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COVER STORY

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What are Digital Public Goods?.

</div>

ECONOMY

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- ❖ INDIAN OCEAN CONFERENCE- IOC
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  - ❖ **IN BOOST TO INDIA'S COVID FIGHT, 2 VACCINES, COVOVAX & CORBEVAX, AND 1 ANTI-VIRAL PILL CLEARED IN A SINGLE DAY**
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- ❖ **NON-LAPSABLE CENTRAL POOL OF RESOURCES**
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- ❖ **FOUR ARRESTED IN MANGALURU IN 'MORAL POLICING' CASE**
- ❖ **2030 RENEWABLE ENERGY TARGET: PANEL TO BE SET UP SOON FOR 'MISSION 500GW'**
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- ❖ **RAJASTHAN: UDAAN SCHEME LAUNCHED, OVER 1.2 CRORE WOMEN TO GAIN IN PHASE**
- ❖ **GOA CM LAUNCHES 'PINK FORCE' TO TACKLE CRIMES AGAINST WOMEN, KIDS, TOURISTS**
- ❖ **WITCH HUNTING: 83% OF ODISHA'S CASES IN SIX DISTRICTS, SAYS REPORT**
- ❖ **78% DRINKING WATER UNITS DID NOT HAVE NOC FROM GROUND WATER BOARD**
- ❖ **HC ISSUES DIRECTIONS FOR STREAMLINING JUVENILE JUSTICE DELIVERY SYSTEM**
- ❖ **NERCRMS LAUNCHES PRODUCTS UNDER THE BRAND NAME OF NAMDAPHA**
  - ❖ **KERALA'S SILVERLINE: WHY IT HAS BEEN PLANNED, WHY IT IS FACING PROTESTS**

ENVIRONMENT

- ❖ HAIDERPUR WETLAND IN UTTAR PRADESH IS NEW RAMSAR SITE
- ❖ "MORE CYCLONES IN ARABIAN SEA IN RECENT YEARS"
- ❖ CENTRE ISSUES STANDARD OPERATING PROCEDURE FOR USE OF DRONE IN CROP PROTECTION
- ❖ STUDY SHOWS THAT AWAY FROM HUMAN TOUCH, TROPICAL FORESTS CAN REGENERATE IN 20 YEARS
- ❖ WORLD'S COLDEST REGIONS HAVE BEEN ON FIRE IN 2021, EVEN IN WINTER: COPERNICUS
- ❖ 2054 CASES REGISTERED FOR KILLING, TRAFFICKING OF WILD ANIMALS
- ❖ BUXA TIGER RESERVE CONFIRMS PRESENCE OF BIG CAT AFTER 23 YEARS; HERE'S HOW THIS HAPPENED
- ❖ GROWING ENVIRONMENTAL FOOTPRINT OF PLASTICS DRIVEN BY COAL COMBUSTION
- ❖ GREAT INDIAN BUSTARD HABITAT: GOVT URGES SC TO MODIFY ORDER ON UNDERGROUND CABLES
- ❖ CLIMATE CHANGE INFLICTING INFECTIOUS DISEASES ON KIDS: STUDY
- ❖ MODI GOVT PROPOSES AMENDMENT TO WILDLIFE PROTECTION ACT, PLANS BETTER USE OF PROTECTED AREAS
- ❖ NHAI INKS MOU WITH NCC TO REUSE PLASTIC WASTE COLLECTED BY CADETS IN BUILDING ROADS
- ❖ REINTRODUCED GHARIALS THRIVING IN BEAS RESERVE: EXPERTS
- ❖ INDIAN DESERT CAT SPOTTED IN M.P.'S PANNA TIGER RESERVE
- ❖ HIMALAYAN GLACIERS ARE MELTING AT FURIOUS RATE, NEW STUDY SHOWS
- ❖ THAR DESERT EXPANDING FAST WITH LAND DEGRADATION
- ❖ GLOBAL WARMING TO IMPOSE HEAVY LABOR PRODUCTIVITY LOSSES ON INDIA, A STUDY POINTS OUT, SUGGESTING GREATER CLIMATE CHANGE ADAPTATION MEASURES
    - ❖ CLIMATE CRISIS HAS COST INDIA 5 MILLION HECTARES OF CROP IN 2021
    - ❖ MICROPLASTIC DISCOVERED IN "PRISTINE" HIGH-ALTITUDE PYRENEES MOUNTAIN AIR
- ❖ SAJNEKHALI WILDLIFE SANCTUARY BY GOVERNMENT OF WEST BENGAL TO PROTECT PLANTATIONS AFTER CYCLONE YAAS
    - ❖ TIGER SURVEY: CENSUS WORK COVERS 400 SQ KM IN CHHATTISGARH'S MAOIST TERRITORY
    - ❖ COUNTING THE COST 2020: A YEAR OF CLIMATE BREAKDOWN
    - ❖ KEN-BETWA RIVER INTERLINKING: CORE FOREST AREA OF PANNA TIGER RESERVE WILL COME UNDER WATER, WARNS STUDY
    - ❖ BIHAR GOVT INITIATES STEPS TO STABILIZE POPULATION
    - ❖ CROPLAND EXPANSION
    - ❖ GOVT PLANNING TO BLEND 15 PER CENT GREEN HYDROGEN WITH PIPED NATURAL GAS

❖ ODISHA RADIO-TAGS RESCUED INDIAN PANGOLIN

❖ TEQUILA FISH RETURNED TO THE WILD IN MEXICO AFTER BEING DECLARED EXTINCT

❖ THOUSANDS OF THREATENED SEAHORSES KILLED EVERY YEAR AS BYCATCH IN PALK BAY

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SPORTS

❖ BHAICHUNG, ANJU BOBBY GEORGE AMONG 7 NEW MEMBERS OF MISSION OLYMPIC CELL

❖ ANTI-DOPING BILL INTRODUCED IN LS

❖ WADA RESTORES NDTL ACCREDITATION

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COVER STORY

What are digital public goods?

