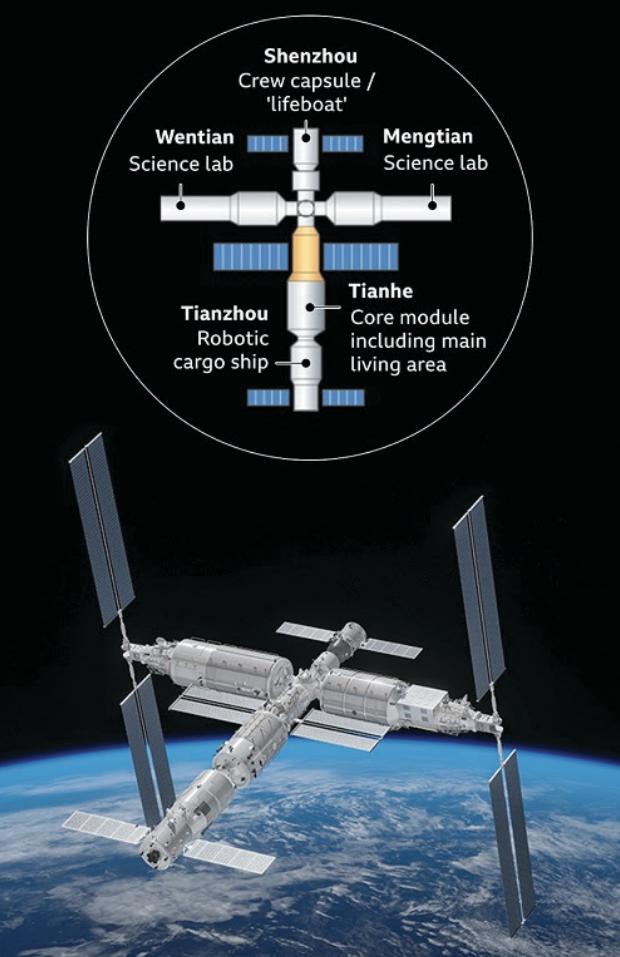
- China is **not a participant in the International Space Station (ISS)**, largely as a result of US objections to the Chinese program's secrecy and close military ties.
 - The ISS is a joint project between **five participating space agencies: NASA (United States), Roscosmos (Russia), JAXA (Japan), ESA (Europe), and CSA (Canada)**.
- However, China has been stepping up cooperation with Russia and a host of other countries, and its station may continue operating beyond the ISS, which is reaching the end of its functional life.

➤ **Other Recent Space Missions of China:**

- **China's Mars Probe:**
 - In May 2021 China's **Tianwen spacecraft** landed on Mars carrying a **rover, the Zhurong**.
 - It will conduct scientific investigations into the planet's soil, geological structure, environment, atmosphere and water.
- **China's Moon Probe:**
 - In November 2020, **Chang'e-5 mission** landed on the moon's less explored far side and brought back the first lunar samples by any country's space program since the 1970s.
- **China and Russia** have also unveiled an ambitious plan for a joint **International Lunar Research Station** running through 2036. That could compete and possibly conflict with the **Multinational Artemis Accords (MAA)**.

China's space station

How it will look when fully assembled



- MAA is a blueprint for space cooperation that supports NASA's plans to return humans to the moon by 2024 and to launch an historic human mission to Mars.

Herbicide Tolerant (HT) Bt Cotton

Why in News

The illegal cultivation of **Herbicide Tolerant (HT) Bt cotton** has seen a huge jump as the sale of illegal seed packets has more than doubled from 30 lakh in 2020 to 75 lakh in 2021.

Key Points

- **Bt Cotton:**

Note:

- Bt cotton is the **only transgenic crop** that has been **approved by the Centre for commercial cultivation** in India.
- It has been **genetically modified (GM)** to produce an insecticide to combat the **cotton bollworm**, a common pest.
- **Herbicide Tolerant Bt (HTBt) Cotton:**
 - The HTBt cotton variant adds another layer of modification, making the plant **resistant to the herbicide glyphosate**, but has not been approved by regulators.
 - **Fears** include glyphosate having a carcinogenic effect, as well as the unchecked spread of herbicide resistance to nearby plants through pollination, **creating a variety of superweeds**.
- **Need for Using HTBt Cotton:**
 - **Saves Cost:** There is a shortage of the labour needed to do at least **two rounds of weeding** for Bt cotton.
 - **With HTBt, simply one round of glyphosate spraying is needed** with no weeding. It saves Rs. 7,000 to Rs. 8,000 per acre for farmers.
 - **Support of Scientists:** Scientists are also in favour of this crop, and even the **World Health Organization (WHO)** has said **it does not cause cancer**.
 - But the government has still withheld approval for HTBt.
- **Issues Emanating from Illegal Sale of HTBt Cotton:**
 - As it is not approved by the **Genetic Engineering Appraisal Committee (GEAC)**, illegal sale takes place in Indian markets.
 - **Farmers are at risk** with such illegal cotton seed sale as there is **no accountability of the quality of seed**, it **pollutes the environment**, the industry is **losing legitimate seed sale** and the **government also loses revenue** in terms of tax collection.
 - It will not only **decimate small cotton seed companies** but also **threatens the entire legal cotton seed market** in India.

New Doppler Radars in Maharashtra: IMD

Why in News

Recently, the **India Meteorological Department (IMD)** announced that it will install **seven new doppler radars in Maharashtra, including Mumbai** in 2021.

Note:

- In January 2021, the Union Minister for Earth Sciences commissioned **two of the ten indigenously built X-Band Doppler Weather Radars (DWR)** to closely monitor the weather changes over the Himalayas.

India Meteorological Department

- It is an agency of the **Ministry of Earth Sciences, established in 1875**.
- It is the principal agency **responsible for meteorological observations, weather forecasting and seismology**.

Key Points

- **About:**
 - Doppler radars of varying frequencies — **S-band, C-band and X-band** — are commonly used by the **IMD to detect and track the movement of weather systems, cloud bands and gauge rainfall** over its coverage area of about **500 km**.
 - Four **X-band** and one **C-band radar will be deployed over Mumbai**. In addition, **Ratnagiri will get a new C-band and Vengurla will get an X-band radar**, each of which will operate for multiple purposes.
- **Existing Radars:**
 - **East Coast:** Kolkata, Paradip, Gopalpur, Visakhapatnam, Machilipatanam, Sriharikota, Karaikal and Chennai.
 - **West Coast:** Thiruvananthapuram, Kochi, Goa and Mumbai.
 - **Other Radars:** Srinagar, Patiala, Kufri, Delhi, Mughalsarai, Jaipur, Bhuj, Lucknow, Patna, Mohanbari, Agartala, Sohra, Bhopal, Hyderabad and Nagpur.
- **Significance:**
 - They will guide meteorologists, particularly in times of extreme weather events like cyclones and associated heavy rainfall.
 - As the radar **observations will be updated every 10 minutes**, forecasters will be able to follow the development of weather systems as well as their varying intensities, and accordingly predict weather events and their impact.

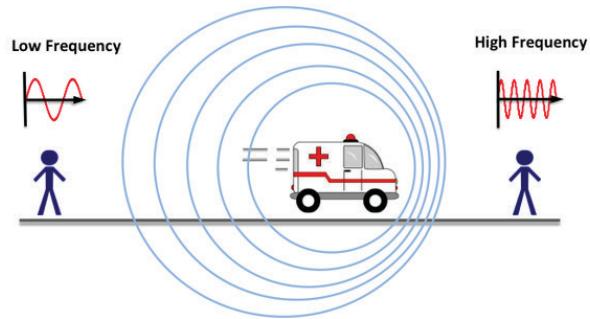
Radars

- **Radar (Radio Detection and Ranging):**
 - It is a device which uses **electromagnetic waves in the microwaves region to detect location (range & direction), altitude, intensity and movement** of moving and non-moving objects.

➤ **Doppler Radar:**

- It is a specialized radar that uses the **Doppler effect** to produce velocity data about objects at a distance.
- **Doppler effect:** When the source and the signal are in relative motion to each other there is a **change in the frequency observed by the observer**. If they are moving closer, frequency increases and vice versa.

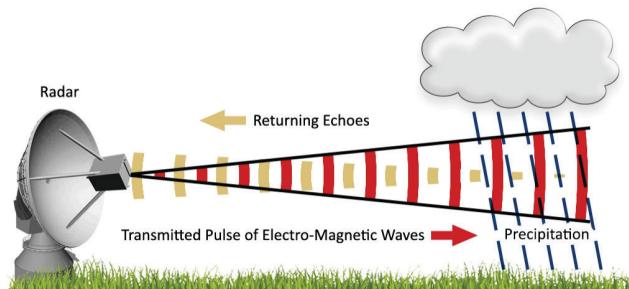
Doppler Effect



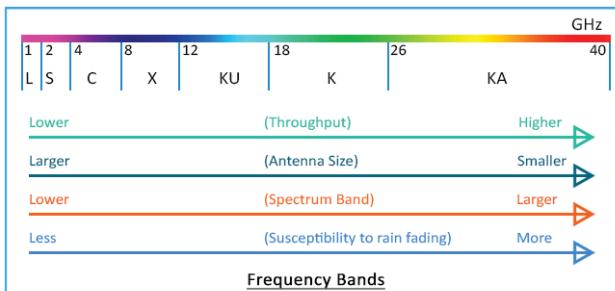
- It does this by **bouncing a microwave signal off a desired target** and analyzing how the object's motion has altered the frequency of the returned signal.
- This **variation gives direct and highly accurate measurements** of the radial component of a target's velocity relative to the radar.

➤ **Doppler Weather Radar (DWR):**

- Based on Doppler principle the radar is designed to **improve precision in long-range weather forecasting and surveillance** using a parabolic dish antenna and a foam sandwich spherical radome.
- DWR has the **equipment to measure rainfall intensity, wind shear and velocity and locate a storm centre** and the direction of a tornado or gust front.



- **Types Of Doppler Radars :** Doppler radar can be divided into several different categories according to the wavelength which are L, S, C, X, K.



○ **X-band radar:**

- It operates on a **wavelength of 2.5-4 cm** and a **frequency of 8-12 GHz**. Because of the smaller wavelength, the X band radar is **more sensitive** and can detect **smaller particles**.
- It is used to detect **thunderstorms** and lightning.

○ **C-band radars:**

- It operates on a **wavelength of 4-8 cm** and a **frequency of 4-8 GHz**. Because of the wavelength and frequency, the dish size does not need to be very large.
- The signal is more easily attenuated, so this type of radar is **best used for short range weather observation**.
 - It guides at the **time of cyclone tracking**.

○ **S band radars:**

- It operates 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**.

LiDAR Based Survey of Forest Areas

Why in News

Recently, the Union Environment Minister in a virtual event released the **Detailed Project Reports (DPRs)** of LiDAR (Light Detection and Ranging) based survey of forest areas in ten states.

- The 10 mapped states are **Assam, Bihar, Chhattisgarh, Goa, Jharkhand, Madhya Pradesh, Maharashtra, Manipur, Nagaland, and Tripura**.

Note:

Key Points

➤ **Survey of Forest Areas Project:**

- The project was awarded to WAPCOS in July 2020 at a cost of over Rs. 18 crore for implementation in 26 states over 261897 hectares.
 - WAPCOS is a **Mini Ratna Public Sector Undertaking (PSU)** under the Jal Shakti Ministry.
- It is a first of its kind and a unique experiment using LiDAR technology which will help augment water and fodder in jungle areas thereby reducing human-animal conflict.
 - LiDAR technology has been found to have **90% accuracy**.
- States will be given **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)** funds to use in this project.
 - CAMPA is meant to promote afforestation and regeneration activities as a way of compensating for forest land diverted to non-forest uses.
 - CAMPA was established to manage the **Compensatory Afforestation Fund (CAF)** and it acts as the custodian of the CAMPA fund.
- One major ridge inside a forest block is identified in these states with an average area of 10,000 ha selected in each State; the area should have average rainfall of the state, and requires assisted natural regeneration.

➤ **Significance:**

- Besides reducing human-animal conflict, it will help us in identifying areas which need groundwater recharge which will in turn help local communities.
- It will help in catching rainwater and prevent stream run-off, which will help in recharging groundwater.

- It will help in recommending different types of **Soil & Water conservation structures** such as Anicut, Gabion, Gully Plug, Mini percolation tank, Percolation Tank, Field bund, Sunken pond, Farm pond etc.

LiDAR

➤ **About:**

- It is a **remote sensing method** that uses light in the form of a pulsed laser to measure ranges & variable distances.
- These light pulses—combined with other data recorded by the airborne system—generate precise, three-dimensional information about the shape of the Earth and its surface characteristics.
- A LiDAR instrument principally consists of a **laser, a scanner, and a specialized Global Positioning System (GPS) receiver**.
 - Airplanes and helicopters are the most commonly used platforms for acquiring LiDAR data over broad areas.
- LiDAR follows a simple principle — **throw laser light at an object on the earth surface and calculate the time it takes to return to the LiDAR source**.
 - Given the speed at which the light travels (approximately 186,000 miles per second), the process of measuring the exact distance through LiDAR appears to be incredibly fast.

➤ **Applications:**

- Lidar is commonly used to make **high-resolution maps**, with applications in surveying, geodesy, geomatics, archaeology, geography, geology, geomorphology, seismology, forestry, atmospheric physics, laser guidance, airborne laser swath mapping (ALSM), and laser altimetry.



Note:

Environment and Ecology

Highlights

- Great Barrier Reef
- Renewable Power Generation Costs in 2020: IRENA
- Indian Initiatives Shaping Energy Transition
- Bharitalasuchus Tapani: A Carnivorous Reptile
- Barnadi Wildlife Sanctuary: Assam
- 4th Tiger Reserve in Rajasthan
- Children and Digital Dumpsites: WHO Report
- African Swine Fever
- Black Softshell Turtle
- Pygmy Hog
- Ambergris
- Link between Air Quality and Covid-19
- Pyrostria laljii: New Species from Andaman
- Energy Comacts
- Namami Gange Programme

Great Barrier Reef

Why in News

Recently, the UNESCO World Heritage Committee has recommended that the Australia's Great Barrier Reef should be added to a list of "in danger" World Heritage Sites.

- Placement on the "in-danger list" is not considered a sanction.



Note:

- Some nations have their sites added to gain international attention and help to save them.

Key Points

- **Reason behind this Move:**
 - It was recommended to add to the list because of the **impact of climate change**.
 - Despite **Reef 2050**, the **coral reef ecosystem** has suffered three major **bleaching** events since 2015 due to **severe marine heatwaves**.
 - The **Reef 2050 Long-Term Sustainability Plan** is the **Australian and Queensland Government's** overarching framework for protecting and managing the Great Barrier Reef by 2050.
 - When **corals** face stress by changes in conditions such as temperature, light, or nutrients, they expel the symbiotic algae *zooxanthellae* living in their tissues, causing them to turn completely white. This **phenomenon** is called **coral bleaching**.
 - **Marine heatwave** is an event of anomalous warm sea surface temperatures (SST) from several days to years.
- **Repercussions:**
 - It prompted environmental groups to take aim at the Australian government's reluctance to take stronger climate action.
 - Australia, which is one of the **world's largest carbon emitters per capita**, has remained reluctant to commit to stronger climate action and has cited **jobs as a major reason to back the country's fossil fuel industries**.

- It has not updated its climate goals since 2015.
- **About Great Barrier Reef:**
- It is the **world's most extensive** and spectacular **coral reef ecosystem** composed of over 2,900 individual reefs and 900 islands.
 - The reef is located in the **Coral Sea (North-East Coast)**, off the coast of Queensland, Australia.
 - It can be seen from outer space and is the world's biggest single structure made by living organisms.
 - This reef structure is composed of and built by billions of tiny organisms, known as **coral polyps**.
 - They are made up of **genetically identical organisms** called **polyps**, which are tiny, soft-bodied organisms. At their base is a hard, protective limestone skeleton called a calicle, which forms the structure of coral reefs.
 - These polyps have **microscopic algae called zooxanthellae** living within their tissues. The corals and algae have a mutualistic (symbiotic) relationship.
 - It was selected as a **World Heritage Site** in **1981**.
- **Initiatives to Protect Corals:**
- A number of global initiatives are being taken to address the issues, like:
 - **International Coral Reef Initiative**
 - Global Coral Reef Monitoring Network (GCRMN)
 - Global Coral Reef Alliance (GCRA)
 - **The Global Coral Reef R&D Accelerator Platform**
 - Similarly, the **Ministry of Environment and Forests and Climate Change (MoEF&CC)**, India has included the studies on coral reefs under the **Coastal Zone Studies (CZS)**.
 - In India, the **Zoological Survey of India (ZSI)**, with help from Gujarat's forest department, is attempting a process to restore coral reefs using **"biorock" or mineral accretion technology**.
 - **National Coastal Mission Programme**, to protect and sustain coral reefs in the country.

Coral Reef

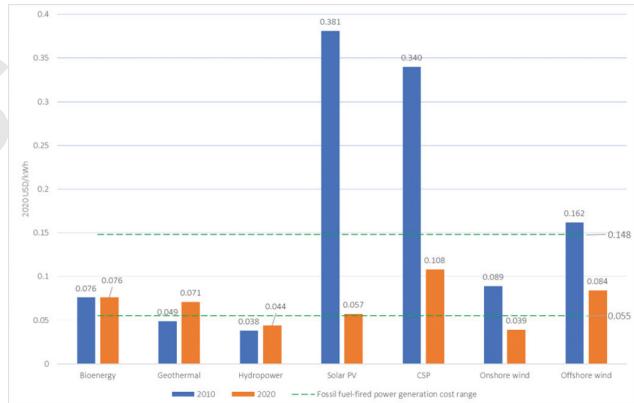
- **Largest Coral Reef Area:**
- **Indonesia** has the **largest coral reef area in the world**.
 - **India, Maldives, Sri Lanka and Chagos** have the **maximum coral reefs in South Asia**.

- The **Great Barrier Reef** of the **Queensland coast of Australia** is the largest aggregation of coral reefs.
- **Coral Reef Areas in India:**
- India has four coral reef areas: **Gulf of Mannar, Andaman and Nicobar Islands, Lakshadweep islands** and the **Gulf of Kutch**.
- **Threats:**
- Due to **anthropogenic activities** such as coastal development, destructive fishing methods and pollution from domestic and industrial sewage.
 - Due to **increased sedimentation, over-exploitation and recurring cyclones**.
 - **Coral diseases** such as **black band and white band** due to infectious microorganisms introduced by the human population that live on the coastal regions.

Renewable Power Generation Costs in 2020: IRENA

Why in News

Recently, the **International Renewable Energy Agency (IRENA)** released the '**Renewable Power Generation Costs in 2020**' report.



Levelized cost of electricity trends by technology, 2010 and 2020

Key Points

➤ **Replacing Coal with Renewables:**

- **810 gigawatts (GW)** capacity of the world's existing coal-fired plants i.e. 38% of the total global energy capacity now **have higher operating costs than new utility-scale photovoltaics and onshore wind energy**.