India is pioneering in the concept of digital public goods that enhance the ease, transparency and speed with which individuals, markets and governments interact with each other

- The digital public goods are non excludable and non rivalrous
- The UN defines digital public goods as open source software, open data, open AI models, open standards and open content that adhere to privacy and other applicable International and domestic laws, that do not harm and help in attaining the SDGs
- The creation and promotion of digital public goods for addressing the rising concentration in the digital market has emerged as a new phenomenon in India
  - The digital market due to the technological and corresponding features are prone to concentration
  - The jurisdictions across the world like EU, Germany, US and Korea are struggling for creation of rules that ensures the digital market stays competitive
- India is a prominent stakeholder in this process with lucrative digital markets, however efforts are needed to discipline the e-commerce sector

Inroads to Indian Market

- Indian stack, big and small applications built on the foundation of Aadhar are transforming various activities like the payment methods, withdrawal of PF, getting the passport, driving licence, checking the land records etc
- Students have got access to the QR code text books across the state boards and languages
- The beneficiaries of government schemes have got money transfer directly into their bank accounts (DBT)
- Also the economically disadvantaged sections have got access to various government services through digital platforms like access to the public distribution system

Benefits

Digital diplomacy: it is an opportunity for India to embark on digital diplomacy to take its made in India Digital public goods to emerging countries across the world, which could prove to be a strategic and effective counter to Belt and Road initiative of China

Cheap and reusable: the code is highly reusable and low cost, for instance the cost to set up an open source based High school online education infrastructure for an entire country is even less than length 2 km of high quality Road

- The investment required for transporting Digital public goods is miniscule in comparison and there are no concerns of debt trap

Short gestation period: unlike the physical infrastructure the digital public goods have short gestation period and one can observe the immediate and visible impacts

Transparency: it helps in plugging the leaks by measures like -
- Eliminating the ghost beneficiaries of government services
- Creates an audit trail
- Increases the efficiency that helps in recoup of the investment

Better service delivery: the digital public goods helps in streamlining of the process and the wait times for any services reduces dramatically like issuance of passports, PAN cards, driving licence etc

Enhanced productivity: the usage of digital public goods help in increasing the productivity and the benefits can be rapidly expanded to cover much larger population

Compounding of digital public goods: The digital public goods infrastructure compounds while the physical infrastructure depreciates, there are three major reasons for the same -
- **The growth of Technology**- the chips keep becoming faster, the engines become more powerful, genetic Technology keeps on improving etc , advancement in technology occurs in all the areas
- **Network effect**-as more and more people use the same technology, the number increases exponentially be it Facebook posts or UPI transaction
- **New layers of Technology:** there has been rapid creation of new layers of Technology, for instance the hypertext protocol created the world wide web, when the browser was built on the top of it which made the world wide web easy to navigate and more popular
  - It can also be seen in the surge in the UPI based payments in India, it has been possible with more and more people using UPI
  - Similarly the use of Diksha, the school education platform built on the open source platform Sunbird has followed the same trajectory, presently about 500 billion school children are using it

Challenges
Cyber security
- Although the phenomena looks promising and offers a substitute or complement to directly regulate the digital markets prone to concentration.
- However the effects of open digital ecosystem needs to be studied minutely to assess the long-term adverse effects it may have on the cyber security
- Especially for India, a stricter and efficient data protection regime is required for the digital transformation

Sustainability
- **Raw material:**Massive digitalisation requires huge number of silicon chips, magnets and batteries which need rare-earth metals like lithium
- **Energy usage:** the data centres are responsible for 1% of global energy consumption
- **Pollution:** the chip making is a water intensive process and the chemicals used lead to air, water and soil pollution

Road ahead

- **Need of emerging economies:** Economies are characterized by gross efficiencies in the delivery of government services and resulting trust deficit
  - The digital public goods can help in spreading speed, transparency, ease and productivity across the individual government market ecosystem. It also helps in enhancement of inclusivity, equity and development at a large scale
  - The digital diplomacy of India would be beneficial to and welcomed by all the emerging economies
- **Democratizing technology:** Also the access to and development of indigenous digital platforms is imperative for robust social economic development and national security, but such process needs to be democratized undertaken in the sustainable manner
- **India a global player:** It would help to take make in India Digital public goods across the world and boost India's brand positioning as the leading Technology player in the digital age

ECONOMY

STATES DEBT-TO-GDP RATIO WORRYINGLY HIGHER THAN FY23 TARGET, SAYS RBI REPORT

Recently, the Reserve Bank's annual publication titled 'State Finances: A Study of Budgets of 2021-22' was released.

- The report provides **information, analysis and an assessment** of the finances of State governments for 2021-22 against the backdrop of actual and revised (or provisional accounts) outcomes for 2019-20 and 2020-21, respectively.

Highlights of the Report:

- The combined **debt-to-GDP ratio** of states is expected to remain at **31 %** by end-March 2022.
- The State government's **interest payments and debt servicing** during the current financial year is **pegged higher** than the revised estimates of the previous financial year.
- For 2021-22, States have budgeted their consolidated gross fiscal deficit (GFD) to gross domestic product (GDP) ratio at **3.7 %,** a marked improvement from the level of 4.7 %in the revised estimates for 2020-21.

Road Ahead:

- States could **repair their finances** on the back of a recovery in revenue collection and greater certainty on the **GST compensation cess**.
- States should **channelise expenditure** to sectors that crowd in private investments and optimise multiplier effects that boost output, employment and productivity.
- o The multiplier effect refers to the proportional amount of increase, or decrease, in final income that

results from an injection, or withdrawal, of capital.