Note:

- The cost range for generation of fossil fuel-fired power in **G20 countries** is estimated to be between **USD 0.055 per kilowatt-hour (kWh)** and **USD 0.148/kWh**.
- **Replacing this expensive coal power with renewables** will save operators **USD 32 billion a year** and **reduce annual carbon dioxide emissions by around three billion tonnes**.
- Renewable capacities added in 2019 would have **saved** emerging and developing nations **USD 6 billion per annum** compared to the same capabilities from conventional sources.
- **Growth of Renewables in 2020:**
 - The year **2020 was a record year for renewables deployment** despite the **Covid-19- pandemic**, with **261 GW** installed. The addition was almost **50% higher than that made in 2019** and represented **82% of the global new power capacity**.
 - Around 162 GW or 62% of total renewable power capacity added last year had **lower costs than the cheapest new fossil fuel option**.
- **Supplies from Sources Added in 2020:**
 - Geothermal > Photovoltaics (PV)> Wind power> Hydropower > Bioenergy> Concentrating solar power.
- **Reasons for Growth:**
 - Between **2000 and 2020**, renewables capacity grew more than three times, increasing by **754 GW** to **2,799 GW**.
 - The growth was occasioned by **advancements in technologies, consistent fall in component costs, cost-competitive supply distribution channels, learning by using and commercial-scale availability**.
- **Reducing Cost of Renewables:**
 - In about **10 years (2010-2020)**, the cost of power produced from commercial solar PVs fell by **85%, CSP 68%, onshore wind 68% and offshore wind 48%**.
 - The outlook till **2022** sees global renewable power costs falling further.
- **Indian Initiatives for Renewable Energy:**
 - Hydrogen Energy Mission.
 - Jawaharlal Nehru National Solar Mission (JNNSM).
 - International Solar Alliance.
 - PM- KUSUM.
 - National Wind-Solar Hybrid Policy.
 - Rooftop Solar Scheme.

International Renewable Energy Agency

- **About:**
 - It is an **intergovernmental organisation**, it was officially founded in Bonn, Germany, in January **2009**.
 - Currently it has 164 members, **India is the 77th Founding Member** of IRENA.
 - It has its **headquarters in Abu Dhabi, United Arab Emirates**.
- **Major Functions:**
 - It **supports countries in their transition to a sustainable energy future**, and serves as the **principal platform for international cooperation**, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy.
 - It **promotes the widespread adoption and sustainable use of all forms of renewable energy**, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, energy security and low-carbon economic growth and prosperity.

Indian Initiatives Shaping Energy Transition

Why in News

Recently, the Minister of State for New & Renewable Energy launched 'The India Story' booklet, a compilation of Indian initiatives that are shaping India's energy transition.

- The booklet was launched at the event on **Accelerating Citizen Centric Energy Transition** organized by the **Ministry of New and Renewable Energy (MNRE)**.
 - It was organized in collaboration with the **Permanent Mission of India (PMI) to the United Nations** and the **Council on Energy, Environment and Water (CEEW)**.
- The Minister also **launched a website** which will act as a **repository of energy transition related knowledge resources from around the world**.

Key Points

- **Growth of Renewable Sector:**

Note:

- In the last 6 years, India's installed Renewable Energy (RE) capacity has increased by over two and a half times and stands at more than 141 Giga Watts (including large Hydro).
 - It is about 37% of the country's total capacity.
 - The installed solar energy capacity has increased by over 15 times, and stands at 41.09 GW.
 - India's RE capacity is the 4th largest in the world. Its annual RE addition has been exceeding that of coal based thermal power since 2017.
- Ease of Investment in Renewables:
- During the last 7 years, over USD 70 billion investment has been made in RE in India.
 - India has a very liberal foreign investment policy for renewables allowing 100% Foreign Direct Investment (FDI) through the automatic route in the sector.
 - Ease of doing business is India's utmost priority.
 - Established dedicated Project Development Cells (PDC) and FDI cells in all Ministries for handholding and facilitating domestic and foreign investors.
 - PDCs have been established for the development of investible projects in coordination between the Central Government and State Governments and thereby grow the pipeline of investible projects in India and in turn increase FDI inflows.
 - Renewable Energy Investment Promotion and Facilitation Board (REIPFB) Portal:
 - It has been developed to provide one-stop assistance and facilitation to the Industry and Investors for development of projects and bringing new investment to the RE sector in India.
- Industry's Commitment:
- Several members from the Industry have voluntarily declared RE goals and committed to the Carbon Disclosure Project (CDP), Renewable 100% (RE100) and Science based targets (SBTs).
 - CDP is a global disclosure system that enables companies, cities, states and regions to measure and manage their environmental impacts.
 - SBTs are greenhouse gas reduction goals set by businesses.
- Green Tariff:
- Rules are being framed for a 'green tariff' policy that will help electricity Distribution Companies (Discoms) supply electricity generated from clean

energy projects at a cheaper rate as compared to power from conventional fuel sources.

- Government is also promoting Green Hydrogen with obligations for Fertilizers and Refining industries (Green Hydrogen Purchase obligations).

➤ Initiatives to Increase Investment in Renewables:

- Viability Gap Funding options for Offshore Wind Energy.
- Green Term Ahead Market and Green Day Ahead Market.
- Rules for facilitating RE through Open Access.
- RE procurement through exchanges will also be notified to promote non-conventional resources of energy.

Initiatives Shaping India's Energy Transition

➤ Electrification

- Pradhan Mantri Sahaj Bijli Har Ghar Yojana (SAUBHAGYA): Empowering rural and urban households through access to reliable and affordable electricity
- Green Energy Corridor (GEC): Synchronising grid-connected renewable energy with India's national transmission network
- National Smart Grid Mission (NSGM) and Smart Meter National Programme (SMNP): Modernising India's power sector into a secure, adaptive, sustainable, and digitally enabled ecosystem

➤ Renewable Energy

- National Solar Mission (NSM): The 100 GW solar ambition at the heart of the world's largest renewable energy expansion programme
- The Wind Energy Revolution: Leveraging India's robust wind energy sector to boost clean energy manufacturing and the rural economy
- National Biofuels Policy and SATAT: Building value chains to reduce fuel imports, increase clean energy, manage waste, and create jobs
- Small Hydro Power (SHP): Harnessing the power of water to integrate remote communities into the economic mainstream.
- National Hydrogen Energy Mission (NHEM): Exploring the commercial viability of a versatile clean fuel,
- Production-Linked Incentive (PLI) Scheme: Integrating India into the global clean energy value chains

Note:

- **National Biofuels Policy and SAYAY:** Building value chains to reduce fuel imports, increase clean energy, manage waste and create jobs
- **Energy Efficiency**
 - **Unnat Jyoti by Affordable LEDs for All (UJALA):** Bringing affordable, energy-efficient lighting and appliances to citizens
- **Clean Cooking**
 - **Pradhan Mantri Ujjwala Yojana (PMUY):** Delivering LPG gas to households for Swachh Indhan, Behtar Jeevan – Clean Fuel, Better Life
- **Industrial Decarbonisation**
 - **Perform, Achieve and Trade (PAT):** Enhancing energy efficiency and curtailing emissions of hard-to-abate industrial sectors
- **Sustainable Transport**
 - **Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME) :** Driving India's vision for reliable, affordable, and efficient electric mobility
 - **Indian Railways:** Going Green: Fuelled by environmental conservation, racing towards net zero carbon emissions by 2030
 - **Sustainable Aviation:** Integrating cleaner fuels, energy efficiency and ecosystem preservation with aircraft and airport operations
- **Climate Smart Cities**
 - **Smart City Mission (SCM):** Developing sustainable and resilient urban habitats via 'smart solutions'
 - **The Green Buildings Market:** Constructing resource efficient, sustainable and resilient buildings
- **City Gas Distribution**
 - **India's CNG and PNG Network:** Increasing the adoption of the 'green' fossil fuel for vehicles, households and industries
- **Cooling Action**
 - **India Cooling Action Plan (ICAP):** Incentivising the air conditioner industry to build a sustainable cooling value chain
- **Skilling**
 - **Skill Council for Green Jobs (SCGJ):** Building a skilled and specialised workforce to deliver India's sustainable development goals.

➤ Global Initiatives

- **International Solar Alliance (ISA):** Harnessing the infinite power for the Sun for sustainable human development.
- **Clean Energy Ministerial (CEM):** Fostering international cooperation for a technology-driven transition to a global clean energy economy.
- **Mission Innovation (MI):** Investing in innovation in breakthrough clean energy technologies to deliver impact at scale.

Bharitalasuchus Tapani: A Carnivorous Reptile

Why in News

Recently, an international team of paleontologists has thrown light on a carnivorous reptile that lived 240 million years ago (*Bharitalasuchus tapani*).

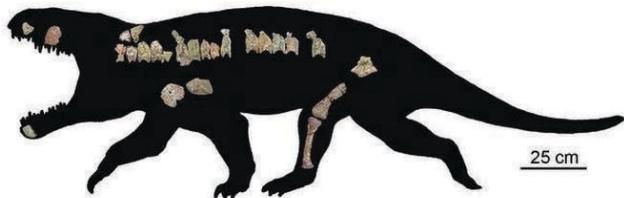
- The Team studied some of the fossil specimens stored at the Indian Statistical Institute, Kolkata.
- In the mid 20th century, researchers from the Institute carried out extensive studies on rocks of the Yerrapalli Formation in what is now Telangana, uncovering several fossils.

Key Points

- **About:**
 - This reptile belongs to a genus and species previously unknown to science. They named it ***Bharitalasuchus tapani (BT)***.
 - BT were robust animals with big heads and large teeth, and these probably predated other smaller reptiles.
 - They were approximately the size of an adult male lion and might have been the largest predators in their ecosystems.
 - In the Telugu language, Bhari means huge, Tala means head, and Suchus is the name of the Egyptian crocodile-headed deity.
 - The species is named after paleontologist **Tapan Roy Chowdhury** in honour of his contribution to Indian vertebrate paleontology and especially his extensive work on the Yerrapalli Formation tetrapod fauna.

Note:

- Further studies revealed that the reptile **belonged to a family of extinct reptiles named Erythrosuchidae.**
- Erythrosuchids are known from Lower-Middle Triassic rocks of South Africa, Russia, and China, and there have been preliminary reports from the Middle Triassic Yerrapalli Formation of south-central India.



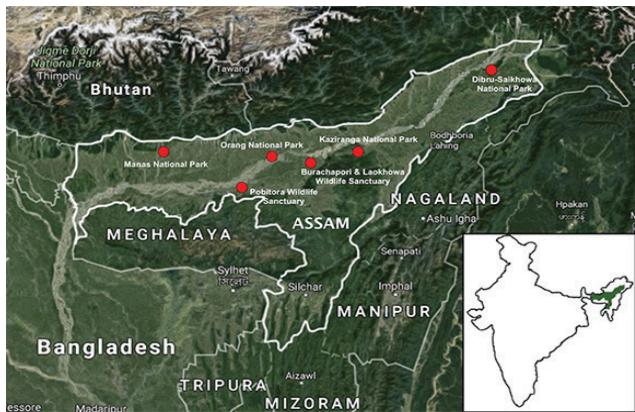
➤ **Yerrapalli Formation:**

- It is a Triassic (period from 250-201 million years ago) rock formation consisting primarily of mudstones that outcrops in the Pranhita-Godavari Basin in southeastern India.
- Apart from this erythrosuchid reptile, the fossil assemblage of the Yerrapalli Formation **includes many other extinct creatures** such as ceratodontid lungfish, rhynchosaur and allokotosaurian.
- However, **deforestation, mining, agricultural expansion, urbanisation** are gradually destroying the fossiliferous localities of India.

Barnadi Wildlife Sanctuary: Assam

Why in News

Recently, the **World Wide Fund for Nature-India** (WWF) found a few tigers inhabiting the Barnadi Wildlife Sanctuary in Assam.



- It is one of the smallest WS (Wildlife Sanctuary) of Assam and covers an area of 26.22 sq. km.

Key Points

➤ **Location:**

- Barnadi Wildlife Sanctuary (BWS) is located in northern Assam's Baksa and Udalguri districts bordering Bhutan.
- The Sanctuary is bordered by the Barnadi river and Nalapara river to the west and east respectively.

➤ **Legal Status:**

- It was affirmed as the WS in 1980 by the Government of Assam.
- Barnadi was established specifically to protect the **Pygmy Hog (*Sus salvanius*)** and **Hispid Hare (*Caprolagus hispidus*)**.

➤ **Biodiversity:**

- This is important for threatened species such as the **Asian Elephant (*Elephas maximus*)**, **Tiger (*Panthera tigris*)** and **Gaur (*Bos frontalis*)**.
- About 60% of the BWS is reported to be grassland, most of it is now grassy woodland.
- The main Forest types are Tropical Moist Deciduous along the northern edge of the Sanctuary, and mixed scrub and grassland in the southern part with few trees.

➤ **Vegetation:**

- The vegetation has been drastically **modified by human activity**.
- Most of the **natural vegetation has been cleared and replaced by commercial plantations** of Bombax ceiba, Tectona grandis and Eucalyptus and by thatch grasses (mostly Saccharum, with some Phragmites and Themeda).

➤ **Other Protected Areas in Assam:**

- Dibru-Saikhowa National Park,
- **Manas National Park**,
- Nameri National Park,
- Rajiv Gandhi Orang National Park.
- Kaziranga National Park.

4th Tiger Reserve in Rajasthan

Why in News

Recently, the **Ramgarh Vishdhari wildlife sanctuary**

Note:

received a nod from the **National Tiger Conservation Authority's (NTCA)** technical committee to become the **4th Tiger reserve** of Rajasthan.

- This will be the **52nd Tiger Reserve of India**.
- The **Global Tiger Day**, celebrated on **29th July**, is an annual event marked to raise awareness about tiger conservation.

Project Tiger

- It was launched **in 1973 with 9 tiger reserves** for conserving our national animal, the tiger.
- It is an ongoing **Centrally Sponsored Scheme** of the Ministry of Environment, Forests and Climate Change.
- Currently, the Project Tiger coverage has increased to 51 Tiger reserves, spread out in 18 tiger range states which amounts to around 2.21% of the geographical area of our country.
- The tiger reserves are **constituted on a core/buffer strategy**. The core areas have the legal status of a national park or a sanctuary, whereas the buffer or peripheral areas are a mix of forest and non-forest land, managed as a multiple use area.
- The **NTCA was launched in 2005**, following the recommendations of the Tiger Task Force. It is a **statutory body of the Ministry**, with an overarching supervisory/coordination role, performing functions as provided in the **Wildlife (Protection) Act, 1972**.
- **M-STripes** (Monitoring System for Tigers - Intensive Protection and Ecological Status) is an app based monitoring system, launched across Indian tiger reserves by the NTCA in 2010.

Protection Status of Tiger

- **Indian Wildlife (Protection) Act, 1972:** Schedule I
- **International Union for Conservation of Nature (IUCN) Red List:** Endangered.
- **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES):** Appendix I.

Key Points

- **Ramgarh Vishdhari wildlife sanctuary:**
 - **Location:**
 - This Sanctuary is located at a distance of 45 Km

from Bundi City on Bundi-Nainwa Road near Village Ramgarh, District Bundi, Rajasthan.

○ **Established:**

- It was notified in the Year 1982 and is spread over an area of 252.79 Sq. Km.

○ **Area of Tiger Reserve:**

- The total area of 1,017 sq. km has been identified as the reserve area comprising two forest blocks of Bhilwara, territorial forest block of Bundi and Indargarh, which falls under the buffer zone of Ranthambore Tiger Reserve (RTR).

○ **Biodiversity:**

- Its **flora consists of** Dhok, Khair, Salar, Khirni trees with some Mango and Ber trees.
- The **Fauna consists of** birds and animals like Leopard, Sambhar, Wild boar, Chinkara, Sloth bear, Indian Wolf, Hyena, Jackal, Fox, deer and Crocodile.

➤ **Other Three Tiger Reserves:**

- Rajasthan has three tiger reserves with over 90 big cats at **Ranthambore Tiger Reserve (RTR)** in Sawai Madhopur, **Sariska Tiger Reserve (STR)** in Alwar, and **Mukundra Hills Tiger Reserve (MHTR)** in Kota.

➤ **Other Protected Areas in Rajasthan:**

- **Desert National Park**, Jaisalmer
- **Keoladeo National Park**, Bharatpur
- **Sajjangarh wildlife sanctuary**, Udaipur
- **National Chambal Sanctuary** (on tri-junction of Rajasthan, Madhya Pradesh and Uttar Pradesh).



Note:

Children and Digital Dumpsites: WHO Report

Why in News

The World Health Organization (WHO) in its recent report "Children and Digital Dumpsites" has underlined the risk that children working in informal processing are facing due to discarded electronic devices or e-waste.

- There are as many as **18 million children** (as young as five years) and about **12.9 million women** work at these e-waste dumpsites every year.
- The e-waste from high-income countries is dumped in the middle- or low-income countries for processing every year.

Key Points

➤ About the E-waste:

- **E-Waste** is short for **Electronic-Waste**. It is the term used to describe old, end-of-life or discarded electronic appliances.
- It majorly includes electronic equipment, completely or in part discarded as waste by the consumer or bulk consumer as well as rejects from manufacturing, refurbishment and repair processes.
- It contains over 1,000 precious metals and other substances like gold, copper, lead, mercury, cadmium, chromium, polybrominated biphenyls and polycyclic aromatic hydrocarbons.

➤ Volume of E-waste:

- **Global Scenario:** According to the **Global E-waste Statistics Partnership**, the volume of e-waste generated is surging rapidly across the globe.
- About **53.6 million tonnes of e-waste** was generated in **2019**.
- **Only 17.4%** of this e-waste was processed in formal recycling facilities. The rest of it was dumped in low- or middle-income countries for illegal processing by informal workers.
- This is because of the **rise in the number of smartphones and computers**.

○ Indian Scenario:

- According to the **Central Pollution Control Board (CPCB)**, India generated **more than 10 lakh tonnes of e-waste in 2019-20**, an increase

from 7 lakh tonnes in 2017-18. Against this, the e-waste **dismantling capacity has not been increased from 7.82 lakh tonnes** since 2017-18.

- In 2018, the Ministry of Environment had told the tribunal that **95% of e-waste in India is recycled by the informal sector** and scrap dealers unscientifically dispose of it by burning or dissolving it in acids.

➤ Impact of Working at Digital Dumpsites:

- **On Children:** The children working at these 'digital dumpsites' are more prone to **improper lung function, deoxyribonucleic acid damage and increased risk of chronic diseases** like cancer and cardiovascular disease.
- They are less likely to metabolise or eradicate pollutants absorbed.
- **On Women:** Several women, including expectant mothers, also work there. Processing e-waste exposes them as well as their children to these toxins, which can lead to **premature births and stillbirth**.
- **On Others:** The hazardous impact of working at such sites is also **experienced by families and communities** that reside in the vicinity of these e-waste dumpsites.

➤ Management of E-waste (International Convention):

- **Basel Convention on the Control of the Trans-boundary Movement of Hazardous Waste, 1992.**
- Originally the **Basel Convention** did not mention e-waste but later it addressed the issues of e-waste in 2006 (COP8).
- The convention seeks to ensure environmentally sound management; prevention of illegal traffic to developing countries and; building capacity to better manage e-waste.
- The **Nairobi Declaration** was adopted at COP9 of the Basel Convention. It aimed at creating innovative solutions for the environmentally sound management of electronic wastes.

➤ Management of E-waste in India:

- **Producers:**
 - The government has implemented the **E-waste (Management) Rules (2016)** which enforces the **Extended Producer Responsibility (EPR)**.
 - Under EPR principle the producers have been made responsible to collect a certain

Note:

percentage of E-waste generated from their goods once they have reached their "end-of-life".

- **State Governments:**

- They have been entrusted with the responsibility for maintaining industrial space for e-waste dismantling and recycling facilities.
- They are also expected to establish measures for protecting the health and safety of workers engaged in the dismantling and recycling facilities for e-waste.

- **Recycling of E-waste:**

- **India's first e-waste clinic** for segregating, processing and disposal of waste from household and commercial units has been set-up in **Bhopal, Madhya Pradesh**.

African Swine Fever

Why in News

Nagaland has not reported fresh cases of **African Swine Flu** in the last two weeks.

- The disease was first reported in November-December, 2019 from the **areas of China bordering Arunachal Pradesh**.
- Earlier in April 2020, there were reported deaths of pigs due to the **Classical Swine Fever (CSF)**.

Key Points

- **About:**
 - It is a **highly contagious and fatal animal disease** that infects and leads to an acute form of hemorrhagic fever in domestic and wild pigs.

African swine fever (ASF)



- **Other manifestations of the disease include** high fever, depression, anorexia, loss of appetite, hemorrhages in the skin, vomiting and diarrhoea among others.

- **It was first detected in Africa in the 1920s.**

- Historically, outbreaks have been reported in **Africa and parts of Europe, South America, and the Caribbean**.
- However, **more recently (since 2007)**, the disease has been reported in **multiple countries across Africa, Asia and Europe**, in **both domestic and wild pigs**.

- **The mortality is close to 100%** and since the **fever has no cure**, the only way to stop its spread is by culling the animals.

- **ASF is not a threat to human beings** since it only spreads from animals to other animals.

- **ASF is a disease listed in the World Organisation for Animal Health (OIE) Terrestrial Animal Health Code** and thus, reported to the OIE.

Classical Swine Fever:

- **CSF**, also known as **hog cholera**, is an important disease of pigs.
- It is one of the most economically-damaging pandemic viral diseases of pigs in the world.
- It is **caused by a virus of the genus Pestivirus of the family Flaviviridae**, which is closely related to the viruses that cause bovine viral diarrhoea in cattle and border disease in sheep.

World Organisation for Animal Health

- OIE is an intergovernmental organisation responsible for improving animal health worldwide.
- It has 182 Member Countries. **India is one of the member countries**.
- OIE develops normative documents relating to rules that Member Countries can use to protect themselves from the introduction of diseases and pathogens. One of them is the **Terrestrial Animal Health Code**.
- OIE standards are recognised by the **World Trade Organization** as reference international sanitary rules.
- It is headquartered in **Paris, France**.

- Mortality is 100%.

- Recently, the **ICAR-IVRI developed a Cell Culture CSF Vaccine** (live attenuated) using the **Lapinized Vaccine Virus** from foreign strain.

Note:

- The new vaccine has been found to induce protective immunity from day 14 of the Vaccination till 18 Months.

Black Softshell Turtle

Why in News

Recently, the Assam forest department has signed a Memorandum of Understanding (MoU) with two Non-governmental Organizations (NGOs) and adopted a Vision Document to raise at least 1,000 black softshell turtles by 2030.



Key Points

- About Black Softshell Turtle:**
 - Scientific Name:** *Nilssonia nigricans*
 - Features:**
 - They look almost the same as the Indian peacock softshell turtle (*Nilssonia hurum*), which is classified as Endangered in the IUCN Red List.
 - Habitat:**
 - A freshwater species and there are 29 species of freshwater turtles and tortoises found in India.
 - They are found in ponds of temples in northeastern India and Bangladesh. Its distribution range also includes the Brahmaputra River and its tributaries.
 - Protection Status:**
 - IUCN Red List:** Critically Endangered
 - CITES:** Appendix I
 - Wildlife (Protection) Act, 1972:** No legal protection
 - Threats:**
 - Consumption of turtle meat and eggs, silt

Note:

mining, encroachment of wetlands and change in flooding pattern.

➤ Sea Turtles of Indian Waters:

- There are five species in Indian waters i.e. Olive Ridley, Green turtle, Loggerhead, Hawksbill, Leatherback.
- The Olive Ridley, Leatherback and Loggerhead are listed as 'Vulnerable' on the IUCN Red List of Threatened Species.
- The Hawksbill turtle is listed as 'Critically Endangered' and Green Turtle is listed as 'Endangered' on the IUCN Red List of Threatened Species.
- They are protected in Indian Wildlife Protection Act of 1972, under Schedule I.

➤ Turtle Conservation:

- National Marine Turtle Action Plan:**
 - It contains ways and means to not only promote inter-sectoral action for conservation but also guide improved coordination amongst the government, civil society and all relevant stakeholders on the response to cases of stranding, entanglement, injury or mortality of marine mammals and also conservation of marine turtles.
- Indian Ocean Sea Turtle Agreement (IOSEA):**
 - India is a signatory to the Indian Ocean Sea Turtle Agreement (IOSEA) of the Convention on Migratory Species (CMS), a United Nations backed initiative.
 - It puts in place a framework through which States of the Indian Ocean and South-East Asian region, as well as other concerned States, can work together to conserve and replenish depleted marine turtle populations for which they share responsibility.
- KURMA App:**
 - It has a built-in digital field guide covering 29 species of freshwater turtles and tortoises of India.
 - It was developed by the Indian Turtle Conservation Action Network (ITCAN) in collaboration with the Turtle Survival Alliance-India and Wildlife Conservation Society-India.
- World Turtle Day** is observed every year on 23rd May.

Pygmy Hog

Why in News

Recently, eight captive-bred **pygmy hogs**, the world's rarest and smallest wild pigs, were released in the **Manas National Park of Assam**.

- This is the second batch to have been reintroduced into the wild under the **Pygmy Hog Conservation Programme (PHCP)** in a year.

Key Points

- **Pygmy Hog Conservation Programme (PHCP):**
 - The PHCP is a collaboration among **Durrell Wildlife Conservation Trust of UK**, **Assam Forest Department**, Wild Pig Specialist Group of **International Union for Conservation of Nature (IUCN)** and **Ministry of Environment, Forest and Climate Change**.
 - It is currently being implemented by NGOs - **Aaranyak and EcoSystems India**.
 - Conservation of pygmy hog was initiated by noted naturalist **Gerald Durrell and his trust in 1971**.
 - The pygmy hog was brought back from near-extinction by the partnership effort, and now moving towards the establishment of a population across the entire range.
 - Six hogs were captured from the **Bansbari range** of the Manas National Park in 1996 for starting the breeding programme.
 - The reintroduction programme began in 2008 with the **Sonai-Rupai Wildlife Sanctuary, Orang National Park and Bornadi Wildlife Sanctuary**, all of them are in Assam.
 - By 2025, the PHCP plans to release 60 pygmy hogs in Manas.
- **About Pygmy Hog:**
 - **Scientific Name:** *Porcula Salvania*
 - **Features:**
 - It is one of the very few mammals that build its own home, or nest, complete with a 'roof'.
 - It is also an indicator species. Its presence reflects the health of its primary habitat, the tall, wet grasslands of the region.
 - **Habitat:**
 - It thrives in **wet grassland**.

- Once found along a narrow strip of tall and wet grassland plains on the Himalayan foothills – from Uttar Pradesh to Assam, through Nepal's terai areas and Bengal's duars. Today found mainly in a small population in **Assam**.

○ Protection Status:

- **IUCN Red List:** Endangered
- **CITES:** Appendix I
- **Wildlife (Protection) Act, 1972:** Schedule I

○ Threats:

- Habitat (grassland) loss and degradation, and illegal hunting.



Ambergris

Why in News

Recently, the Mumbai Police has arrested five people and seized nearly 9 kg of **Ambergris**.

Key Points

- **About:**
 - Ambergris, French for **grey amber**, is generally referred to as **whale vomit**.
 - It is a solid waxy substance originating in the **intestine of the sperm whale**.
 - Ambergris is produced only by an estimated **1% of sperm whales**.
 - Chemically, ambergris contains **alkaloids, acids**, and a specific compound called **ambreine**, which is similar to cholesterol.
 - It floats around the surface of the water body and at times settles on the coast.

Note:



- Because of its high value it is referred to as **floating gold**. **1 kg of ambergris is worth Rs 1 crore** in the international market.
- **Use:**
 - It is used in the perfume market, especially to create **fragrances like musk**.
 - It is believed to be in **high demand in countries like Dubai that have a large perfume market**.
 - **Ancient Egyptians used it as incense**. It is also believed to be used in **some traditional medicines** and as a **spice**.
- **Smuggling:**
 - Due to its high value it has been a target for smugglers especially in coastal areas.
 - There have been **several cases where the coastline of Gujarat has been used for such smuggling**.
 - Since the **sperm whale is a protected species**, hunting of the whale is not allowed. However, **smugglers are known to have illegally targeted the fish** in order to obtain the valuable Ambergris from its stomach.

Sperm Whale

- **About:**
 - Sperm whale, (*Physeter catodon*), also called **cachalot**, the **largest of the toothed whales**, easily recognized by its enormous square head and narrow lower jaw.
 - The sperm whale is **dark blue-gray or brownish, with white patches on the belly**. It is **thickset and has small paddle-like flippers** and a series of rounded humps on its back.



- **Habitat:**
 - They are found in **temperate and tropical waters throughout the world**.
- **Threats:**
 - The greatest threats to sperm whales are those of **habitat impacts including noise pollution and climate change**.
 - Other threats include **entanglement** in fishing gear, **collisions with ships**, and proposals to allow for a **commercial hunt once again**.
- **Protection Status:**
 - **IUCN Red List: Vulnerable**
 - **CITES: Appendix I**
 - **Wildlife (Protection) Act, 1972: schedule I**

Link between Air Quality and Covid-19

Why in News

For the first time, a pan-India study has found a direct correlation between air pollution and Covid-19.

- The study found that areas with **poor air quality and higher emissions of particulate matter (PM) 2.5 are more likely to have Covid-19 infections and related deaths**.

Key Points

- **About:**
 - The study was conducted by scientists from various universities such as **Indian Institute of Tropical Meteorology (IITM)**, Pune, National Institute of Technology Rourkela; Indian Institute of Technology, Bhubaneswar.
 - It was partially funded by the **Ministry of Earth Sciences**, the Government of India.
- **Components:**
 - The study involves three kinds of data sets—

Note:

Particulate Matter (PM) 2.5

- It is an atmospheric particulate matter of diameter of fewer than 2.5 micrometres, which is around 3% the diameter of a human hair.
 - It is very small and can only be detected with the help of an electron microscope.
- It causes respiratory problems and also reduces visibility. It is an endocrine disruptor that can affect insulin secretion and insulin sensitivity, thus contributing to diabetes.
- These particles are formed as a result of burning fuel and chemical reactions that take place in the atmosphere. Natural processes such as forest fires also contribute to PM2.5 in the air.
- These particles are also the primary reason for the occurrence of smog.

- National Emission Inventory (NEI) of PM2.5 for 2019, developed by the scientists;
- Number of Covid-19 positive cases and corresponding death as of 5th November, 2020.
- Air quality index data (in-situ observations).

➤ Important Observations:

- The study titled 'Establishing a link between fine particulate matter (PM2.5) zones and Covid-19 over India based on anthropogenic emission sources and air quality data' dealt with how people living in highly polluted areas are more vulnerable to coronavirus infections.
- The regions using huge amounts of fossil fuels such as petrol, diesel and coal by combustion in transport and industrial activities also experience a far higher number of Covid-19 cases.
 - For Example, the highest numbers of Covid-19 cases are found in States like Maharashtra, Uttar Pradesh, Delhi and Gujarat, where exposure to the prolonged high concentration of PM2.5 is relatively high, especially in the cities, due to overuse of fossil fuel.
 - Mumbai and Pune are among hotspots where high air pollution from the transport and industrial sectors is related to a higher number of Covid-19 cases and deaths.
- There is also evidence that the novel coronavirus sticks to fine particles like PM2.5 allowing them to move from one part to another by making the airborne transmission of Covid-19 more effective.

➤ Impact:

- When human-induced emissions are added combined with the double impact of the Covid-19 virus, the damage to lungs will be much faster and worsen health conditions.
- The study results will help slow down the spread of the virus by providing more preventive steps and resources in areas with high pollution levels for present situations as well as for future possibilities.

➤ Solution:

- There is a need to adopt cleaner technology, better transport emission norms like Bharat Stage (BS) VI at the earliest, and ensure better coal technology like ultra-supercritical power plants to reduce particulate emissions.

➤ Other Initiatives to Reduce Air Pollution:

- UJALA scheme.
- International Solar Alliance.
- National Action Plan on Climate Change (NAPCC)
- System of Air Quality and Weather Forecasting and Research (SAFAR)

Air Quality Index (AQI)

- The AQI is an index for reporting daily air quality.
- It focuses on health effects one might experience within a few hours or days after breathing polluted air.
- AQI is calculated for eight major air pollutants:
 - Ground-level ozone,
 - PM10,
 - PM2.5,
 - Carbon monoxide,
 - Sulfur dioxide,
 - Nitrogen dioxide,
 - Ammonia,
 - Lead,
- Ground-level ozone and airborne particles are the two pollutants that pose the greatest threat to human health in India.

Pyrostria laljii: New Species from Andaman

Why in News

Recently, *Pyrostria laljii*, a new species which belongs

Note:

to the genus of the coffee family has recently been discovered from the Andaman Islands.

- A new species of pokeweed named *Rivina andamanensis* was also discovered.
- Andaman and Nicobar is a group of 572 islands and islets that are rich and unique in terms of plant diversity in India.



Key Points

- **About:**
 - It is the first record of the genus *Pyrostria* in India. It is a 15-meter-tall tree.
 - Plants belonging to genus *Pyrostria* are usually found in Madagascar but the recently discovered species is new to science.
 - While the genus *Pyrostria* is not found in India, there are several genera from the family Rubiaceae that are common in India.
 - These plants, including *cinchona*, *coffee*, *adina*, *hamelia*, *ixora*, *gallium*, *gardenia*, *mussaenda*, *rubia*, *morinda*, have high potential for economic value.
 - Named *Pyrostria laljii* after Lal Ji Singh, Joint Director, Andaman and Nicobar Regional Centre, Botanical Survey of India.
 - It has been assessed as 'Critically Endangered' based on the International Union for Conservation of Nature's (IUCN) Red List criteria.
- **Features:**
 - Distinguished by a long stem with a whitish coating on the trunk, and oblong-ovate leaves with a cuneate base.
 - Another physical feature that distinguishes the tree from other species of the genus is its umbellate inflorescence with eight to 12 flowers.
- **Habitat in India:**
 - First reported from South Andaman's Wandoor forest. Other places in the Andaman and Nicobar Islands where the tree could be located are the Tirur forest near the Jarawa Reserve Forest and the Chidiya Tapu (Munda Pahar) forest.

Rivina andamanensis

- Another new species of pokeweed named *Rivina andamanensis* was also discovered. It was found growing under large trees, shaded and rocky areas, along with herbs and shrubby plants.
 - Pokeweed is a strong-smelling plant with a poisonous root. The berries contain a red dye used to colour wine, candies, cloth, and paper.
- This discovery of new species, representing the first record of the pokeweed family Petiveriaceae in the Andaman and Nicobar Islands, adds one more family to the islands' flora.



Botanical Survey of India

- **About:**
 - It is the apex research organization under the Ministry of Environment and Forests (MoEFCC) for carrying out taxonomic and floristic studies on wild plant resources of the country.
 - It was established in 1890 with the objective to explore plant resources of the country and to identify plant species with economic virtues.
 - It has nine regional circles situated at different regions of the country. However the headquarter is located in Kolkata, West Bengal.
- **Functions:**
 - Exploration, inventorying and documentation of phytodiversity in general and protected areas, hotspots and fragile ecosystems in particular
 - Publication of National, State and District Floras.
 - Identification of threatened and red list species and species rich areas needing conservation.
 - Ex-situ conservation of critically threatened species in botanical gardens.

Note:

- **Survey and documentation** of traditional knowledge (ethno-botany) associated with plants.
- **Develop National database** of Indian plants, including herbarium and live specimens, botanical paintings and illustrations, etc.

Energy Compacts

Why in News

National Thermal Power Corporation (NTPC) Limited has become the **first energy company** in the energy domain in India to declare its **Energy Compact Goals** as part of **UN High-level Dialogue on Energy (HLDE)**.

- The United Nations is set to convene a **high-level dialogue (HLD)** in **September, 2021** to promote the **implementation of the energy-related goals and targets of the 2030 Agenda for Sustainable Development**.
- NTPC is India's largest power generating company which is under the **Ministry of Power**.

Key Points

- **Energy Compacts** (a platform to unite and connect commitments and actions):
 - Energy Compacts are being **mobilized by UN-Energy** and will continue to be mobilized and updated **throughout the current Decade of Action**.
 - These are ongoing or new commitments with clear, underlying actions that will **advance progress on one or more of SDG7's three core targets**.
 - SDG7 calls for “affordable, reliable, sustainable and modern energy for all” by 2030.
 - **SDG 7 three core targets:** Access to energy, Renewable energy, Energy efficiency.
 - These are **voluntary commitments** from Member States and non-state actors, such as companies, regional/local governments, NGOs, and others.
 - Since affordable, clean energy is a prerequisite for achieving all other SDGs

and the **Paris Agreement**, actions defined in an Energy Compact can be directly linked to **Nationally Determined Contributions** considered as SDG Acceleration Actions.

➤ Difference between Energy Compacts (EC) and the Nationally Determined Contributions (NDCs):

- NDCs address **Member States' national climate ambitions and targets** that are legally required under the Paris Agreement, focusing on a **country's emissions profile** from the economy as a whole.
- EC includes a variety of voluntary commitments, actions, initiatives, and partnerships focused specifically on the energy system and SDG7.
 - They **will cover the SDG7 targets, including those that are not reflected in a country's NDCs**, such as clean cooking access.

- EC is also **open to all stakeholders** in the global movement on SDG7, including **businesses, organizations, and subnational authorities**, and will have annual mechanisms to track progress on the commitments.