- State governments need to take credible steps to **address debt sustainability** concerns.
  - o A country's public debt is considered sustainable if the government is able to meet all of its current and future payment obligations without exceptional financial assistance or going into default.
- States should increase the **functional autonomy of the** **civic bodies**, strengthen their governance structure and empower them financially to build resilience.
- State governments should **set up State Finance Commissions (SFC)** at regular intervals, in line with the recommendations of 15th Finance Commission.
- States may also urge rural and urban local bodies to make **audited accounts available online** in a timely manner to access grants.

RBI's DECEMBER MONETARY POLICY REVIEW: HERE'S WHAT TO EXPECT

Recently, Reserve Bank of India (RBI)'s Monetary Policy Committee has published its bi-monthly policy report.

Highlights:

- The **repo rate** has been kept unchanged at **4%.**
  - o Repo rate is the rate at which the RBI lends short-term funds to banks
- The **reverse repo rate** remains the same at **3.35%.**
  - o Reverse repo rate is the rate at which the RBI borrows from banks.
- The **Marginal Standing Facility (MSF)** also remain unchanged at **4.25%.**
  - o Marginal standing facility (MSF) is a window for banks to **borrow from the Reserve Bank of India in an emergency** when inter-bank liquidity dries up completely.
  - o The Marginal Standing facility allows banks to borrow money with an **interest rate above the repo rate.**

- RBI retains **CPI (Consumer price index)** inflation projection **at 5.3%** in 2021-22.
- RBI retains the **gross domestic product (GDP) growth** target **at 9.5%** in FY22.

Monetary Policy:

- Monetary policy refers to the policy of the central bank with regard to the **use of monetary instruments** under its control to achieve the goals specified in the Act.
- The **Reserve Bank of India (RBI)** is vested with the responsibility of **conducting monetary policy.**
  - o This responsibility is explicitly mandated under the Reserve Bank of India Act, 1934.

Monetary Policy Committee (MPC):

- Monetary Policy Committee is a **six-member committee** constituted by the Central Government by notification in the Official Gazette.

- o **Section 45ZB** of the amended RBI Act, 1934 provides for formation of such a committee.

Formation:

- The setting up of a committee to decide on Monetary Policy was, by latest, proposed by the **Urjit Patel Committee.**
- o Suggestions for setting up a Monetary policy committee was first proposed by YV Reddy committee in 2002, then Tarapore committee in 2006, Percy Mistry committee in 2007, Raghuram Rajan committee in 2009 and then Urjit Patel Committee in 2013.
- The **Reserve Bank of India Act, 1934 was amended by Finance Act (India), 2016** to constitute MPC to bring more transparency and accountability in fixing India's Monetary Policy.
- o The first meeting of the MPC was held on October 3, 2016.
- The meetings of the Monetary Policy Committee are held at **least 6 times a year** (specifically, at least once BIMONTHLY).

Composition:

- **Governor of RBI** is the **ex- officio chairman** of the committee
- Deputy Governor of the Bank in charge of monetary policy
- Executive director of the Bank in charge of monetary policy
- Three members nominated by the Government of India.
- o Nominated members hold office for a period of four years from the date of appointment.
- o They are not eligible to be re-appointed.

Functions:

- The MPC determines the **policy interest rate** required to achieve the inflation target.
- o It aims at setting the policy (repo) rate based on an assessment of the current and evolving macroeconomic situation.
- It modulates liquidity conditions to anchor money market rates at or around the repo rate.

PAYTM PAYMENTS BANK RECEIVES SCHEDULED BANK STATUS FROM RBI

Recently Paytm Payments Bank Limited (PPBL), an associate entity of Paytm, has received Scheduled Bank status from Reserve Bank of India.

Payments Bank

- Based on the recommendations of the **Nachiket Mor Committee**, Payments Bank was set up to operate on a smaller scale with minimal credit risk.
- **Aim:** To advance financial inclusion by offering banking and financial services to the unbanked and underbanked areas
- They are registered under the **Companies Act 2013**.
- **Governed by**: Banking Regulation Act, 1949, RBI Act, 1934, Foreign Exchange Management Act, 1999, Payment and Settlement Systems Act, 2007.

Features

- They are differentiated and **not universal banks**.

- These operate on a **smaller scale.**
- It needs to have a minimum paid-up capital of Rs. **100,00,00,000.**
- Minimum initial contribution of the promoter to the Payment Bank to the **paid-up equity capital** shall at least be 40% for the first five years from the commencement of its business.

Activities that can be performed by Payment banks

- Payment banks can take deposits up to **Rs. 2,00,000**.
- It can accept **demand deposits** in the form of savings and current accounts.
- The money received as deposits can be invested in secure government securities only in the form of **Statutory Liquidity Ratio (SLR).**
- Payments banks will be permitted to make personal payments and receive cross border remittances on the current accounts.
- It can issue **debit cards**.

Activities that cannot be undertaken by Payment banks

- Payment banks cannot issue **credit cards**.
- It cannot accept **time deposits or NRI deposits**.
- It cannot issue **loans.**
- It cannot set up subsidiaries to undertake non-banking financial activities

Advantages

- Expansion of rural banking and **financial inclusion**.
- Expansion of the formal financial system.
- Effective alternative to commercial banks.
- Efficiently deals with low value, high volume transactions.
- Access to diversified services.

Challenges

- Lack of awareness among the masses to access these services.
- Lack of incentives for the agents to involve themselves in these activities.
- Lack of infrastructure and access to operational resources.
- Technological hurdles.

IMPORTS MADE UP 86% OF INDIA'S GOLD SUPPLY FROM 2016-2020, SAYS WGC

The World Gold Council (WGC) has released a report on India's imports of gold supply between 2016-2020.

Highlights:

- **Imports** made up **86% of India's gold supply** between 2016-2020.
- Since 2012, India has imported 6,581 tonnes of gold averaging 730 tonnes per annum.
- It imported 377 tonnes of **gold bars** and ore from over 30 countries, of which 55% came from

two Switzerland (44%) and the UAE (11%).