➤ Need for Energy Compacts (EC):

- The energy sector continues to be the **most significant contributor to greenhouse gas emissions (GHG)** globally, continuing a trend aligned with industrialization.
- **Current Situation:**
 - 789 million people without access to electricity (2018)
 - 2.8 billion people without access to clean cooking (2018)

Energy Compacts – Voluntary, inclusive & complementary



Energy Compacts will be the most **inclusive** umbrella dedicated to bring together **voluntary commitments** on all SDG7 targets in support of achieving all SDGs by 2030 and net zero emissions by 2050.

WHAT

Voluntary commitments on the following themes to advance SDG7 by 2030 and net zero by 2050.	
Energy Access	Innovation, technology and data
Energy Transition	Finance and Investment

Enabling SDGs through inclusive and just transition

WHO

Energy Compacts will be inclusive and available for voluntary commitments from all stakeholders in the global movement on SDG7	
Governments	International organizations
Business	Multi-stakeholders including youth and academia

HOW

Aligned with existing commitments covering ambitious actions, policies, finance and investment, etc. commitments on SDG7.

NDGs SDGs

Note:

- 17% share of total final energy consumption from renewables (2017)
- 1.7% energy efficiency improvement rate (2017)
- **NTPC Energy Compact Goals:**
 - It has set a target to install **60 GW of renewable energy capacity by 2032**. It is also aiming at 10% reduction in net energy intensity by 2032.
 - NTPC has declared that it will form **at least 2 international alliances/groups to facilitate clean energy research** and promote sustainability in the energy value chain by 2025.

UN-Energy

- UN-Energy was established by the UN System Chief Executives Board for Coordination (CEB) in 2004 as the **United Nations' mechanism for inter-agency collaboration in the field of energy**.
- It seeks to act to support countries in achieving SDG7 and the interrelated goals of the Paris Climate Agenda and the broader SDG agenda.

Decade of Action

- In September 2019, the United Nations General Assembly proclaimed the Decade of Action (2021-2030) to **deliver the Sustainable Development Goals (SDGs)** to accelerate efforts to deliver on the ambitious, universal and inclusive 2030 Agenda.

Namami Gange Programme

Why in News

Recently, an agreement was signed for Development of 35 MLD (Mega Liters per day) **Sewage Treatment Plant** in Maheshtala (City situated on the east bank of **River Ganga**), West Bengal under **Namami Gange Programme**.

- The project was signed under **Hybrid Annuity PPP mode**.

Key Points

➤ Namami Gange Programme:

- Namami Gange Programme is an **Integrated Conservation Mission**, approved as a '**Flagship Programme**' by the Union Government in June 2014 to accomplish the **twin objectives of effective abatement of pollution and conservation and rejuvenation of National River Ganga**.
- It is being operated under the Department of Water Resources, River Development and Ganga Rejuvenation, **Ministry of Jal Shakti**.
- The program is being implemented by the **National Mission for Clean Ganga (NMCG)**, and its state counterpart organizations i.e State Program Management Groups (SPMGs).
 - NMCG is the implementation wing of **National Ganga Council** (set in 2016; which replaced the National Ganga River Basin Authority - NGRBA).
- It has a Rs. 20,000-crore, **centrally-funded, non-lapsable corpus** and consists of nearly 288 projects.
- The **main pillars** of the programme are:
 - Sewage Treatment Infrastructure
 - River-Front Development
 - River-Surface Cleaning
 - Biodiversity
 - Afforestation
 - Public Awareness
 - Industrial Effluent Monitoring
 - Ganga Gram

➤ The Ganga River System:

- The headwaters of the Ganga called the 'Bhagirathi' are fed by the Gangotri Glacier and joined by the Alaknanda at Devprayag in Uttarakhand.
- At Haridwar, Ganga emerges from the mountains to the plains.
- The Ganga is joined by many tributaries from the Himalayas, a few of them being major rivers such as the Yamuna, the Ghaghara, the Gandak and the Kosi.



Note:

History

Highlights

- Bankim Chandra Chattopadhyay

- Sant Kabir Das Jayanti

Bankim Chandra Chattopadhyay

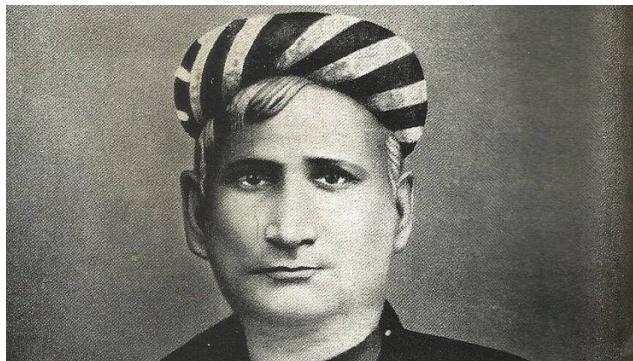
Why in News

Indian Prime Minister paid homage to Rishi Bankim Chandra Chattopadhyay on his Jayanti on 27th June.

Key Points

➤ About:

- He was one of the greatest novelists and poets of India.
- He was born on 27th June 1838 in the village of Kanthapura in the town of North 24 Parganas, Naihati, present day West Bengal.
- He composed the song Vande Mataram in Sanskrit, which was a source of inspiration to the people in their freedom struggle.
- In 1857, there was a strong revolt against the rule of East India Company but Bankim Chandra Chatterjee continued his studies and passed his B.A. Examination in 1859.
 - The Lieutenant Governor of Calcutta appointed Bankim Chandra Chatterjee as Deputy Collector in the same year.
- He was in Government service for thirty-two years and retired in 1891.



- He died on 8th April, 1894.

➤ Contributions to India's Freedom Struggle:

- His epic Novel Anandamath - set in the background of the Sanyasi Rebellion (1770-1820), when Bengal was facing a famine too - made Bankim Chandra Chattopadhyay an influential figure on the Bengali renaissance.
 - He kept the people of Bengal intellectually stimulated through his literary campaign.
 - India got its national song, **Vande Mataram**, from Anandamath.
- He also founded a monthly literary magazine, **Bangadarshan**, in 1872, through which Bankim is credited with influencing the emergence of a Bengali identity and nationalism.
 - Bankim Chandra wanted the magazine to work as the medium of communication between the educated and the uneducated classes.
 - The magazine stopped publication in the late 1880s, but was resurrected in 1901 with Rabindranath Tagore as its editor.
 - While it carried Tagore's writings - including his first full-length novel Chokher Bali - the 'new' Bangadarshan retained its original philosophy, nurturing the nationalistic spirit.
 - During the Partition of Bengal (1905), the magazine played a vital role in giving an outlet to the voices of protest and dissent. Tagore's Amar Sonar Bangla - the national anthem of Bangladesh now - was first published in Bangadarshan.

➤ Other Literary Contributions:

- He had studied Sanskrit and was very interested in the subject, but later took on the responsibility to make Bengali the language of the masses. However, his first published work - a novel - was in English.
- His famous novels include Kapalkundala (1866), Debi Choudhurani, Bishabriksha (The Poison

Note:

Tree), Chandrasekhar (1877), Rajmohan's wife and Krishnakanta Will.

Sanyasi Rebellion

- The Sanyasi Uprisings took place in Bengal between the periods of **1770- 1820s**.
- The Sanyasis rose in rebellion after the great famine of 1770 in Bengal which caused acute chaos and misery.
- However, the immediate cause of the rebellion was the **restrictions imposed by the British upon pilgrims visiting holy places** among both Hindus and Muslims.

Sant Kabir Das Jayanti

Why in News

Recently, **Sant Kabir Das Jayanti** was observed on **24th June, 2021** to mark the birth anniversary of **Sant Kabirdas**.

- Kabirdas Jayanti is celebrated on the **Jyeshtha Purnima tithi**, as per the **Hindu lunar calendar**.

Key Points

About:

- **Sant Kabir Das** was born in the city of **Varanasi, Uttar Pradesh**. He was a **15th century** mystic poet, saint and social reformer and a proponent of the **Bhakti Movement**.
 - Kabir's legacy is still going on through a sect known as **Panth of Kabir**, a religious community that considers him as the founder.
- **Teacher:** His early life was in a Muslim family, but he was strongly influenced by his teacher, the Hindu bhakti leader **Ramananda**.
- **Literature:** Kabir Das' writings had a great influence on the Bhakti movement and includes titles like **Kabir Granthawali, Anurag Sagar, Bijak, and Sakhi Granth**.
 - His verses are found in Sikhism's scripture **Guru Granth Sahib**.
 - The major part of his work was collected by the fifth Sikh guru, **Guru Arjan Dev**.
 - He was best known for his two-line couplets, known as '**Kabir Ke Dohe**'.

- **Language:** Kabir's works were written in the **Hindi language** which was easy to comprehend. He used to write in couplets to enlighten people.

Bhakti Movement:

- **Beginning:** The movement probably began in the **Tamil region** around the **6th and 7th century AD** and achieved a great deal of popularity through the poems of the **Alvars (devotees of Vishnu)** and **Nayanars (devotees of Shiva)**, the Vaishnavite and Shaivite poets.
 - The **Alvars** and **Nayanars** travelled from place to place singing hymns in Tamil in praise of their gods.
 - The **Nalayira Divyaprabandham** is a composition by the **Alvars**. It is frequently described as the **Tamil Veda**.
- **Classification:** At a different level, historians of religion often classify bhakti traditions into two broad categories: **saguna (with attributes)** and **nirguna (without attributes)**.
 - The **saguna** included traditions that focused on the **worship of specific deities** such as Shiva, Vishnu and his avatars (incarnations) and forms of the goddess or Devi, all often conceptualised in anthropomorphic forms.
 - **Nirguna bhakti** on the other hand was worship of an abstract form of god.

Social Order:

- This movement was **responsible for many rites and rituals associated** with the worship of God by Hindus, Muslims and Sikhs of Indian subcontinent. For example, Kirtan at a Hindu Temple, Qawaali at a Dargah (by Muslims), and singing of Gurbani at a Gurdwara.
- They were often **opposed** to the establishment and all **authoritarian monastic order**.
- They also strongly criticized all **sectarian zealotry** and **caste discrimination** in society.
- Hailing from **both high and low castes**, these poets created a formidable body of literature that firmly established itself in the popular narratives.
- All of them claimed relevance for religion in social life, in the sphere of real human aspirations and social relationships.
- Bhakti poets **emphasized surrender to god**.
- The movement's major achievement was its **abolition of idol worship**.

Note:

TIMELINE SOME MAJOR RELIGIOUS TEACHERS IN THE SUBCONTINENT	
c. 500-800 CE	Appar, Sambandar, Sundaramurti in Tamil Nadu
c. 800-900	Nammalvar, Manikkavachakar, Andal, Tondaradippodi in Tamil Nadu
c. 1000-1100	Al Hujwiri, Data Ganj Bakhsh in the Punjab; Ramanujacharya in Tamil Nadu
c. 1100-1200	Basavanna in Karnataka
c. 1200-1300	Jnanadeva, Muktabai in Maharashtra; Khwaja Muinuddin Chishti in Rajasthan; Bahauddin Zakariyya and Fariduddin Ganj-i Shakar in the Punjab; Qutbuddin Bakhtiyar Kaki in Delhi
c. 1300-1400	Lal Ded in Kashmir; Lal Shahbaz Qalandar in Sind; Nizamuddin Auliya in Delhi; Ramananda in Uttar Pradesh; Chokhamela in Maharashtra; Sharafuddin Yahya Maneri in Bihar
c. 1400-1500	Kabir, Raidas, Surdas in Uttar Pradesh; Baba Guru Nanak in the Punjab; Vallabhacharya in Gujarat; Abdullah Shattari in Gwalior; Muhammad Shah Alam in Gujarat; Mir Sayyid Muhammad Gesu Daraz in Gulbarga, Shankaradeva in Assam; Tukaram in Maharashtra
c. 1500-1600	Sri Chaitanya in Bengal; Mirabal in Rajasthan; Shaikh Abdul Qudus Gangohi, Malik Muhammad Jaisi, Tulsidas in Uttar Pradesh
c. 1600-1700	Shaikh Ahmad Sirhindi in Haryana; Miyan Mir in the Punjab

Note: These time frames indicate the approximate period during which these teachers lived.

➤ Role of Women:

- **Andal** was a woman **Alvar** and she saw herself as the beloved of Vishnu.
- **Karaikkal Ammaiyan** was a devotee of Shiva and she adopted the path of extreme asceticism in order to attain her goal. Her compositions were preserved within the **Nayanar tradition**.

➤ Important Personalities:

- **Kannada Region:** In this region, the movement began by **Basavanna** (1105-68) in the 12th century.
- **Maharashtra:** The Bhakti movement began in the late 13th century. Its proponents were known as the **Varkaris**.
 - Among its most popular figures were **Jnanadev (1275- 96)**, **Namdev (1270-50)** and **Tukaram (1608-50)**.
- **Assam:** **Srimanta Sankardeva** (a Vaishnava saint born in 1449 AD in Nagaon district of Assam. He started the **neo-Vaishnavite movement**).
- **Bengal:** **Chaitanya** was a renowned saint and reformer of Bengal who popularised the Krishna cult.
- **Northern India:** From the 13th to the 17th centuries, a large number of poets flourished who were all Bhakti figures of considerable importance.
 - While **Kabir, Ravi Dass and Guru Nanak** spoke of the formless god (nirgun bhakti), **Meerabai (1498-1546)** from Rajasthan composed and sung devotional verses in praise of Krishna.
 - **Surdas, Narasimha Mehta and Tulsidas** also made priceless contributions to the canon of Bhakti literature and enhanced its glorious legacy.

Note:

Geography

Highlights

- Summer Solstice: 21st June
- Early Southwest Monsoon

- Baihetan Dam: World's Second Biggest Hydropower Dam
- Rising Sea Levels

Summer Solstice: 21st June

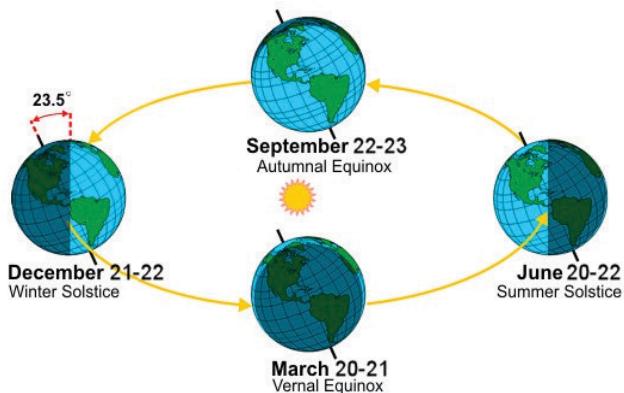
Why in News

21st June is the **longest day** in the Northern Hemisphere, technically this day is referred to as **Summer solstice**. In Delhi, the **day length** is around **14 hours**.

- The amount of light received by a specific area in the **Northern Hemisphere** during the summer solstice depends on the **latitudinal location** of the place.
- 21st June is also observed as the **International Yoga Day**.

Key Points

- **Meaning of the Word 'Solstice':**
 - It is a Latin word that means '**stalled sun**'. It is a natural phenomenon that **occurs twice every year**, once in the summer and again during winter, **in each hemisphere of the earth - Summer and Winter Solstice**.
- **About Summer Solstice:**
 - It is the **longest day and shortest night** of the year in the **Northern Hemisphere**.
 - During this, **countries in the Northern Hemisphere are nearest to the Sun** and the Sun shines overhead **on the Tropic of Cancer (23.5° North)**.



- At latitudes of 23.5° are the **Tropics of Cancer and Capricorn**, north and south of the Equator.
- At 66.5° are the **Arctic and Antarctic Circles**, to the north and south.
- Latitudes are a measure of a location's distance from the Equator.
- During the solstice, the **Earth's axis — around which the planet spins**, completing one turn each day — is **tilted in a way that the North Pole is tipped towards the sun** and the South Pole is away from it.
- Typically, this imaginary axis passes right through the middle of the Earth from top to bottom and is always **tilted at 23.5 degrees with respect to the sun**.
- At the **Arctic Circle**, the **sun never sets** during the solstice.
- **Greater Amount of Energy:**
 - This day is characterised by a greater amount of energy received from the sun. According to **NASA (National Aeronautics and Space Administration)**, the amount of incoming energy the Earth received from the sun on this day is 30% higher at the North Pole than at the Equator.
 - The maximum amount of sunlight received by the Northern Hemisphere during this time is usually on June 20, 21 or 22. In contrast, the **Southern Hemisphere receives most sunlight on December 21, 22 or 23** when the northern hemisphere has its longest nights— or the **winter solstice**.
- **Geography Behind:**
 - The **reason behind the changing lengths of the days** is the Earth's tilt.
 - The Earth's axis of rotation is tilted at an angle of 23.5° to its orbital plane. This tilt, **combined with factors such as Earth's spin and orbit**, leads

Note:

to variations in the duration of sunlight, due to which any location on the planet receives different lengths of days.

- The Northern Hemisphere spends half the year tilted in the direction of the Sun, getting direct sunlight during long summer days. During the other half of the year, it tilts away from the Sun, and the days are shorter.
- The tilt is also responsible for the different seasons on Earth. This phenomenon causes the movement of the Sun from the northern to the southern hemisphere and vice versa bringing in seasonal changes in the year.

The Equinox

- Twice each year, during the equinoxes ("equal nights"), Earth's axis is not pointed toward our Sun, but is perpendicular to the incoming rays.
- It results in a "nearly" equal amount of daylight and darkness at all latitudes.
- The vernal or spring equinox occurs in the northern hemisphere on March 20 or 21. September 22 or 23 marks the northern hemisphere autumnal or fall equinox.

Early Southwest Monsoon

Why in News

After arriving at the Kerala Coast two days behind the schedule, the Southwest Monsoon has hit early across some areas of south peninsular and central India.

Key Points

- Cause of Early Monsoon:
 - Cyclone Yaas, formed in the Bay of Bengal in May, helped in bringing the crucial southwest monsoon winds over the Andaman Sea..
 - As a rule-of-thumb, the monsoon makes its onset over Kerala roughly ten days after it makes its advent over the south Andaman sea.
 - After delaying in Kerala, fast progress was mainly due to strong westerly winds from the Arabian Sea, and also the formation of a low-pressure system over the North Bay of Bengal, that currently lies over eastern Uttar Pradesh and Bihar.
 - An off-shore trough, prevailing between Maharashtra and Kerala, has helped the monsoon

arrive early over Karnataka, Goa, Andhra Pradesh, Telangana, Maharashtra and southern Gujarat.

➤ Further Progress:

- Over Northwest India, the monsoon becomes active only when the monsoon currents - either from the Arabian Sea or the Bay of Bengal - reach the region. As it is not expected to happen soon, the monsoon progress will remain slow.
- Also, a stream of mid-latitude westerly winds is approaching Northwest India, which will hinder the monsoon advancement in the immediate coming days.