- o **Gold ore imports** made up 30% of the total official imports of gold. Gold dore is a semi-pure alloy that is refined for additional purification.
- o Refined gold bars are made from bars with gold doors.
- **Duty benefits** led to an expansion of refining capacity as the number

of refineries grew from three in 2012 to 32 in 2020.
- With **lower duty on gold ore**, its share of gold imports has increased from 11% in 2014 to 29% in 2020.

World Gold Council:
- It is the market development organisation for the gold industry.
- **Founded:** 1987
- **Headquarters:** United Kingdom
- **Aim**: To stimulate and sustain demand for gold, provide industry leadership and be the global authority on the gold market.
- The council has 22 Members having operations in over 45 countries including China, India, UK and the US.

Functions:
- It acts as a **commercial innovator** and a trusted adviser to business and government leaders across the world.
- **To ensure** gold mining is responsibly undertaken, with measurable economic benefit to the countries in which they operate.
- Enhancing **emerging geographic** and sector markets for gold.
- **Provide analysis** and create products that drive step changes in demand for gold.

Relation between Gold and Currencies:
- **Gold and currencies** are co-related.
- The value of a country's currency has a strong connection with the gold reserves of that country.

Genesis:

- In the 20th century, gold was used **to support fiat currencies** or legal tender of a country.
- Countries had to back their printed fiat currencies with an equal amount of gold in their reserves.
- **They weren't allowed** to print the currencies if they did not have gold up to the same value.
- The United States of America used gold standard till 1971 after which it was discontinued.

Gold Standard?
- **Gold standard is a method** of determining the value of a country's currency with the help of gold.
- The value of a country's currency is deciphered by setting a fixed rate for buying and selling gold.
- **Example:** if India starts using gold standards and fixes the gold rate today at Rs 25000 per gram, the value of Indian rupee will be 1/25000th of one gram of gold.

Benefits of Gold Standard:
- **Offers reliability** in stabilizing gold prices
- Prevents inflation and deflation
- Helps to stabilize the country's economy
- Helps to establish trust for successful global trade.

How gold affects currencies across the world?

Gold Imports can Weaken Currency Value
- **The import and export** of a country impact the value of its currency.

- If the value of a country's export is more than its import, it will strengthen its currency.
- If a country import way more than what it is exporting then the value of its currency will fall.
- Similarly, a country that exports gold will witness an increase in the value of its currency with the rise in the gold rate today as it will increase the value of the country's exports.
- **Example**: The value of Indian rupee will fall if there is an increase in the gold rate today as India is one of the top importers of gold in the world.

Gold can Lead to Inflation

- **Importing gold** can also lead to inflation in the country.
- If the **central bank** of a country imports gold, it influences the demand and supply of fiat currency in the country.
- This is because central banks print additional fiat currency to purchase gold from other countries.
- This would lead to a surplus supply of currency causing inflation in the country.
- **Example**: If the Reserve Bank of India imports gold, it will result in inflation in India.

Gold Hedges Inflation

- **Purchase of gold by investors** is a solution to hedge inflation. Investors prefer to buy gold at the time of inflation.
- This is because gold is considered more stable and retains value much better than fiat currencies.

- Thus, people with more gold have a better chance of dealing with inflation and feeble fiat currency.

Gold Helps to Measure Fiat Currency's Value

- Gold does not always adversely impact the **value of a fiat currency**.
- An industry that uses gold for production can create an increase in its demand leading to a rise in the gold rate today.
- **Example**: If there is an increase in the demand for gold by the jewellery manufacturing industry in southern India, it does not mean a lower value of Indian rupee even though it resulted in the rise of gold rate in Kerala.

How Does the US Dollar Determine the Value of Indian Rupee?

- **The value of Indian rupee** is determined in accordance with the demand and supply of the US Dollar.
- If there is an increase in the **demand for the US dollar** in the forex market, the value of the dollar against Indian rupee will appreciate.
- This happens when **India imports more** items from the US than the number of items exported from India.
- Thus, the value of the US dollar appreciates against the Indian rupee.
- Similarly, if the **US dollars are exchanged** for Indian rupees to buy products from Indian exporters, the value of Indian rupee will appreciate and the dollar will depreciate.

SEBI PROPOSES RULES FOR RETAIL ALGO TRADING

Recently, Capital markets regulator SEBI proposed a regulatory framework for algorithmic trading to prevent market manipulations.

Algorithmic trading

- **Algorithmic trading** refers to any order that is generated using automated execution logic.
- The Algorithmic trading system automatically monitors **the livestock prices** and initiates an order when the given criteria are met.
  - It frees the trader from having to monitor livestock prices and initiate manual order placement.

Highlights of the framework proposed by SEBI

- The Algorithm deployed by retail investors using APIs (application programming interfaces), neither exchanges nor brokers can identify if the particular trade emanating from the API link is an Algorithm or a non- Algorithm trade.
- **All orders emanating from an API should be treated as an Algorithm** order and be subject to control by a stockbroker.
- The APIs to carry out Algorithm trading should be tagged with the unique Algorithm ID provided by the stock exchange approving the Algorithm.

Securities and Exchange Board of India (SEBI)

- It is the regulatory body for securities and commodity markets in India under the **jurisdiction** of the **Ministry of Finance**, Government of India.
- It was established in 1988 and given Statutory Powers in January 1992 through the SEBI Act, 1992.

Functions and responsibilities:

  - To protect the interests of investors in securities and to promote the development.
  - It regulates the operations of depositories, participants, custodians of securities, foreign portfolio investors, and credit rating agencies.
  - It prohibits insider trading, i.e. fraudulent and unfair trade practices related to the securities market.

Power

  - For the discharge of its functions efficiently, SEBI has been vested with the following powers:
- To approve by–laws of Securities exchanges.
- To require the Securities exchange to amend their by–laws.
- Inspect the books of accounts and call for periodical returns from recognized Securities exchanges.
- Inspect the books of accounts of financial intermediaries.
- Compel certain companies to list their shares in one or more Securities exchanges.
- Registration of Brokers and sub-brokers.