➤ Early Monsoon and Rainfall Quantum:

- The time of monsoon onset over a region has no direct impact on the rainfall quantum received during the season, or in the monsoon's progress.
- For instance, the monsoon took 42 days in 2014 and 22 days in 2015 to cover the entire country. Even with such distinct ranges, India recorded deficient rainfall during both years.

➤ Impact on Summer-Sown Crops:

- The early arrival of monsoon rains in central and northern India will help farmers accelerate sowing of summer-sown crops such as paddy rice, cotton, soybean and pulses, and may boost crop yields too.

➤ Indications of Climate Change:

- The onset of the monsoon over various parts of the country each year can be ahead of time, in time or late. These variations are generally considered normal, given the complexity of the monsoon.
- However, climate experts have linked extreme weather events like intense rainfall over a region within a short time span or prolonged dry spell during the four months (June-September) as indications of climate change.

Monsoon in India

➤ About:

- The climate of India is described as the 'monsoon' type. In Asia, this type of climate is found mainly in the south and the southeast.
- Out of a total of 4 seasonal divisions of India, monsoon occupies 2 divisions, namely:
 - The southwest monsoon season - Rainfall received from the southwest monsoons is seasonal in character, which occurs between June and September.

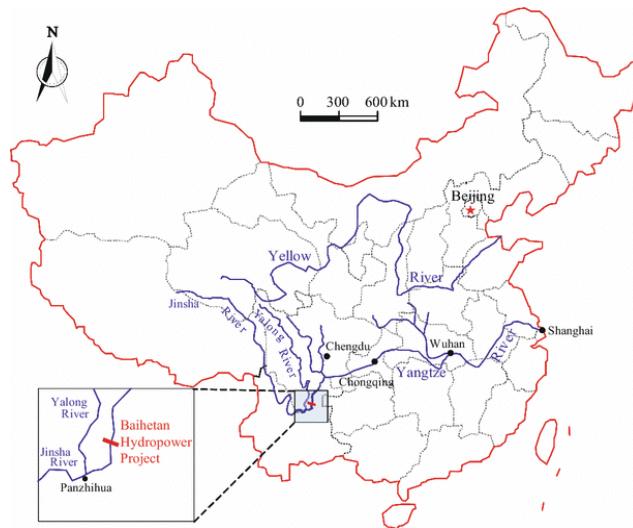
Note:

- **The retreating monsoon season** - The months of October and November are known for retreating monsoons.
- **Factors Influencing South-West Monsoon Formation:**
- **The differential heating and cooling of land and water** creates a low pressure on the landmass of India while the seas around experience comparatively high pressure.
 - **The shift of the position of Inter Tropical Convergence Zone (ITCZ)** in summer, over the Ganga plain (this is the equatorial trough normally positioned about 5°N of the equator. It is also known as the monsoon-trough during the monsoon season).
 - **The presence of the high-pressure area**, east of Madagascar, approximately at **20°S over the Indian Ocean**. The intensity and position of this high-pressure area affect the Indian Monsoon.
 - **The Tibetan plateau gets intensely heated** during summer, which results in strong vertical air currents and the formation of low pressure over the plateau at about 9 km above sea level.
 - **The movement of the westerly jet stream** to the north of the Himalayas and the presence of the **tropical easterly jet stream** over the Indian peninsula during summer.
 - **Tropical Easterly Jet** (African Easterly Jet).
 - **El Nino/Southern Oscillation (SO)**: Normally when the tropical eastern south Pacific Ocean experiences high pressure, the tropical eastern Indian Ocean experiences low pressure. But in certain years, there is a reversal in the pressure conditions and the eastern Pacific has lower pressure in comparison to the eastern Indian Ocean. This periodic change in pressure conditions is known as the SO.

Baihetan Dam: World's Second Biggest Hydropower Dam

Why in News

- Recently, China has put into operation the **Baihetan Dam, world's Second Biggest Hydropower Dam**.
- The **Three Gorges Dam** is the largest hydropower dam in the world and is also along China's Yangtze River. It began operations in 2003.



Key Points

➤ **About the Dam:**

- It is on the **Jinsha River**, a tributary of the **Yangtze** (the longest river in Asia).
- It has been built with a **total installed capacity of 16,000 megawatts**.
- It will eventually be able to **generate enough electricity each day** once to meet the **power needs of 5,00,000 people** for an entire year.

➤ **Significance for China:**

- It is part of Chinese efforts to **curb surging fossil fuel demand** by building more hydropower capacity.
 - This comes at a time when dams have fallen out of favor in other countries due to environmental complaints (such as flooding farmland and disruption of the ecology of rivers, threatening fish and other species).
- **China's pledge in 2020** to reach **carbon neutrality by 2060** had also added urgency to the construction.

➤ **China's Other Upcoming Projects:**

- China's planned **mega-dam in Tibet's Medog County**, which is set to surpass the **Three Gorges Dam in size**, has been described by analysts as a threat to Tibetan cultural heritage and a way for Beijing to effectively control a substantial portion of India's water supply.
 - The plan is to build a **dam on the lower reaches of the Brahmaputra River**.
 - The **Brahmaputra** (called **Yarlung Tsangpo** in China) is one of the longest rivers in the world.

Note:

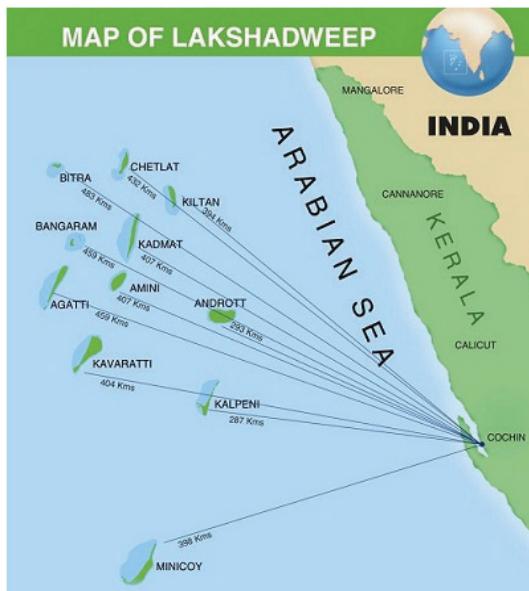
- Starting in the Himalayas in Tibet, it enters India in Arunachal Pradesh, then passes through Assam, Bangladesh, and empties into the Bay of Bengal.
 - The impact of dams on China's portion of the Mekong has also raised fears that irreversible damage is being inflicted upon a waterway which feeds 60 million people downstream as it winds through to the Vietnamese Delta.
- **Concerns:**
- **Agriculture:**
 - A huge dam (like on Brahmaputra) could hold back the massive amount of silt carried by the river (Silty soil is more fertile than other types of soil and it is good for growing crops).
 - This could affect farming in the areas downstream.
 - **Water Resources:**
 - India is also worried about the release of water during the monsoons, when north-eastern states such as Assam experience floods.
 - Change in the flow rate during times of standoff between the countries is also a cause of concern.
 - During the 2017 Doklam border standoff between India and China, China stopped communication of water flow levels from its dams.
 - **Ecological Impact:**
 - The ecosystem in the Himalayan region is already on the decline. Several species of flora and fauna are endemic to this part of the world and some of them are critically endangered. It could have disastrous consequences in this ecologically sensitive zone.
 - The massive engineering projects have also displaced hundreds of thousands of local communities and prompted concern in neighbouring countries.

Rising Sea Levels

Why in News

Recently, a study has projected that sea levels will rise around Lakshadweep Islands due to the impact of global warming.

- It will affect airport and residential areas that are quite close to the present coastline.



- India's smallest Union Territory, Lakshadweep is an archipelago consisting of 36 islands with an area of 32 sq km.

Key Points

- **Sea Level Rise (SLR):**
- SLR is an increase in the level of the world's oceans due to the effects of climate change, especially global warming, induced by three primary factors: Thermal Expansion, Melting Glaciers and Loss of Greenland and Antarctica's ice sheets.
 - Sea level is primarily measured using tide stations and satellite laser altimeters.
- **SLR is Linked to Three Primary Factors:**
- **Thermal Expansion:** When water heats up, it expands. About half of the sea-level rise over the past 25 years is attributable to warmer oceans simply occupying more space.
 - **Melting Glaciers:** Higher temperatures caused by global warming have led to greater-than-average summer melting of large ice formations like mountain glaciers as well as diminished snowfall due to later winters and earlier springs.
 - That creates an imbalance between runoff and ocean evaporation, causing sea levels to rise.
 - **Loss of Greenland and Antarctic Ice Sheets:** As with mountain glaciers, increased heat is causing the massive ice sheets that cover Greenland and Antarctica to melt more quickly, and also move more quickly into the sea.

Note:

➤ **Rate of SLR:**

- **Global:** Global sea level has been rising over the past century, and the rate has accelerated in recent decades. The average global sea level has **risen 8.9 inches between 1880 and 2015**. That's much faster than in the previous 2,700 years.
 - Also, **Intergovernmental Panel on Climate Change (IPCC)** released '**The Special Report on the Ocean and Cryosphere in a Changing Climate**' in 2019 which underlined the dire changes taking place in oceans, glaciers, and ice-deposits on land and sea.
- **Regional:** SLR is **not uniform** across the world. Regional SLR may be higher or lower than Global SLR due to subsidence, upstream flood control, erosion, regional ocean currents, variations in land height, and compressive weight of Ice Age glaciers.

➤ **Consequences of SLR:**

- **Coastal Flooding:** Globally, eight of the **world's 10 largest cities** are near a coast, which is threatened by coastal flooding.
- **Destruction of Coastal Biodiversity:** SLR can cause **destructive erosion**, wetland flooding, aquifer and agricultural soil contamination with salt, and lost habitat for biodiversity.
- **Dangerous Storm Surges:** Higher sea levels are coinciding with more dangerous **hurricanes** and typhoons leading to loss of life and property.
- **Lateral and Inland Migration:** Flooding in low-lying coastal areas is forcing people to migrate to the higher ground causing displacement and dispossession and in turn a **refugee crisis worldwide**.
- **Impact on Infrastructure:** The prospect of higher coastal water levels threatens basic services such as internet access.
- **Threat to Inland Life:** Rising seas can contaminate soil and groundwater with salt threatening life farther away from coasts.
- **Tourism and Military Preparedness:** Tourism to coastal areas and military preparedness will also be negatively affected by an increase in SLR.

➤ **Steps taken to Tackle SLR:**

- **Relocation:** Many coastal cities have planned to adopt relocation as a mitigation strategy. For

example, Kiribati Island has planned to shift to Fiji, while the **Capital of Indonesia is being relocated from Jakarta to Borneo**.

- **Building Sea Wall:** Indonesia's government launched a coastal development project called a Giant Sea Wall or "Giant Garuda" in 2014 meant to protect the city from floods.
- **Building Enclosures:** Researchers have proposed **Northern European Enclosure Dam (NEED)**, enclosing all of the North Sea to protect 15 Northern European countries from rising seas. The **Persian Gulf**, the **Mediterranean Sea**, the **Baltic Sea**, the Irish Sea, and the Red Sea were also identified as areas that could benefit from similar mega enclosures.
- **Architecture to Steer Flow of Water:** Dutch City Rotterdam built barriers, drainage, and innovative architectural features such as a "water square" with temporary ponds.

➤ **Vulnerability of India:**

- India's **7,516-kilometre-long coastline** includes 5,422 kilometres of coastline on the mainland and 2,094 kilometres on the islands belonging to nine states and four Union Territories.
- The coastline **accounts for 90% of the country's trade** and it spans **3,331 coastal villages and 1,382 islands**.

➤ **India's Efforts:**

- **Coastal Regulation Zone:**
 - The **coastal areas of seas, bays, creeks, rivers, and backwaters** which get **influenced by tides up to 500 m from the high tide line (HTL)** and the land between the **low tide line (LTL)** and the **high tide line** were declared as **Coastal Regulation Zone (CRZ)** in 1991.
 - The latest regulation **also takes into account rising sea-levels due to global warming**.
- **National Action Plan on Climate Change:**
 - It was **launched in 2008** by the Prime Minister's Council on Climate Change.
 - It aims at creating awareness among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it.

Note:



Social Issues

Highlights

- Disability Early Intervention Centres
- World Sickle Cell Disease Day 2021

- Suicide Worldwide in 2019: WHO
- International Day Against Drug Abuse and Illicit Trafficking

Disability Early Intervention Centres

Why in News

Recently, the **Ministry of Social Justice and Empowerment** has launched 14 **cross-disability early intervention centres** across the country to provide support to **infants and young children** at risk of or **with disabilities**.

Disabilities

- Disabilities is an **umbrella term**, covering impairments, activity limitations, and participation restrictions.
 - An **impairment** is a problem in body function or structure;
 - An **activity limitation** is a difficulty encountered by an individual in executing a task or action;
 - A **participation restriction** is a problem experienced by an individual in involvement in life situations.
- The **United Nations Convention on the Rights of Persons with Disabilities** adopts a broad categorization of persons with disabilities and reaffirms that all persons with all types of disabilities must enjoy all human rights and fundamental freedoms.
 - **India has ratified the Convention** and has enacted '**The Rights of Persons with Disabilities Act, 2016**'.

Key Points

- **About:**
 - The services provided at the centres will include screening of children and referral to appropriate **rehabilitative care; speech therapy, occupational therapy and physiotherapy; parental counselling** and training and peer counselling.

- These centers will also **focus on school readiness**.

➤ Need:

○ Scenario from 2011 Census:

- There are **more than 20 lakh** children with disabilities in the age group of **0-6 years**, who belong to the categories of visually impaired, hearing impaired, locomotor disability etc.
- This means that **around 7% of children** in this age group suffer from some form of disability.

○ Expected Rise in Number:

- The number of such children is expected to increase as the **Rights of Persons with Disabilities Act 2016**, increases the number of disabilities to 21 from 7.

○ 0-6 Years is a Critical Phase:

- Early Childhood (0-6 years) is the **most critical phase of brain development**. Early intervention can provide specialised support and services for infants and young children at-risk or with disability or developmental delay and their families to help their development, well-being and participation in family and community life.
- This can **lead to lesser economic burden** by creating a better future and independent/less dependent lives.

World Sickle Cell Disease Day 2021

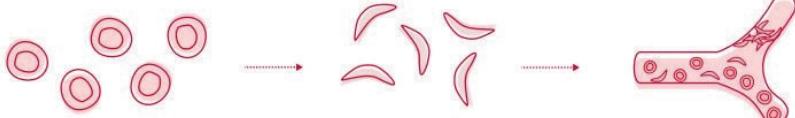
Why in News

To commemorate the **World Sickle Cell Disease (SCD) Day** on **19th June**, the **Ministry of Tribal Affairs (MOTA)** flagged off **mobile vans under the Unmukt project** for strengthening screening and timely management of SCD in tribal districts of Jharkhand and Chhattisgarh.

Note:

- The United Nations General Assembly (UNGA) adopted a resolution recognising SCD as a public health problem on **22th December, 2008**.
- The UNGA also recognised SCD as one of the first **genetic diseases**.

What is Sickle Cell Disease?



Key Points

- **Sickle Cell Disease:**
 - It is an **inherited blood disease** which is most common among people of African, Arabian and Indian origin.
 - It is a group of disorders that **affects hemoglobin, the molecule in red blood cells that delivers oxygen** to cells throughout the body.
 - People with this disease have atypical hemoglobin molecules called **hemoglobin S**, which can **distort red blood cells into a sickle, or crescent shape**.
 - This **blocks blood flow and oxygen from reaching all parts of the body**.
- **Symptoms:**
 - It can cause **severe pain**, referred to as sickle cell crises.
 - Over time, people with sickle cell disorders can experience **damage to organs including the liver, kidney, lungs, heart and spleen**. Death can also result from complications of the disorder.
- **Treatment:**
 - Medication, blood transfusions and rarely a bone-marrow transplant.
- **Related Data:**
 - India alone is home to about **1,50,000 patients with SCD and about 88% of Sickle Cell Anemia (SCA) cases in Asia**.
 - The disease in India occurs predominantly in eastern **Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh, western Odisha** and in pockets of the **Nilgiri Hills** in north Tamil Nadu and Kerala.
 - The disease is **prevalent among tribal communities** (including children).
 - As per MOTA, SCD is affecting more women and children and nearly **20% of tribal children with SCD die before reaching the age of two**, and **30% children die before reaching adulthood**.
- **Challenges:**

SCD is a blood disorder

Sickle Cell Disease (SCD) is an **inherited blood disorder** that affects red blood cells. Normal red blood cells are round and flexible, which lets them travel through small blood vessels to deliver oxygen to all parts of the body.

Causing misshapen blood cells

SCD causes red blood cells to **form into a crescent shape**, like a sickle.

Creating painful complications

The sickle-shaped red blood cells break apart easily, clump together, and stick to the walls of blood vessels, **blocking the flow of blood**, which can cause a range of serious health issues.

- **Social Stigma and Prevalence among Tribal Population** (where Access to care for SCD is limited).
- **School Drop Out:**
 - Children with sickle cell disease often have to drop out from school.
- **Policy Issue:**
 - The delayed implementation of the **2018 draft policy on haemoglobinopathies**.
 - The policy aims to provide evidence-based treatment for patients and reduce the number of new-born children with sickle cell disease through initiatives such as the Sickle Cell Anaemia Control Program, screening and prenatal diagnosis.
- **Initiatives by India:**
 - **Initiative by the Ministry of Tribal Affairs:**
 - **SCD Support Corner**, a portal to collect real time data and provide relevant information related to Sickle Cell.
 - It will help in making a **Central Repository of data**.
 - An '**Action Research**' project under which **Yoga** dependent lifestyle is promoted to reduce the complications in the patient suffering from this disease.
 - **Expanded Screening:**
 - Certain states, such as Chhattisgarh and Gujarat, have **expanded their screening programmes from hospital to school-based screenings**.
 - Extrapolating such screening efforts and implementation strategies to other states will help **map the prevalence of the disease**.
 - **Disability Certificate:**

Note:

- The Ministry of Social Justice and empowerment has increased the validity of **disability certificates** for SCD patients from **1 year to 3 year**.

Suicide Worldwide in 2019: WHO

Why in News

Recently, a report titled **Suicide worldwide in 2019** was published by the **World Health Organization (WHO)**.

- Suicide** is defined as **death caused by self-directed injurious behavior** with intent to die as a result of the behavior.

Key Points

➤ Unmet Target:

- Reducing the **global suicide mortality rate** by a third is both, an indicator and a target (the only one for mental health) in the **United Nations-mandated Sustainable Development Goals (SDGs)**. But the world will not be able to reach this target.
- The SDGs call on countries to **reduce premature mortality from non-communicable diseases by a third, by 2030** through prevention and treatment and to promote mental health and well-being.
- They ask countries to **strengthen the prevention and treatment of substance abuse**, including narcotic drug abuse and harmful use of alcohol. They also call for **universal health coverage**, which mental health is part of.
- Although some countries have placed suicide prevention high on their agendas, too many countries remain uncommitted, the report said.
- Currently, only **38 countries are known to have a national suicide prevention strategy**.

➤ Suicides in 2019:

- The **Covid-19-pandemic** has increased mental stress globally. However a crisis was already in place in 2019. Approximately **7,03,000 people or one in a 100**, died by suicide in 2019.
 - The **global age-standardized suicide rate** was **9.0 per 1,00,000 population** for 2019.
- Many of these were **young people**. More than half of global suicides (58%) occurred before the

age of 50 years. Suicide was the **fourth-leading cause of death among young people aged 15-29 globally in 2019**.

- Some **77% of global suicides in 2019 occurred in low- and middle-income countries**.

➤ Regional Data:

- Africa, Europe and South-East Asia recorded **suicide rates higher than the global average**.
 - This number was **highest in the Africa region** (11.2) followed by Europe (10.5) and South-East Asia (10.2).
- In 20 years (2000-2019), the **global suicide rate had decreased by 36%**.
 - The decrease ranged from **17% in the Eastern Mediterranean Region to 47% in the European Region and 49% in the Western Pacific Region**.
- The Region of the Americas recorded a substantial **17% increase** in the suicide rate during the same period and has been an exception.

➤ Suicides in India:

- India has the **highest suicide rate in the Southeast Asian region**.
 - A total of **1,34,516 cases of suicide** were reported in **2018** in India, according to the **National Crime Records Bureau**.
 - While the rate of suicide was **9.9 in 2017**, it increased to **10.2 in 2018**.

➤ WHO Guidelines to Reduce Suicides:

- The WHO had published **new LIVE LIFE guidelines** to help countries reduce the global suicide mortality rate by a third by 2030. These are:
 - Limiting access to the means of suicide, such as highly hazardous pesticides and firearms.
 - Educating the media on responsible reporting of suicide.
 - Fostering socio-emotional life skills in adolescents.
 - Early identification, assessment, management and follow-up of anyone affected by suicidal thoughts and behaviour.
- These needed to go hand-in-hand with foundational pillars like situation analysis, multi-sectoral collaboration, awareness raising capacity building, financing, surveillance and monitoring and evaluation.

➤ Legal Status of Attempted Suicide in India:

Note:

- According to **Article 21 of the Indian constitution**, “No person shall be deprived of his life or personal liberty except according to procedure established by the law”. While the constitution covers the right to life or liberty, **it does not include the ‘right to die’**.
 - The attempts at taking one’s own life are not considered to fall under purview of constitutional right to life.
 - **Section 309 of the Indian Penal Code (IPC)** states whoever attempts to commit suicide and does any act towards the commission of such offence, shall be punished with simple imprisonment for a term which may extend to one year or with fine or both.
 - It is to be noted that the **abetting of the commission of suicide** (but not the abetting of attempt to commit suicide) is covered under **Section 306 IPC** and the abetment of suicide of a child is covered under **Section 305 IPC**.
 - Section 115 (1) of the **Mental Healthcare Act 2017** of the Act provides, “Notwithstanding anything contained in section 309 of the IPC, **any person who attempts to commit suicide shall be presumed, unless proved otherwise, to have severe stress and shall not be tried and punished under the said Code**.
 - However, this law applies only to those suffering from mental illness. There is presumption of severe stress in case of an attempt to die by suicide.
- **Related Indian Initiatives:**
- **Mental Healthcare Act, 2017**
 - **KIRAN:** The Ministry of Social Justice and Empowerment has launched a 24/7 toll-free helpline to provide support to people facing anxiety, stress, depression, suicidal thoughts and other mental health concerns.
 - **Manodarpan Initiative:** It is an initiative of the Ministry of Education under Atmanirbhar Bharat Abhiyan. It is aimed to provide psychosocial support

to students, family members and teachers for their mental health and well-being during the times of Covid-19.

International Day Against Drug Abuse and Illicit Trafficking

Why in News

Recently, the Minister for Social Justice & Empowerment launched the website for the **Nasha Mukt Bharat Abhiyaan (NMBA)** on the occasion of **International Day Against Drug Abuse and Illicit Trafficking (26th June)**.

- The **Ministry of Social Justice & Empowerment** is the **nodal ministry for Drug Demand Reduction**, implements various programmes for drug abuse prevention across the country.

Key Points

- **About:**
 - In order to strengthen action and cooperation in achieving the goal of a world free of drug abuse, the **United Nations (UN) General Assembly**, in **December 1987**, decided to mark **26th June** as the **International Day Against Drug Abuse and Illicit Trafficking**.
- **2021 Theme:**
 - Share Drug Facts to Save Lives.
- **Related Initiatives:**
 - **Single Convention on Narcotic Drugs, 1961.**
 - **The Convention on Psychotropic Substances, 1971.**
 - **The UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.**
 - India is a signatory to all three and has enacted the **Narcotics Drugs and Psychotropic Substances (NDPS) Act, 1985.**
 - Every year, the UN publishes a **World Drug Report**.



Note:

Art & Culture

Highlights

- National Maritime Heritage Complex: Lothal
- Humayun's Tomb: Mughal Architecture

National Maritime Heritage Complex: Lothal

Why in News

The Ministry of Culture (MoC) and Ministry of Ports, Shipping and Waterways (MoPSW) signed a Memorandum of Understanding (MoU) for 'Cooperation in Development of National Maritime Heritage Complex (NMHC)' at Lothal, Gujarat.

Key Points

- **About:**
 - NMHC will be developed in Lothal region of Gujarat.
 - It would be developed as an international tourist destination, where the maritime heritage of India from ancient to modern times would be showcased.
 - The idea is to create an edutainment (education with entertainment) approach for this destination that would be of great interest for the visitors.
 - It is going to cover an area of 400 acres, with structures such as Heritage Theme Park, National Maritime Heritage Museum, Lighthouse Museum, Maritime Institute, eco-resorts, and more.
 - There will also be many pavilions where all coastal states in India and union territories can showcase their artifacts and maritime heritage.
 - The unique feature of NMHC is the recreation of ancient Lothal city, which is one of the prominent cities of the ancient Indus valley civilization.
- **About Lothal:**
 - Lothal was one of the southernmost cities of the ancient Indus Valley Civilization located in Gujarat.
 - Construction of the city began around 2400 BCE.
 - According to the Archaeological Survey of India (ASI), Lothal had the world's earliest known dock,

which connected the city to an ancient course of the Sabarmati river on the trade route between Harappan cities in Sindh and the peninsula of Saurashtra.

Indus Valley Civilization

- Also known as Harappan Civilization that flourished around 2,500 BC, in the western part of South Asia, in contemporary Pakistan and Western India.
- It was home to the largest of the four ancient urban civilizations of Egypt, Mesopotamia, India and China.
- It was basically an urban civilization and the people lived in well-planned and well-built towns, which were also the centers for trade.
 - They had wide roads and a well-developed drainage system.
 - The houses were made of baked bricks and had two or more storeys.
- The highly civilized Harappans knew the art of growing cereals, and wheat and barley constituted their staple food.
- By 1500 BC, the Harappan culture came to an end. Among various causes ascribed to the decay of Indus Valley Civilization are the recurrent floods and other natural causes like earthquakes, etc.



Note:

- Lothal was a **vital and thriving trade Centre in ancient times**, with its trade of beads, gems, and valuable ornaments reaching the far corners of West Asia and Africa.
 - The techniques and tools they pioneered for bead-making and in metallurgy have stood the test of time for over 4000 years.
- The Lothal site has been **ominated as a UNESCO World Heritage Site**, and its application is pending on the tentative list of UNESCO.

Humayun's Tomb: Mughal Architecture

Why in News

Recently, the Archaeological Survey of India (ASI) notified that all centrally protected monuments, sites, and museums across the country including the Humayun's Tomb will reopen for visitors from 16th June 2021.

- Humayun's tomb in Delhi is a fine specimen of the great **Mughal architecture**.
- ASI, under the Ministry of Culture, is the **premier organization for the archaeological research and protection** of the cultural heritage of the nation.

Key Points

➤ Humayun's Tomb:

- **About:**
 - This tomb, **built in 1570**, is of particular cultural significance as it **was the first garden-tomb on the Indian subcontinent**.
 - It **inspired several major architectural innovations**, culminating in the construction of the Taj Mahal.
 - It was built under the patronage of Humayun's son, the **great Emperor Akbar**.
 - It is also called the '**dormitory of the Mughals'** as in the cells are **buried over 150 Mughal family members**.
 - It is an example of the **charbagh** (a four quadrant garden with the four rivers of Quranic paradise represented), with pools joined by channels.
 - The **United Nations Educational Scientific and Cultural Organisation (UNESCO)** recognized it as a **World Heritage Site in 1993**.



➤ Mughal Architecture:

○ About:

- This is a building style that flourished in **northern and central India** under the patronage of the Mughal emperors from the **mid-16th to the late 17th century**.
- The Mughal period marked a striking **revival of Islamic architecture in northern India**. Under the patronage of the Mughal emperors, Persian, Indian, and various provincial styles were fused to produce works of unusual quality and refinement.
- It became so widespread especially in north India that these can be seen further in the **colonial architecture of Indo-Saracenic style**.

○ Important Features:

- **Mixed Architecture:** It was a blend of Indian, Persian, and Turkish architectural style.
- **Diversity:** Different types of buildings, such as majestic gates (entrances), forts, mausoleums, palaces, mosques, sarais, etc.
- **Building material:** Mostly, red sandstone and white marble were used.
- **Speciality:** Specific features such as the **Charbagh** style of the mausoleums, pronounced **bulbous domes**, slender turrets at the corners, **broad gateways**, beautiful **calligraphy, arabesque**, and **geometric patterns** on pillars and walls, and palace halls supported on pillars.
 - The **arches, chhatri, and various styles of domes** became **hugely popular** in the Indo-Islamic architecture and were further developed under the Mughals.

○ Some Examples:

Note:

Taj Mahal:

- Built by **Shah Jahan** between **1632 and 1653**, in memory of his wife Mumtaz Mahal.
 - UNESCO recognized the Taj Mahal as a **World Heritage Site in 1983**. It is located in Agra.
-
- Red Fort:**
- Built by **Shah Jahan** in **1618** when he decided to move the capital from Agra to Delhi. It was the residence of Mughal rulers.

- UNESCO designated it as the **World Heritage Site in 2007**.

Jama Masjid:

- Built by **Shah Jahan** in Delhi. The construction was completed in **1656**.

Badshahi Mosque:

- Built during the reign of Aurangzeb. At the time of **completion in 1673**, it was the **largest mosque in the world**. It is located in **Lahore**, capital of the Pakistani province of Punjab.

■ ■ ■



Note:

Security

Highlights

- Creation of Integrated Triservice Theatre Commands
- The World Drug Report 2021: UNODC
- Agni-P (Prime)
- IN-EUNAVFOR Joint Naval Exercise
- Krivak Stealth Frigates
- India-US: PASSEX
- Exercise Sea Breeze
- INS Vikrant: First Indigenous Aircraft Carrier
- Jammu Drone Attacks
- Project Seabird: INS Kadamba

Creation of Integrated Triservice Theatre Commands

Why in News

Recently, a **high-level committee** has been formed for the consultations on the creation of **integrated triservice theatre commands**.

- The committee will examine all issues and find a way forward before a formal note on their creation is sent to the **Cabinet Committee on Security**.

Key Points

- **About the Move:**
 - The move was necessitated due to some aspects like **bringing in paramilitary forces** (which is under Home Ministry) **under the purview of the theatre commands** and **financial implications** that may arise in the process of integration.
 - The **proposed Air Defence Command** plans to integrate all air assets of the armed forces while the **Maritime Theatre Command** plans to bring in all assets of Navy, **Coast Guard** as well as coastal formations of Army and Air Force under one umbrella.
 - On land, the **Army's Northern command and Western Command** would be converted into 2-5 theatre commands.
- **Integrated Theatre Command:**
 - An integrated theatre command **envisages a unified command** of the three Services, **under a single commander**, for geographical theatres (areas) that are of strategic and security concern.

- The commander of such a force **will be able to bear all resources** at his disposal — from the Army, the Indian Air Force, and the Navy — with seamless efficacy.
- The integrated theatre commander **will not be answerable** to individual Services.
- Integration and jointness of the three forces **will avoid duplication of resources**. The resources available under each service will be available to other services too.
- The **Shekatkar committee** (in 2015) had recommended the creation of 3 integrated theatre commands — **northern** for the China border, **western** for the Pakistan border, and **southern** for the maritime role.

Views in favour of Integration:

- The **integrated theatre commander** will not be answerable to individual Services, and will be **free to train, equip and exercise his command to make it a cohesive fighting force** capable of achieving designated goals.
- The **logistic resources required to support its operations will also be placed at the disposal of the theatre commander** so that it does not have to look for anything when operations are ongoing.
- This is **in contrast to the model of service-specific commands** which India currently has, wherein the Army, Air Force and Navy all have their own commands all over the country. In case of war, each Service Chief is expected to control the operations of his Service through individual commands, while they operate jointly.

Views against Integration:

Note:

- There has been **no occasion**, during actual warfare, **when the three services have not operated with commendable cooperation.**
- Faraway land war and medium to high intensity wars are a **distant possibility.**
- With **increased communication networks**, interaction between three organizations is easy, they can come on board, can plan without much consideration of spatial distance, so there is no need for a new organisation.
- **Domain knowledge of the integrated force commander is likely to be limited** in respect of the other two Services components under his command, thereby limiting his ability to employ them in the most suitable manner and at the appropriate time.

➤ **Current Situation:**

- The Indian armed forces currently **have 17 commands**. There are **7 commands each of the Army and the Air Force**. The Navy has **3 commands**.
 - Each command is headed by a 4-star rank military officer.
- There is one **joint command** in Andaman and Nicobar Islands.
 - It is the **first Tri-Service theatre command** of the Indian Armed Forces, based at Port Blair in Andaman and Nicobar Islands of India.
- The other **tri-service command**, the **Strategic Forces Command (SFC)**, looks after the delivery and operational control of the country's nuclear assets.

➤ **Recent Developments:**

- The appointment of the **CDS (Chief of Defence Staff)** and the creation of the **Department of Military Affairs (DMA)** are momentous steps towards the **integration and advancement of defence forces**.
 - **CDS:** It is the **single-point military adviser to the government** as suggested by the Kargil Review Committee in 1999.
 - **Department of Military Affairs:** Work exclusively pertaining to military matters will fall within the purview of the DMA. Earlier, these functions were the mandate of the Department of Defence (DoD).
- The Chief of Defence Staff General Bipin Rawat has **operationalised the third Joint Logistics Node (JLN) in Mumbai.**

- These JLNs will provide integrated logistics cover to the Armed Forces for their small arms ammunition, rations, fuel, general stores, civil hired transport, aviation clothing, spares and also engineering support in an effort to synergise their operational efforts.

The World Drug Report 2021: UNODC

Why in News

Recently, the **United Nations Office on Drugs and Crime (UNODC)**, in its **World Drug Report 2021**, has highlighted that the lockdown restrictions during **Covid-19** have accelerated drug trafficking using the Internet.

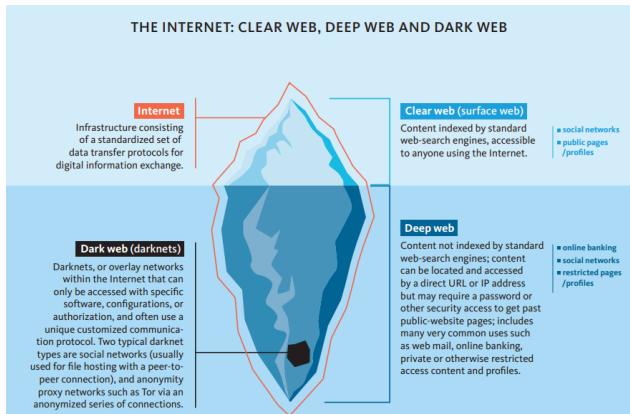
- By drugs, the Report refers to substances controlled under international drug control conventions, and their non-medical use.

Key Points

- **Data Analysis:**
 - Between **2010-2019**, the number of **people using drugs increased by 22%**, owing in part to an increase in the global population.
 - Around **275 million people used drugs worldwide last year**, while over **36 million people suffered from drug use disorders**.
 - Opioids continue to account for the **largest burden of disease attributed to drug use**.
 - A rise in the **non-medical use of pharmaceutical drugs** was also observed during the coronavirus pandemic.
- **Cannabis is More Potent but Fewer Young People See it as Harmful:**
 - In the last 24 years, **cannabis potency had increased as much as four times** in some parts, even as the **percentage of adolescents who perceived the drug as harmful fell by as much as 40%**.
 - The major psychoactive constituent in cannabis, Δ9-THC, is responsible for the development of mental health disorders, in the long-term.
 - **Reason: Aggressive marketing** of cannabis products and **promotion through social-media channels**.
- **Rising Web-based Sales Could Transform Global Drug Use Patterns:**

Note:

- Access to drugs has also become simpler than ever with online sales, and major drug markets on the dark web are now worth some \$315 million annually.
- In Asia, China and India are mainly linked to shipment of drugs sold on the 19 major darknet markets analysed over 2011-2020.
- Cannabis dominates drug transactions on Dark web and on clear web involves sale of Narcotic Drugs and Psychotropic Substances (NDPS) and substances used in the manufacture of synthetic drugs.



➤ Impact of Covid-19:

- **Socio Economic impact:**
 - The Covid-19 crisis has pushed **more than 100 million people into extreme poverty**, and has greatly **exacerbated unemployment and inequalities**, as the world lost 255 million jobs in 2020.
 - **Mental health conditions** are also on the rise worldwide. Such **socioeconomic stressors** have likely **accelerated demand for the drugs**.
- **Positive Trend:**
 - A **rise in the use of technology during the pandemic** has also triggered **innovation in drug prevention and treatment services**, through more flexible models of service delivery such as **telemedicine**, enabling healthcare professionals to reach and treat more patients.
 - The **number of new NDPS emerging on the global market fell** from 163 in 2013, to 71 in 2019.
 - The **pharmaceutical opioids** used to treat people with opioid use disorders have **become increasingly accessible**, as science-based treatment has become more broadly available.

➤ Reasons for Increase in Drug Use:

- Drug traffickers have **quickly recovered** from initial setbacks caused by lockdown restrictions and are operating at pre-pandemic levels once again.
- It is driven in part by a **rise in the use of technology and cryptocurrency payments**, operating outside the regular financial system.
- **Contactless drug transactions**, such as through the mail, are also on the rise, a trend possibly accelerated by the pandemic.
- **Vendors play a cat-and-mouse game with law enforcement** by marketing their products as "research chemicals" or advertising "custom synthesis".

➤ Suggestions:

- **Combating misinformation** on the impact of the use of cannabis products is crucial.
- **Awareness-raising and communication efforts** that disseminate scientific information without stigmatizing people.
- Increasing the **capacity of law enforcement agencies** to address drug trafficking over the darknet remains a priority.
- **Joint responses by Governments and the private sector** can involve controlling and removing advertisements and listings of illegal drugs on the Internet.
- Continuously **update scientific standards** to keep abreast of the acceleration of Internet-based services.