INDIA TURNS A NET EXPORTER OF STEEL TO CHINA

India has become net exporter of steel to China as manufacturers explore global opportunities with the slowdown in domestic demand.

- India is the **third-largest manufacturing hub** of steel pipes in the world.
- The **production linked incentive scheme** has been announced to boost the steel industry.

What is Steel?

- Steel is the world's **most important engineering and construction material**.
- It is an alloy of **iron and carbon**.
- It is a **tough metal made by treating iron with great heat and mixing carbon** with it.
- It contains **2% carbon and 1% manganese** and small amounts of **silicon, phosphorus, sulphur and oxygen**.

Advantages of Steel industry in India:

- **Low labour cost-**
- o India has **a cost advantage over China.**
- o It has **managed to capture** some of the market vacated by China.
- **High-quality steel-**
- o India has established itself as a **credible exporter**.
- o India has aimed for **up-grading to higher energy efficiency levels** and the continuous modernization of traditional plants.
- **Control in raw material-**
- o Indian industries are sticklers for **certifying, testing, and retesting the raw materials.**

Steps taken to Enhance Steel Production:

- Domestically Manufactured Iron & Steel Products (DMI&SP) Policy-
- o Objective- To promote **procurement of Made in India steel**.
- Steel Scrap Recycling Policy-
- o Objective- To enhance the **availability of domestically generated scrap.**
- Steel Quality Control Orders-
- o Objective- To stop **manufacturing and import of non-standardized steel.**
- Steel Import Monitoring System (SIMS)-
- o Objective- To advanced **registration of steel imports.**
- Production-Linked Incentive (PLI) Scheme in Steel-
- o Objective- To be implemented with **budgetary outlay of ₹6,322 crore.**
- Project Development Cell in the Ministry-
- o Objective- To attract and **facilitate investment in the steel sector.**

Challenges faced by steel Industry:

- **Lack of Capital**
- o Steel industry requires large capital investment.
- o Many of the public sector integrated steel plants have been established with the help of foreign aid. It increases the cost of construction.
- **Lack of Technology**
- o India has reduced the margin of profit of the steel plants during the oil crisis which has caused lower levels of investment in technological developments.
- **Low Productivity**

- There is a need to increase the productivity which requires retraining and redevelopment of the labour force.
- **Inefficiency of public sector units**
- Public sector units are plagued by inefficiency caused by heavy investment.
- **Low potential utilisation**
- The potential utilisation rarely exceeds 80%. It is caused by strikes, lockouts, scarcity of raw materials, energy crisis, inefficient administration.

- **Heavy demand**
- At low per capita consumption rate, demand of steel is increasing. Production has to be increased to save precious foreign exchange.
- **Shortage of metallurgical coal**
- Steel plants are forced to import metallurgical coal.
- **Inferior quality of products**
- Lack of modern technological and weak infrastructural facilities leads to import better quality steel from abroad.

INDIA'S RECOVERY PROJECTED TO BE HIGHER THAN OTHER BRICS NATIONS

Recently, BRICS Economic Bulletin was released by the Reserve Bank of India (RBI).

Highlights:

- **The COVID crisis** has led to significant economic losses by amplifying unemployment, poverty, gender disparity and migration risks.
- There is convincing evidence of a recovery of the BRICS from the deep, pandemic-induced contraction.
- The recovery shows significant divergence amongst the BRICS members.
- The pace of **economic growth** is gradually picking up in India and Brazil, Russia and South Africa are yet to return to their pre-pandemic levels of economic activity.

BRICS

- It is the acronym coined to associate five major emerging economies: **Brazil, Russia, India, China, and South Africa.**

- The term "BRIC" is believed to be coined in 2001 by then chairman of **Goldman Sachs Asset Management**, Jim O'Neill, in his publication Building Better Global Economic BRICs.
- **Aim**: To create an enabling support system especially for the MSME segment of businesses, young entrepreneurs, women entrepreneurs, and Start-Ups from across all geographies.
- It represent **41%** of the global population, **24%** of the global GDP and **16%** of the global trade.

Objectives

- To enhance market access opportunities and facilitate **market interlinkages**.
- To promote mutual trade and create a business-friendly environment for investors and entrepreneurs in all **BRICS countries**.
- To enhance trade and **investment cooperation** that support value

addition among the BRICS countries.

- To strengthen **macroeconomic policy** coordination and build resilience to external economic shocks.
- To strive for **inclusive economic growth**, in order to eradicate poverty, address unemployment and promote social inclusion.
- To promote information exchange through BRICS Virtual Secretariat and BRICS Economic Exchange Platform, as well as other agreed platforms.

New Development Bank

- It is a **multilateral development bank** operated by BRICS states.

- It is also referred to as the BRICS Development Bank.
- The bank's primary focus of lending is **infrastructure projects**.

BRICS Contingent Reserve Arrangement (CRA)

- It is a framework for providing protection against **global liquidity pressures**.
- This includes currency issues where members' national currencies are being adversely affected by global financial pressures.

BRICS payment system

- It is consultations for a payment system that would be an alternative to the **SWIFT system**.

RBI MANDATES 'LEGAL ENTITY IDENTIFIER' FOR RS. 50 CRORE PLUS CROSS-BORDER DEALS

Reserve Bank of India made the Legal Entity Identifier mandatory for cross-border transactions for capital or current account transactions recently.

The LEI Code is mandatory on transactions of worth Rs 50 crore and above.

Legal Entity Identifier:

- The LEI is a **20-digit number** used to uniquely identify parties participating in financial transactions.
- It is based on the **ISO 17442** standard developed by the **International Organization for Standardization (ISO).**
- Established by the Financial Stability Board in June 2014, the **Global Legal Entity Identifier Foundation (GLEIF)** is tasked to support the implementation and use of LEI.

Provisions:

- **Banks will have to obtain** the LEI number from the resident entities undertaking any capital or current account transactions.
- LEI code will verify that a company is **legally registered** and it is an active company.
- It will provide all the details of a company such as who owns whom, and who is who.
- For LEI holders, it would be mandatory to furnish the number in all transactions irrespective of the transaction size.
- Once an entity has obtained an LEI number, it must be reported in all transactions of that entity, irrespective of transaction size.

Significance:

- It is practical, cost-effective, and reliable at the time of trading with **offshore companies**.

- It **enhances credibility** both globally and locally.

BANK-NBFC CO-LENDING: HOW IT WORKS, AND THE CONCERNS IT RAISES

Recent partnership of SBI with Adani Capital under the RBI's Co-lending framework has drawn criticism from Opposition party politicians.

- **Reason for criticism:** This will only benefit the private firm more by taking unfair advantage of a SBI which has extensive reach and expertise.

Co-Lending Model (CLM):

- **Co-lending or co-origination** is a set-up where **banks and non-banks** (NBFCs) enter into an arrangement for the **joint contribution of credit for priority sector lending**.
  o It was formulated by Reserve Bank of India (RBI) in 2018.
- **Aim:** To **improve the flow of credit to the unserved and underserved** segment of the economy at an affordable cost.
- Under this arrangement, both **banks and Non-Banking Financial Corporations (NBFCs) share the risk in a ratio of 80:20.**
- It expands **lending in priority sectors including rural areas, renewable energy and Micro Small and Medium Enterprises (MSMEs).**

How do they work?

- In a Co-lending model, **two lender firms come together to disburse loans**.
  o Here, **NBFCS facilitate the origination and collection** of housing loans while **banks leverage their balance sheet** strength to house the majority of the loan.
  o Banks will lend to NBFCs, and NBFCs will pass it on to the priority sectors.
- **NBFCs act as the single point of interface for the customers** and a tripartite agreement is done between the customers, banks and NBFCs.
  o The agreement should contain the features of the arrangement and **the roles and responsibilities of NBFCs and banks.**
  o The ultimate borrower would be charged an **all-inclusive interest rate.**
- Upon maturity, **the repayment or recovery of interest is shared by the bank and NBFC in proportion to their share of credit and interest.**

Challenges

- **Ground-level executions**
  o Though Banks and NBFCs both are open for tie-ups, there are challenges in execution at ground level.
- **Tech integrations**:
  o IT integration of systems is difficult as both banks and NBFCs operate on **different systems, different underwriting processes and parameters.**
- **Preference for term loans:**

o Most of the mid-sized well-rated NBFCs opt for term loans over entering into co-lending models

Benefits of Co-Lending:

- It will **ensure delivery of credit to the unserved and underserved,** thereby **addressing the credit gap**.
- o This is possible as banks have lower cost of funds and **NBFCs have greater reach beyond tier-2 centres.**
- It can be **an opportunity for digital lending start-ups and mid-size NBFC**s, to establish their strength of distribution with bank's funds.
- It **allows banks to expand their customer base as NBFCs have access in tier-3 and tier 4 cities**.
- o **Tier 3 cities** are those cities with a population between 20,000 to 49,999
- o **Tier 4 cities** are those cities with a population between 10,000 to 19,999
- The model can **fulfil the credit requirements of the priority sector segments.**
- o Banks can connect with the underserved farming segment of

the country and further contribute towards the growth of India's farm economy.

Criticism:

- **Increased risk for the Banks:**
- o 80 % of the risk will be with the banks.
- o NBFCs are required to retain at least a 20 % share of individual loans on their books.
- **Limitations of the Bank:**
- o The terms of the agreement provide for the banks
- **to either mandatorily take their share of the individual loans originated by the NBFCs on their books**, or
- **to retain the discretion to reject certain loans after due diligence prior to taking them on their books.**
- **Greater role for NBFC:**
- o The RBI guidelines provide for the NBFCs to be the single point of interface for customers.
- o **NBFC decides the borrower**, while the banks fund the major chunk of the loan.
- o **NBFCs have more opportunities on the lending side** through direct co-lending arrangements.

BANK DEPOSIT INSURANCE COVER RISES TO RS 5 LAKH; REFUND WITHIN 90 DAYS

Recently, Minister of Commerce stated that the day on which the Reserve Bank of India decides to shut down the bank, amount up to 5 lakhs will be refunded to the depositors within 90 days.

- This programme gives the largest coverage to the depositors in the

world stretching up to 98 per cent of the people.

Deposit insurance

- Deposit insurance is a protection cover against losses accruing to bank deposits if a bank fails financially and has no money to

pay its depositors and has to go in for liquidation.

- It is a measure implemented in many countries to protect bank depositors.
- It prevents **bank runs** as banks keep only a small amount of money at their premises.
  o If too many people try to withdraw their money at the same time, it could cause banks to fail even if they were financially sound.
- Deposit insurance is regulated by **Deposit Insurance and Credit Guarantee Corporation** (DICGC), which is specialised division of **Reserve Bank of India** which is under the jurisdiction of **Ministry of Finance.**

Deposit Insurance and Credit Guarantee Corporation (DICGC)

- It is a **wholly-owned subsidiary of the Reserve Bank of India**, which is under the jurisdiction of Ministry of Finance.
- It was established under Deposit Insurance and Credit Guarantee Corporation Act, 1961.
- **Aim:** To provide deposit insurance that works as a protection cover for bank deposit holders when the bank fails to pay its depositors.

Coverage:

- Central, state, and urban co-operative banks, regional rural banks and local banks, are covered under DICGC, provided that the bank has opted for it.
- It insures all kinds of deposit accounts of a bank, such as **savings, current, recurring, and fixed deposits** up to a **limit**

of **Rs. 5 lakh per account** holder **per bank.**

- If an individual's deposit amount exceeds Rs.5 lakh in a single bank, only Rs.5 lakh, including the principal and interest, will be paid by DICGC if the bank becomes bankrupt.