United Nations Office on Drugs and Crime

- It was established in 1997 and was named as a United Nations Office on Drugs and Crime (UNODC) in 2002.
- It acts as the Office for Drug Control and Crime Prevention by combining the United Nations International Drug Control Program (UNIDCP) and the Crime Prevention and Criminal Justice Division of the United Nations Office at Vienna.

Relate International Initiatives

- **International Day Against Drug Abuse and Illicit Trafficking** is celebrated every year on 26th June.
- Single Convention on Narcotic Drugs, 1961.
- The Convention on Psychotropic Substances, 1971.
- The United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, 1988.

Note:

- India is a signatory to all three and has enacted the Narcotics Drugs and Psychotropic Substances (NDPS) Act, 1985.

Agni-P (Prime)

Why in News

Recently, a new generation nuclear capable ballistic missile Agni-P (Prime) was successfully test-fired by the Defence Research and Development Organisation (DRDO) from Dr. APJ Abdul Kalam island off the coast of Odisha, Balasore.

Key Points

- Agni-P is a new generation advanced variant of the Agni class (under IGMDP - Integrated Guided Missile Development Program).
- It is a canisterised missile with range capability between 1,000 and 2,000 km.
 - Canisterisation of missiles reduces the time required to launch the missile while improving its storage and mobility.
- Many advanced technologies including composites, propulsion systems, innovative guidance and control

Shot in the arm

- ▶ Agni-P's range of 1,000–2,000 km is too short to reach targets in China's mainland, but can cover all of Pakistan's territory
- ▶ Being a canisterised missile, it can be transported easily and fired at very short notice
- ▶ It will replace the Prithvi, Agni-1 and Agni-2 missiles in India's arsenal that were built two decades ago with tech now considered obsolete
- ▶ It will enter service as a two-stage, solid propellant missile. Both stages will have composite rocket motors and guidance systems with electro-mechanical actuators
- ▶ Agni-P and Agni-5 originate from the Integrated Guided Missile Development Programme launched by then DRDO chief Dr APJ Abdul Kalam in the early 1980s

mechanisms and state-of-the-art navigation systems have been introduced. The Agni-P missile would further strengthen India's credible deterrence capabilities.

- In comparison to other Agni class missiles, Agni-P has improved parameters including manoeuvring and accuracy.
- Agni Class of Missiles:
 - They are the mainstay of India's nuclear launch capability.
 - Range of other Agni Missiles:
 - Agni I: Range of 700-800 km.
 - Agni II: Range more than 2000 km.
 - Agni III: Range of more than 2,500 Km
 - Agni IV: Range is more than 3,500 km and can fire from a road mobile launcher.
 - Agni-V: The longest of the Agni series, an Inter-Continental Ballistic Missile (ICBM) with a range of over 5,000 km.

IGMDP (Integrated Guided Missile Development Program)

- It was conceived by Dr. A.P.J. Abdul Kalam to enable India attain self-sufficiency in the field of missile technology. It was approved by the Government of India in 1983 and completed in March 2012.
- The 5 missiles (P-A-T-N-A) developed under this program are:
 - Prithvi: Short range surface to surface ballistic missile.
 - Agni: Ballistic missiles with different ranges, i.e. Agni (1,2,3,4,5)
 - Trishul: Short range low level surface to air missile.
 - Nag: 3rd generation anti-tank missile.
 - Akash: Medium range surface to air missile.

Nuclear Triad:

- Nuclear triad, a three-sided military-force structure consisting of land-launched nuclear missiles, nuclear-missile-armed submarines, and strategic aircraft (e.g. Rafale, Brahmos) with nuclear bombs and missiles.
- DRDO had in January 2020 successfully test-fired a 3,500-km range submarine-launched ballistic missile, K-4, from a submerged pontoon off the Visakhapatnam coast.
- Once inducted, these missiles will be the mainstay of the Arihant class of indigenous ballistic missile

Note:

nuclear submarines (SSBN) and will give India the stand-off capability to launch nuclear weapons submerged in Indian waters.

- INS Arihant, the only SSBN in service, is armed with K-15 missiles with a range of 750 km.
- In the past few years, India has been able to complete its nuclear triad. This is especially important given India's **No-First-Use policy** while reserving the right of massive retaliation if struck with nuclear weapons first.

IN-EUNAVFOR Joint Naval Exercise

Why in News

The maiden Indian Navy - European Union Naval Force (IN-EUNAVFOR) Exercise is being conducted in **Gulf Of Aden**.



Key Points

- **Participants:**
 - Along with **Indian Navy**, other naval forces are from **Italy, Spain and France**.
 - The naval exercise **included** advanced air defence and anti-submarine exercises, tactical manoeuvres, Search & Rescue, and other maritime security operations.
- **Aim:**
 - To enhance and hone their **war-fighting skills** and their ability as an **integrated force to promote peace, security and stability** in the maritime domain.
- **Significance:**
 - EUNAVFOR and the Indian Navy converge on multiple issues including **counter piracy operations** and

protection of vessels deployed under the charter of World Food Programme (UN WFP).

- The two navies also have regular interaction through **SHADE (Shared Awareness and Deconfliction)** meetings held annually at Bahrain.
- **SHADE** is an **international operational counter piracy platform**, convened in **Bahrain**.
- It aimed to encourage partners for sharing information, assessing the evolution of trends, best practices and to de-conflict operations amongst counter-piracy actors in the **Gulf of Aden, the Gulf of Oman and the Western Indian Ocean**.
- It also underscores the shared values in ensuring **freedom of seas and commitment to an open, inclusive and a rules-based international order**.

Major Indian Maritime Exercises

Name of the Exercise	Name of the Country
SLINEX	Sri Lanka
Bongosagar and IN-BN CORPAT	Bangladesh
JIMEX	Japan
Naseem-Al-Bahr	Oman
Indra	Russia
Za'ir-Al-Bahr	Qatar
Samudra Shakti	Indonesia
Indo-Thai CORPAT Exercise MAITREE (Army) Exercise SIAM BHARAT (Air Force)	Thailand
IMCOR	Malaysia
SIMBEX	Singapore
AUSINDEX	Australia
Malabar Exercise	Japan, Australia and the USA

Note:

- Concurrently, a virtual “**Information sharing Exercise**” is also being conducted between the **Indian Navy Information Fusion Centre – Indian Ocean Region and Maritime Security Centre-Horn of Africa**, an integral part of EUNAVFOR.

Krivak Stealth Frigates

Why in News

Recently, the Vice-Chief of the Naval Staff has inaugurated the construction of the **second frigate of the Krivak or Talwar class**.

- The construction of the first ship was laid in January, 2021. It would be **delivered in 2026 and the second ship after six months**.

Key Points

About:

- The Krivak class stealth ships are **being built with technology transfer from Russia by Goa Shipyard Ltd. (GSL)** under ‘**Make in India**’. Engines for the ships are supplied by **Ukraine**.
 - In October 2016, **India and Russia signed an Inter-Governmental Agreement (IGA)** for four Krivak or Talwar stealth frigates.
 - The first two frigates will be built in Yantar Shipyard, in Kaliningrad, Russia.** The following two will be built in GSL.
- The new Krivak frigates will have the **same engines and armament configuration as Yantar’s last three frigates** - INS Teg, Tarkash and Trikand. These will be armed with **BrahMos anti-ship and land attack missiles**.

Use:

- They are primarily **used to accomplish a wide variety of naval missions** such as finding and eliminating enemy submarines and large surface ships.



INDIA-RUSSIA DEALS IN THE PIPELINE



AKULA CLASS NUCLEAR-POWERED ATTACK SUBMARINE

\$3 bn or ₹21,000 cr
(to be delivered by 2026)

STATUS: Signed



KAMOV KA-226 LIGHT UTILITY HELICOPTERS

JV between HAL and Russian helicopters for production
(200 Kamov Ka-226)

\$1 bn or ₹7,000 cr
STATUS: MoU signed in June 2018



AK-203
\$1.6 bn or ₹12,000 cr
(700,000 rifles)

Indo-Russian joint venture to make AK-203 rifles at an idle Ordnance Board Factory in Korwa
STATUS: Signed. JV to be established soon

4 KRIKAK CLASS FRIGATES
Two built in Russia, two to be built at the Goa shipyard

\$2.5 bn or ₹17,000 cr
STATUS: Signed



18 ADDITIONAL SUKHOI SU-30MKI AIRCRAFT

\$700 mn or ₹5,000 cr
STATUS: Being negotiated

21 MOTHBALLED MIG-29 AIRFRAMES

\$800 mn
or ₹5,600 cr
STATUS: Being negotiated



10 KAMOV KA-31 AEW&C HELICOPTERS

\$500 mn or ₹3,600 cr
STATUS: Approved. Contract yet to be signed

Existing Frigates:

- The navy already **operates six Krivak III frigates**. The first three joined the fleet between June 2003 and April 2004, followed by another three between April 2012 and June 2013. With the **current contract, the navy will operate 10 Krivak frigates**.

India-Russia Defence Relation

About:

- Defence cooperation is an important pillar of the **India-Russia strategic partnership**.
- The two **Defence Ministers meet annually**, alternately in Russia and India, to discuss and review the status of ongoing projects and other issues of military technical cooperation.
- As India has been spreading its supplier base with Israel, US and France, **Russia still remains a major supplier**.

Note:

- The two sides are successfully moving towards the implementation of an AK-203 rifle contract and 200 **Ka-226T utility helicopter** supplies.
- According to a paper published by Stimson Center, 86% of the equipment, weapons and platforms currently in military service in India are of Russian origin.
- **Joint Exercises:**
 - Exercise **INDRA**, is a joint, tri services exercise between India and Russia.
- **Russia's Military Equipment Deployed by India:**
 - **Navy:**
 - The Navy's only active aircraft carrier INS **Vikramaditya** is from Russia. A **nuclear attack submarine** Chakra II is also in service.
 - **Army:**
 - Army's **T-90** and T-72 main battle tanks.
 - **S-400 Triumf missile system.**
 - **Air Force:**
 - IAF's **Su30 MKI** fighter.

India-US: PASSEX

Why in News

Indian naval ships will join maritime patrol and other aircraft to participate in a **Passage Exercise** or PASSEX with the **US Navy's Ronald Reagan Carrier Strike Group** during its transit through **Indian Ocean Region (IOR)**.

- A passage exercise is **normally undertaken whenever an opportunity arises**, in contrast to pre-planned maritime drills.
- Earlier, the Indian Navy had **also conducted similar PASSEXs with the Japanese Navy and the French Navy**.

Key Points

- **About:**
 - Indian Naval Ships **Kochi** and **Teg** along with **P8I** (maritime patrol aircraft) and (Indian ship based) **MiG 29K** aircraft are participating in the PASSEX.
 - The Indian Naval warships along with **aircraft from Indian Navy and Indian Air Force (IAF)** will be engaged in joint multi-domain operations with the US Carrier Strike Group.

Note:

- The exercise is in the IAF's Southern Air Command's area of responsibility and the IAF forces will include **Jaguars, Sukhoi-30 MKI fighters, Air-to-Air Refueller aircraft, Airborne Warning And Control System (AWACS) and Airborne Early Warning and Control (AEW&C)**.
- High tempo operations during the exercise include **advanced air defence exercises, cross deck helicopter operations and anti-submarine exercises.**
- **Previous PASSEX with US:**
 - The Indian Navy conducted as PASSEX with the **USS Ronald Reagan in October 2020**.
 - Indian naval ships conducted another PASSEX with the **USS Nimitz in July 2020**.
- **Impact:**
 - **Establish Rule Based Order:**
 - It underscores the **shared values as partner navies**, in ensuring commitment to an open, inclusive and a rule-based international order.
 - **Increased Interoperability:**
 - It will **enhance aspects of interoperability**, nuances of international integrated maritime search and rescue operations and exchange of **best practices in the maritime airpower domain**.
 - **Counter China's Expansionism:**
 - The exercise comes a week after the Indian defence minister called for an open and inclusive order in the **Indo-Pacific region**, including the **South China Sea** at the **8th ASEAN Defence Ministers Meeting (ADMM) Plus Meeting**.
 - The Indian Navy is carrying out **round-the-clock surveillance in the IOR**, which, it believes, **China will inevitably try to enter in its quest to become a global power**, just as it has laid claim to large portions of the disputed South China Sea.
- **India-US Joint Exercises:**
 - **Vajra Prahar** (Army).
 - **Yudh Abhyas** (Army).
 - **Cope India** (Air Force).
 - **Red Flag** (USA's multilateral air exercise).
 - **Malabar Exercise** (trilateral naval exercise of India, USA and Japan).

Exercise Sea Breeze

Why in News

Ukraine and the United States launched joint naval Exercise 'Sea Breeze' in the Black Sea in a show of Western cooperation with Ukraine as it faces off with Russia.

- The drills come just days after the British Royal Navy's **HMS Defender** passed near Russian-annexed Crimea in the Black Sea.



Key Points

➤ About the Exercise:

- The exercise Sea Breeze has been held since 1997, involving NATO states and their allies in the Black Sea region.
- It has taken place 21 times since 1997. This edition (2021) will be the largest In Exercise's history that will involve some 5,000 military personnel from more than 30 countries.

➤ Aim of the Exercise:

- The drill is aimed at improving naval and land operations and improving cooperation among participating countries.
- The exercise is also aimed at sending a powerful message to maintain stability and peace in the region.

➤ Significance of Black Sea for Russia:

- The unique geography of the Black Sea region confers several geopolitical advantages to Russia and thus Russia always wanted to control the region.
 - Firstly, it is an important crossroads and strategic intersection for the entire region. Access to the Black Sea is vital for all littoral and neighboring states, and greatly enhances the projection of power into several adjacent regions.

- Secondly, the region is an important transit corridor for goods and energy.

- Thirdly, the Black Sea region is rich in cultural and ethnic diversity, and due to geographical proximity, shares close historical ties with Russia.

- Following such interest, Russia annexed Crimea from Ukraine in 2014 and claims the waters around the peninsula as part of its territory.

- Most countries do not recognise the takeover and stand behind Ukraine's claims to the waters.

➤ International Rules of Passage through Sea:

- Under international law of the sea (**United Nations Convention on the Law of the Sea (UNCLOS) 1982**), innocent passage permits a vessel to pass through another state's territorial waters so long as this does not affect its security.

➤ Black Sea:

- The Black Sea, also known as the Euxine Sea, is one of the major water bodies and a famous inland sea of the world.
- This marginal sea of the Atlantic Ocean, located between Eastern Europe and Western Asia.
- The bordering countries of Black Sea are: **Russia, Ukraine, Georgia, Turkey, Bulgaria and Romania**.
- The Black Sea happens to be the largest water body with a meromictic basin, which means the movement of water between the lower and upper layers of the sea is a rare phenomenon which is also responsible for its **Anoxic Water** (i.e. a significant absence of oxygen in the water).

Anoxic Waters

- Anoxic waters are areas of sea water, fresh water, or groundwater that are depleted of dissolved oxygen and are a more severe condition of hypoxia.
- This condition is generally found in areas that have restricted water exchange.

INS Vikrant: First Indigenous Aircraft Carrier

Why in News

Recently, India's Defence Minister reviewed the ongoing work on the **Indigenous Aircraft Carrier (IAC)**, INS Vikrant (IAC-1), which is a part of **Atmanirbhar Bharat**.

Note:

- INS Vikrant, is likely to be commissioned in 2022. At present, India has only one aircraft carrier, the Russian-origin INS Vikramaditya.
- Earlier, the Defence Acquisition Council (DAC) approved issuance of Request for Proposal (RFP) for six advanced submarines for the Indian Navy under Project-75I.

Key Points

- **About:**
 - The vessel, to be named Vikrant after the decommissioned maiden carrier of the Navy.
 - It will have an air component of 30 aircraft, comprising MiG-29K fighter jets, Kamov-31 airborne early warning helicopters and the soon-to-be-inducted MH-60R multi-role helicopter, besides the indigenous Advanced Light Helicopters.
 - It is expected to have a top speed of 30 knots (approximately 55 kmph) and is propelled by four gas turbines. Its endurance is 7,500 nautical miles at 18 knots (32 kmph) speed.
 - The shipborne weapons include Barak LR SAM and AK-630, while it has MFSTAR and RAN-40L 3D radars as sensors. The vessel has a Shakti EW (Electronic Warfare) Suite.
 - It has a pair of runways and a 'short take off but arrested recovery' system to control aircraft operations.
- **Significance:**
 - The combat capability, reach and versatility of the aircraft carrier will add formidable capabilities in the defence in the country and help secure India's interests in the maritime domain.
 - It would offer an incomparable military instrument with its ability to project air power over long distances, including air interdiction, anti-surface warfare, offensive and defensive counter-air, airborne anti-submarine warfare and airborne early warning.
- **Current Status of Indian Navy:**
 - As per the Maritime Capability Perspective Plan, by 2027, India ought to have about 200 ships but there is still a lot to cover to reach the target.
 - However, the cause is not mainly funding but procedural delays or some self imposed restrictions.

- The navy ensures that it has state of the art SONARS and Radars. Also, many of the ships contain a high amount of indigenous content.
- **Navy's Contribution to Fight against Covid-19:**
 - **Operation Samudra Setu- I:** Bringing back Indian citizens from overseas amidst coronavirus-induced travel restrictions.
 - **Operation Samudra Setu-II:** Indian Navy has launched this for shipment of Oxygen-filled containers to India.

Jammu Drone Attacks

Why in News

Recently, Drones were used for the first time to drop explosive devices, triggering blasts inside the Air Force Station's technical area in Jammu.