Type of Deposits insured:

DICGC protects all deposits such as savings, fixed, current, recurring, etc except the following types of deposits that are payable in India.

- Deposits of foreign Governments
- Deposits of Central/State Governments
- Inter-bank deposits
- Deposits of the State Land Development Banks with the State co-operative bank
- Any amount due on account of any deposit received outside India
- Amount which has been specifically exempted by the corporation with the previous approval of Reserve Bank of India.

DICGC does not cover?

- Deposits of state or Central governments.
- Deposits from foreign governments.
- State land development banks depositing with the state co-operative bank.
- Inter-bank deposits.
- Funds that are due on account of India and deposits received outside India.
- Funds exempted by the corporation with the previous approval from RBI.

Powers:

- To cancel the registration of an insured bank if it fails to pay the premium for three consecutive half-year periods.

- To restore the registration, if the bank makes a request and pays all the amounts due by way of premium from the date of default together with interest.

RBI INTRODUCES PROMPT CORRECTIVE ACTION FRAMEWORK FOR NBFCS

Recently, the Reserve Bank of India extended Prompt Corrective Action (PCA) Framework for Non-Banking Financial Companies (NBFCs).

- It will come into effect on October 1 2022 on the basis of their financial position on or after March 31.

Highlights of PCA framework for NBFCs

- It puts **restrictions on para-banks when vital financial metrics dip below the prescribed threshold.**
- It follows the **scale-based regulations and revision in non-performing asset (NPA) norms** brought in by the regulator for the sector.
- It gives **power to the central bank to take any action irrespective of the size of an NON-Banking Financial Company (NBFC).**
- The framework will apply to:
- **all deposit-taking NBFCs.**
- **all non-deposit taking NBFCs in the middle, upper and top layers**, including investment and credit firms, core investment firms, infrastructure debt funds, infrastructure finance firms and microfinance institutions.
- It has **excluded NBFCs not accepting or not intending to accept public funds, primary dealers and housing finance firms, along with government-owned ones.**

- Lenders showing deterioration in performance metrics like capital, asset quality, and leverage have to be restricted on paying dividends and opening branches.

Benefits:

- It **brings NBFCs closely integrated with the banking system.**
- It is a step taken by RBI to **harmonise the regulatory framework between banks and NBFCs**
- It ensures **safer functioning of overall financial system**
- NBFCs have been growing in size and have substantial inter-connectedness with other segments of the financial system.

Prompt Corrective Action (PCA) Framework:

- Prompt Corrective Action (PCA) Framework is a **set of guidelines for banks that are weak in terms of identified indicators including:**
- poor asset quality
- insufficient capital
- insufficient profit or losses.
- It is initiated by **Reserve Bank of India in 2002** to discipline banks when they report poor and risky financial performance.
- It acts as a **tool for effective market discipline**.

- **Objectives:**
  o To **enable supervisory intervention** at the appropriate time
  o To **initiate and implement remedial measure**s in a timely manner, so as to restore its financial health.

PCA thresholds:
- PCA mentions **three risk thresholds and three yardsticks of measurement.**
  o A breach of any criterion triggers PCA action.
- There will be **three risk thresholds**:
  o The first risk threshold of the PCA will be triggered when the capital adequacy ratio of the NBFC falls below the regulatory minimum of 15 per cent.
  o The second risk threshold will be triggered, if the ratio falls below 12 per cent.

o The third will be triggered when the ratio falling below 9 per cent.
- The three yardsticks to measure them are:
  o **capital adequacy ratio**
  o **tier-1 capital ratio**
  o **net NPA ratio**
- The restrictions against an NBFC get progressively tightened as it breaches higher threshold levels.

What happens if PCA framework is imposed?
- The NBFC will face **restrictions on dividend distribution and**
- **The promoters will be asked to infuse capital and reduce leverage.**
  o On risk threshold 2: the NBFC will be prohibited from opening branches, while
  o on risk threshold 3: capital expenditure will be stopped other than for a technological upgrade.

WHOLESALE PRICE INFLATION SPIKES TO A RECORD AS FOOD, FUEL SURGE

Recently India's wholesale prices inflation surge in food, mineral, fuel, power, oil and gas prices.

Wholesale Price Index (WPI)
- It is an index that measures and tracks the changes in the price of goods in the stages before the **retail level**.
- This refers to goods that are sold in bulk and traded between **entities** or **businesses.**
- Publish by: **Economic Advisor in the Ministry of Commerce and Industry**.
- Base year:**2011-12**

Components of WPI

- **Primary articles:** Food Articles and Non-Food Articles.
  o **Food Articles** include items such as Cereals, Paddy, Wheat, Pulses, Vegetables, Fruits, Milk, Eggs, Meat & Fish, etc.
  o **Non-Food Articles** include Oil Seeds, Minerals and Crude Petroleum
- **Fuel & Power:** tracks price movements in Petrol, Diesel and LPG
- **Manufactured Goods**: Textiles, Apparels, Paper, Chemicals, Plastic, Cement, Metals etc.
  o It also include **manufactured food products** such as Sugar,

Tobacco Products, Vegetable and Animal Oils, and Fats.

Consumer Price Index (CPI)

- It is an index measuring retail inflation in the economy by collecting the change in prices of most common **goods and services**.
- CPI is calculated for a **fixed list** of items including food, housing, apparel, transportation, electronics, medical care, education, etc.
- It is also a **helpful pointer** in understanding the real value of wages, salaries and pensions, the

purchasing power of a country's currency and regulating prices.

Types

- CPI for Industrial Workers (IW)
- CPI for Agricultural Labourers (AL)
- CPI for Rural Labourers (RL) and
- CPI for Urban Non-Manual Employees (UNME).

Publish by:

- While the **Ministry of Statistics and Program Implementation** collects CPI (UNME) data and compiles it, the remaining three are collected by the **Labour Bureau in the Ministry of Labour**.