Drone

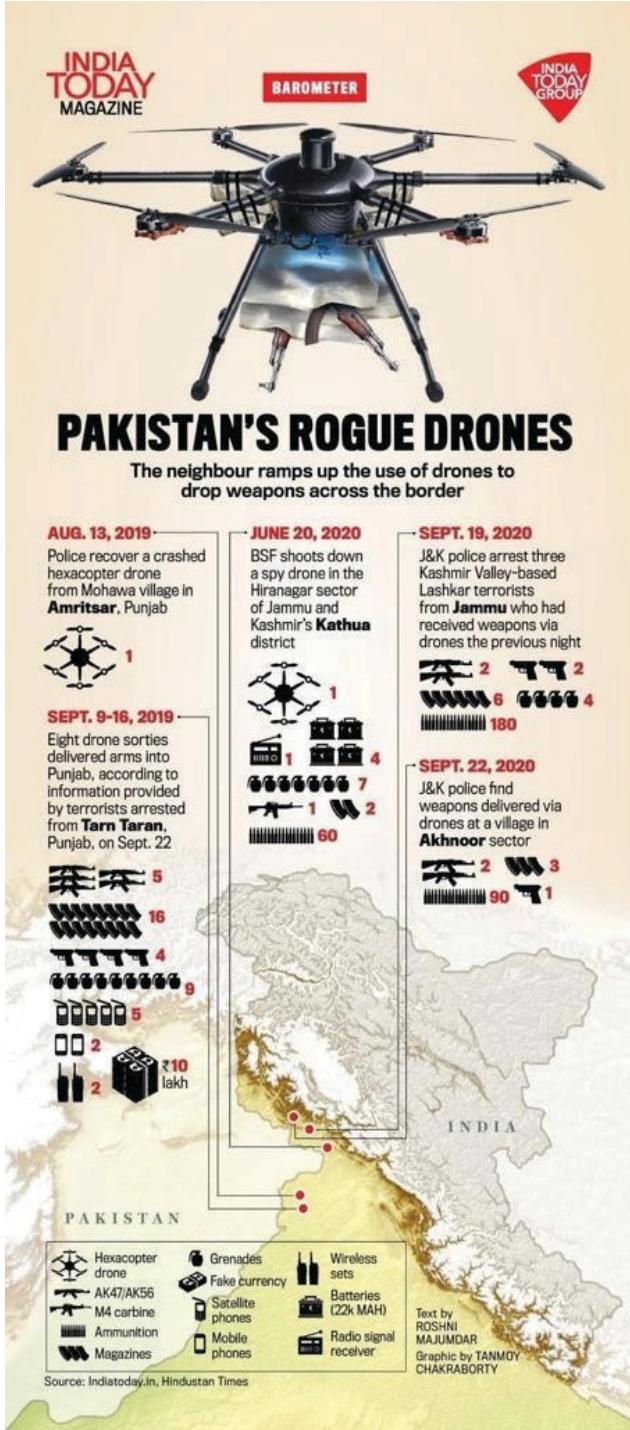
- Drone is a layman terminology for **Unmanned Aircraft (UA)**. There are three subsets of Unmanned Aircraft- **Remotely Piloted Aircraft, Autonomous Aircraft and Model Aircraft**.
 - Remotely Piloted Aircraft consists of remote pilot station(s), the required command and control links and any other components, as specified in the type design.
- Besides combat use, drones are used for a range of purposes like package delivery, in agriculture (spraying pesticides etc), monitoring environmental changes, aerial photography, and during search and relief operations, among others.

Key Points

- **Drone Attacks and Concerns:**
 - Over the past two years, **drones have been deployed regularly by Pakistan-based outfits** to smuggle arms, ammunition and drugs into Indian territory.
 - Drones fly low and therefore **cannot be detected by any radar system**.
 - According to government figures, **167 drone sightings were recorded along the border with Pakistan in 2019**, and in **2020**, there were **77 such sightings**.
 - With the **rapid proliferation of drone technology and exponential growth** of its global market in

Note:

- recent years, the possibility of a drone attack cannot be ruled out even in the safest cities in the world.
- Drones are **becoming security threats particularly in conflict zones** where non-state actors are active and have easy access to the technology.
 - **For example: 2019 twin drone attacks** on Aramco crude oil production in Saudi Arabia.



- What makes combat drones in the hands of non-state actors most dangerous is the **threat of them being used to deliver weapons of mass destruction**.
 - **Weapons of mass destruction** are weapons with the **capacity to inflict death and destruction on such a massive scale** and so indiscriminately that its very presence in the hands of a hostile power can be considered a grievous threat.
- In the military domain, **small drones have been proliferating at a rate that has alarmed battlefield commanders and planners alike**.
 - In certain incidents, the **small drones were also armed with explosive ordnance**, to convert them into potentially lethal guided missiles, thus demonstrating the growing sophistication with which these potent warriors have found relevance in combat zones.

➤ Reason for Increasing Drone Attacks:

- **Cheap:**
 - The primary reason for this proliferation is that **drones are relatively cheaper in comparison to conventional weapons** and yet can achieve far more destructive results.
- **Remotely Controlled:**
 - The biggest advantage that comes with using a drone for combat purposes is that **it can be controlled from a remote distance** and does not endanger any member of the attacking side.
- **Easy to Operate:**
 - It is this **easy-to-procure, easy-to-operate**, and proven damage potential that makes it important for any country to equip its forces with anti-drone combat technology.

➤ Rules for Drone Regulations in India:

- **Unmanned Aircraft System (UAS) Rules, 2020:**
 - It is a set of rules notified by the government that aims to **regulate the production, import, trade, ownership, establishment of the drone ports (airports for drones) and operation of UAS**.
 - It also seeks to **create a framework for drones use by businesses**.
- **National Counter Rogue Drones Guidelines 2019:**
 - The guidelines had suggested a **number of measures to counter rogue drones** depending on the vitality of assets being protected.

Note:

- For places of critical national importance, the rules called for deployment of a model that consists of primary and passive detection means like radar, **Radio Frequency (RF) detectors, electro-optical and infrared cameras**.
 - In addition to this, soft kill and hard kill measures like **RF jammers, Global Positioning System (GPS) spoofers, lasers, and drone catching nets** were also suggested to be installed.
- **Other Initiatives:**
- **Directed-Energy Weapon:**
 - **Defence Research and Development Organisation (DRDO)** has developed two **anti-drone Directed-Energy Weapon (DEW) systems**, with a 10-kilowatt laser to engage aerial targets at 2-km range and a compact tripod-mounted one with a 2-kilowatt laser for a 1-km range. But they are yet to be productionized in large numbers.
 - **Smash-2000 Plus:**
 - The armed forces are now also importing a limited number of other systems like **Israeli 'Smash-2000 Plus' computerized fire control and electro-optic sights**, which can be mounted on guns and rifles to tackle the threat from small hostile drones in both day and night conditions.

Project Seabird: INS Kadamba

Why in News

Recently, the Defence Minister visited the **Karwar Naval Base in Karnataka** to review the ongoing infrastructure development under **Phase-II** of '**Project Seabird**'.

Key Points

- **Project Seabird-Phase II:**
- Project Seabird involves **construction of a naval base over an area of 11,169 acres**.
 - **Phase I** comprised construction of a deep-sea harbour, breakwaters dredging, a township, a naval

hospital, a dockyard uplift centre and a ship lift. It was **completed in 2005**.

- **Phase-II of Project Seabird** was cleared by the Cabinet Committee on Security in 2012. It envisages expanding facilities to house additional warships and set up a new Naval Air Station, among other plans.
 - **INS Kadamba** is currently the **third-largest Indian naval base**, and is expected to become the **largest naval base in the eastern hemisphere after completion of expansion Phase II**.
 - The Navy's lone aircraft carrier **INS Vikramaditya** is based at Karwar. The base also has the country's first sealift facility, a unique "shiplift" and transfer system for docking and undocking ships and submarines.
 - The project involves **several technical and environmental challenges**.
- **Efforts to Boost Self Reliance in Indian Navy:**
- More than two-thirds of the Navy's modernisation budget has been spent on indigenous procurement in the last five financial years.
 - Out of the 48 ships and submarines, 46 are being inducted through indigenous construction.
 - **Project 75 (I)** envisages indigenous construction of submarines equipped with the state-of-the-art Air Independent Propulsion system at an estimated cost of Rs. 43,000 crore.
 - **Aircraft Carrier Vikrant**, likely to be commissioned in 2022, is a shining example of the Navy's self-reliance efforts.
 - The Navy is **continuously strengthening India's relations with its maritime neighbours with its focus on 'SAGAR'** (Security & Growth for All in Region).
 - From rescuing stranded Indian nationals from affected countries to ferrying-in critical equipment, including oxygen cylinders, from abroad, Indian Navy has worked tirelessly in the fight against Covid-19 (**Operation Samudra Setu - I and II**).
 - **SAGAR** was launched in **2015**. It is India's strategic vision for the **Indian Ocean Region (IOR)**.

Note:



Miscellaneous

Highlights

- NATRAX-High Speed Track
- Land for Life Award: UN
- 42nd Session of FAO Conference
- 7th International Day of Yoga

NATRAX-High Speed Track

Why in News

Recently, the Minister of Heavy Industries and Public Enterprises inaugurated NATRAX- the High Speed Track in Pithampur, Indore (Madhya Pradesh).

Key Points

- **About:**
 - It is one of the state-of-the-art automotive testing and certification centre under National Automotive Testing and Research and development (R&D) Infrastructure Project (NATRIP).
 - NATRIP is the largest and most significant initiative in the automotive sector which comprises representatives from the Government of India, a number of State Governments and Indian Automotive Industry.
 - It is a flagship project of the Ministry of Heavy Industries.



- It aims to create a state of the art testing, validation and R&D infrastructure in the country.

- It is a world class 11.3 km High Speed Track. The track is the longest in Asia and the fifth-largest in the world.
- It is developed in an area of 1000 acres of land.

➤ Significance:

- Development of Prototype Cars for India:
 - High Speed Track is used for measuring the maximum speed capability of high-end cars like BMW, Mercedes etc which cannot be measured on any of the Indian test tracks.
 - Foreign Original Equipment Manufacturers (OEMs) will be looking at NATRAX High Speed Track for the development of prototype cars for Indian conditions.
 - At present, foreign OEMs go to their respective high speed track abroad for high speed test requirements.

○ One Stop Solution:

- It is one stop solution for all sorts of high speed performance tests, being one of the largest in the world.
- It can cater to the widest category of vehicles; say from two wheelers to the heaviest tractor trailers.

Land for Life Award: UN

Why in News

Recently, Shyam Sundar Jyani, a Rajasthan-based climate activist, has won the prestigious United Nations' Land for Life Award for his environment conservation concept, **Familial Forestry**.

- The winner was announced on 17th June 2021 which is the World Day to Combat Desertification and Drought.

Note:

- **Familial Forestry** means transferring the care of the tree and environment in the family so that a tree becomes a part of the family's consciousness.

Key Points

- About:
 - Every two years, the **United Nations Convention to Combat Desertification (UNCCD)** organizes the Land for Life Award. The Award recognizes excellence and innovation in efforts towards land in balance.
 - The past editions shed light on inspiring initiatives of recovery and restoration of degraded landscapes worldwide.
 - They all made a significant contribution towards achieving **Sustainable Development Goal (SDG) 15: "Life on Land"**, in particular Target 15.3 Land Degradation Neutrality (LDN).
 - This year the award will put the **spotlight on individuals/organizations that made an outstanding contribution to land degradation neutrality on a large scale**.

United Nations Convention to Combat Desertification

- Established in 1994, it is the sole legally binding international agreement linking environment and development to sustainable land management.
- It addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
 - The convention obliges national governments to take measures to tackle the issue of desertification.
- It is one of the three Rio Conventions, the other two are **Convention on Biological Diversity (UNCBD)** and **United Nations Framework Convention on Climate Change (UNFCCC)**.
 - India is among the select few countries to have hosted the COP of all three Rio conventions.
- The new **UNCCD 2018-2030 Strategic Framework** is the most comprehensive global commitment to achieve Land Degradation Neutrality (LDN) in order to restore the productivity of vast expanses of degraded land, improve the livelihoods of more than 1.3 billion people, and reduce the impacts of drought on vulnerable populations to build.

- Which means with **long-term changes and dedicated actions for 25 years or longer** and remarkable **positive impacts on land, people, communities, and society**.

➤ Launch:

- The Land for Life Award was **launched in 2011** at the UNCCD **Conference of Parties (COP)10** in the Republic of Korea as part of the **Changwon Initiative**.
- The **Changwon Initiative** intends to complement activities being undertaken in line with The Strategy (for 2008-18) and in accordance with COP 10 decisions.
- The **main components of the Changwon Initiative** include:
 - Enhancing the scientific process of the UNCCD.
 - Mobilizing additional resources and facilitating partnership arrangements.
 - Supporting a global framework for the promotion of best practices.

➤ 2021 Theme:

- **Healthy Land, Healthy Lives.**

42nd Session of FAO Conference

Why in News

Recently, the Union Minister of Agriculture and Farmers' Welfare addressed the 42nd session of Food and Agriculture Organization's (FAO) Conference.

- The Conference takes place **every two years** and is FAO's **supreme governing body**.
- It determines the **policies of the Organization**, **approves the budget**, and makes recommendations to Members on food and agriculture issues.

Key Points

- India's Efforts for Food Security during the Covid-19 Pandemic:
 - **High Production of Foodgrains:** India registered an all-time high production of foodgrains at 305 million tonnes as well as in exports during 2020-21, contributing to **global food security**.
 - **KISAN RAIL:** It was introduced to transport the essential commodities including perishable

Note:

- horticulture produce, milk and dairy produce from the production centres to the large urban markets.
- **Pradhan Mantri Garib Kalyan Package:** Under this scheme, free food grains were provided to 810 million beneficiaries and it has been further extended in which workers will be benefited till November, 2021.
 - **PM Kisan Scheme:** More than **Rs.1,37,000 Crore** have been sent to the bank accounts of over **100 million farmers** under this to **provide income support to the farmers**.
- **Climate Change and Agricultural Schemes:**
- **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):** It was **launched in 2015** to address the issues of **water resources** and provide a **permanent solution** that envisages Per Drop More Crop.
 - **Green India Mission:** It was launched in 2014 under the umbrella of **National Action Plan on Climate Change (NAPCC)** with the primary objective of protecting, restoring and enhancing India's diminishing forest cover.
 - **Soil Health Card (SHC):** It was launched with the main objective of analysing cluster soil samples and advocating farmers regarding their land fertility status.
 - **Paramparagat Krishi Vikas Yojana (PKVY):** It was executed to extensively leverage adaptation of climate-smart practices and technologies in conjunction with the Indian Council of Agricultural Research and state governments of India.
 - **Rainfed Area Development (RAD):** It focuses on **Integrated Farming System (IFS)** for enhancing productivity and minimizing risks associated with climatic variabilities.
 - **Sub-mission on Agro Forestry (SMAF):** It aims to encourage farmers to plant **multi-purpose trees** together with the agriculture crops for **climate resilience** and an **additional source of income** to the farmers, as well as enhanced feedstock to inter alia wood-based and herbal industry.
 - **National Mission on Sustainable Agriculture (NMSA),** to develop, demonstrate and disseminate the techniques to make agriculture resilient to adverse impacts of climate change.
 - **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** It is a **Central Sector Scheme**, a sub-**mission** under **NMSA**, aims

to develop certified organic production in a value chain mode.

➤ **Other Steps Highlighted:**

- **Green Revolution, White Revolution, blue revolution, Public Distribution System** and price support system.

Food and Agriculture Organization

- FAO is a **specialized agency of the United Nations** that leads international efforts to defeat hunger.
- **World Food Day** is celebrated every year on **16th October** to mark the anniversary of the founding of the FAO in 1945.
- It is one of the UN food aid organisations **based in Rome (Italy)**. Its **sister bodies** are the **World Food Programme** and the **International Fund for Agricultural Development (IFAD)**.
- **Initiatives Taken:**
 - **Globally Important Agricultural Heritage Systems (GIAHS).**
 - Monitors the **Desert Locust** situation throughout the world.
 - The **Codex Alimentarius Commission or CAC** is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.
 - **International Treaty on Plant Genetic Resources for Food and Agriculture.**
- **Flagship Publications:**
 - The State of World Fisheries and Aquaculture (SOFIA).
 - The State of the World's Forests (SOFO).
 - **The State of Food Security and Nutrition in the World (SOFI).**
 - The State of Food and Agriculture (SOFA).
 - The State of Agricultural Commodity Markets (SOCO).
 - **World Food Price Index.**
- **India and FAO:**
 - **Support of FAO** in endorsing the Indian proposal for an **International Year of Pulses** which was celebrated in **2016** and for **declaring 2023 as the International Year of Millets**.
 - **India released a commemorative coin of Rs. 75 denomination** to mark the 75th Anniversary of the FAO (16th October 2020).

Note:

7th International Day of Yoga

Why in News

Seventh International Day of Yoga (21st June 2021) is being celebrated by the Ministry of Culture at 75 cultural heritage locations across the country.

Key Points

➤ Proposed by India:

- The idea of **International Day of Yoga (IDY)** was **proposed by India** during the opening of the 69th session of the **United Nations General Assembly (UNGA)**, held in 2014.
- The UN proclaimed 21st June as IDY by passing a resolution in December, 2014.
- The **first Yoga Day celebrations in 2015** at Rajpath in New Delhi created **two Guinness World Records**.
 - It was the world's largest yoga session with 35,985 people.
 - 84 nationalities participated in it.

➤ About Yoga:

- Yoga is an ancient physical, mental and spiritual practice that **originated in India**.
- The word '**yoga**' is derived from Sanskrit and means to join or to unite, symbolizing the union of body and consciousness.
- Today it is practiced in various forms around the world and continues to grow in popularity.
- Yoga plays an important role in the **psycho-social care and rehabilitation of Covid-19 patients** in quarantine and isolation.
- The **World Health Organisation (WHO)** has also asked its member states to practice Yoga and has included it in its **Global Action Plan for physical activity 2018-30**.

➤ IDY - 2021:

- This year's theme is "**Yoga for wellness**".
- The extensive drive (Yoga at 75 cultural heritage) has been titled "**Yoga, An Indian Heritage**", and is part of India's "**Azadi ka Amrit Mahotsav**" campaign.

- Some places in the list of 75 sites are the **Agra Fort** in Uttar Pradesh, **Shanti Stupa** in Ladakh, **Ellora Caves** in Maharashtra and Nalanda in Bihar, **Rajiv Lochan Temple**, Raipur, **Sabarmati Ashram** in Gujarat, and **Akhnoor Fort** in Jammu.

- The Prime Minister announced the **M-Yoga App** which will help in achieving '**One World One Health**'.

- The app is a work of collaboration between the World Health Organisation (WHO) and the Ministry of Ayurveda, Yoga & Naturopathy, Unani, Siddha and Homoeopathy (**Ministry of AYUSH**), Government of India.
- In the M-Yoga App, there will be **yoga training videos and audio sessions** in different languages for people across the world which will play a 'great role' in **expanding yoga across the globe**.
- The app is currently available in **English, Hindi and French**. It will be available in **other UN languages in the upcoming months**.

➤ Other Initiatives by India:

- The **Ministry of AYUSH** in its '**Common Yoga Protocol**' has listed Yama, Niyama, Asana, etc. among **popular yoga 'sadhanas'**.
- The **Beauty & Wellness Sector Skill Council (B&WSSC)** has **vocational education courses** in Yoga for CBSE schools.
 - B&WSSC is established as a non-profit organization under the aegis of **National Skill Development Corporation**, Ministry of Skill Development and Entrepreneurship.
- Thousands of candidates have been trained as **yoga instructors and trainers** through various skilling initiatives like the **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**.
 - PMKVY is the flagship scheme of the Ministry of Skill Development and Entrepreneurship.
- Yoga is also a **part of the Fit India Movement**.
 - Fit India Movement is a nation-wide campaign that aims at encouraging people to include physical activities and sports in their everyday lives.



Note:

Key Points**Details**

Summary

Key Points

Details

Summary