CABINET APPROVES INCENTIVE SCHEME TO PROMOTE RUPAY DEBIT CARDS, LOW-VALUE BHIM-UPI DIGITAL PAYMENTS

Recently, the Union Cabinet approved an incentive scheme to promote the use of RuPay debit cards and low value BHIM-UPI transactions in the country.

- **Aim**: Encouraging people to adopt digital modes of payment.

Key Highlights:

- Under this, the government will incentivise the acquiring banks by paying a percentage of the value of transactions through RuPay and BHIM-UP.
- o The incentive is only for person-to-merchant transactions and not P2P ones that also use the UPI route.
- **Government will invest** 1,300 crores, encouraging citizens to move towards digital fold through BHIM-UPI and RuPay Debit cards.

Significance:

- It will help make accessible digital modes of payments to unbanked and **marginalised**

populations outside formal banking and financial system.

- It will further spur research and development and innovation in the fintech space.
- It will facilitate acquiring banks to build a robust **digital payment ecosystem** and promote RuPay Debit card and BHIM-UPI digital transactions.

Digital Transactions:

- India is one of the most efficient payments markets in the world.
- It saw a record number of **digital transactions** at 423 crore valued at 7.56 lakh crore.

RuPay Cards:

- RuPay is a brand of **National Payments Corporation of India** (NPCI) under which it operates the card scheme.
- o NPCI is a body promoted by RBI and has presently ten core promoter banks like State Bank of

India, Punjab National Bank, Canara Bank, Bank of Baroda, Union bank of India etc.

- **Aim:** To provide payment services to citizens anytime, anywhere which are simple, easy to use, safe, and also cost effective.

Key Features:

- No separate registration required.
- **User Friendly**: Simplified transaction flow, effortless authentication process.
- **Enhanced User Interface**: Single-screen checkout
- **Faster Transaction Processing**: The cardholder has to enter just the card details and a One Time Password (OTP) to complete the transaction.

Benefits:

Low cost and Affordability

- Since the transaction processing will happen domestically, it would lead to **lower cost of clearing and settlement** for each transaction.

- This will make the transaction cost affordable and will drive usage of cards in the industry.

Customized Product Offering

- RuPay, scheme is committed towards development of customized product and service offerings for Indian consumers.

Protection of Information

- Transaction and customer data related to **RuPay card transactions** will reside within the domestic territory of India.

Provide Electronic Product to Untapped Consumers

- Consumers in rural areas do not have access to **banking and financial services**.
- Right pricing of RuPay products would make the cards more economically feasible for banks to offer to their customers.
- **Product variants** would ensure that banks can target the hitherto untapped consumer segments.

NO ESTIMATION OF BLACK MONEY IN FOREIGN ACCOUNTS IN LAST 5 YEARS: GOVT

The government responded to a query on details of black money brought back to India from foreign countries since 2014.

Black Money:

- Black money includes **all funds earned through illegal activity** and otherwise legal income that is not recorded for tax purposes.
- Black money proceeds are usually received **in cash** from underground economic activity and, as such, are **not taxed.**
- Recipients of black money hide it, spend it only in the underground

economy, or attempt to give it the appearance of legitimacy through **money laundering.**

Causes of Black Money:

Different Rates of Excise Duty:

- Within similar products, there are different rates of excise duty.
- This leads to **tax evasion** through **misclassification of output.**

Control Policy:

- In selecting commodities for control and in determining their prices, the government fails to take into account

the **elasticity** involved in demand and supply.

o This leads to **black money** in the economy.

Quota System:

- The import **quota**, the export quota and the foreign exchange quota are generally **misused by selling them at a premium.**

o Unrealistic controls spawn a culture which encourage corporate to break the tax laws.

Scarcity:

- Black money is also caused by **scarcity and defective public distribution system.**

- When essential goods become scarce, people have to pay higher than the controlled price, which generates black money.

Inflation:

- The **increase in prices of commodities** due to high increase in duties and taxes imposed by the government, diverting resources from production to speculation—all this cause inflation which in turn creates black money.

Money Laundering:

- Money laundering is the **illegal** process of making **large amounts** of money **generated by a criminal activity, appear** to have come from a **legitimate source.**

- The process of laundering money typically involves three steps: **placement, layering, and integration.**

o Placement surreptitiously **injects** the "dirty money" into the legitimate **financial system.**

o Layering **conceals the source of the money** through a series of transactions and bookkeeping tricks.

o In the final step, integration, the now-laundered money is **withdrawn** from the legitimate account to be used for whatever purposes the criminals have in mind for it.

Money Laundering Techniques:

Smurfing:

- It is a money-laundering technique involving the **structuring** of **large amounts** of cash **into multiple small transactions.**

- Smurfs often spread these small transactions over many different accounts, to keep them **under regulatory reporting limits and avoid detection.**

Bulk cash smuggling:

- This involves **physically smuggling banknotes** to another jurisdiction and depositing them in a financial institution, such as an offshore bank, with greater bank secrecy or less severe money laundering enforcement.

Cash-intensive businesses

- Cash-intensive businesses that typically receive a substantial proportion of its revenue as cash are set up.

o Then, **business accounts** are used to deposit black money.

- Such businesses operate openly and generate cash revenue from legitimate businesses in addition to the illicit cash.

Investments in commodities

- It involves the **movement of luxury and mobile commodities** such as diamonds, gems and gold that can be moved to other jurisdictions in an easy manner.

Trade-based laundering

- This method involves **under- or over-valuing invoices** to disguise the movement of money.

Shell companies and trusts

- Trusts and shell companies **disguise the true owners of money.**
- Trusts and corporate vehicles need not disclose their true owner or beneficial owner in many jurisdictions.
- **Shell companies** do not have any active business operations but have a **legal personality.**

Round-tripping

- In this method, black money is deposited in the accounts of a **controlled foreign corporation offshore**, preferably in a tax haven country where anti-money laundering (AML) checks are minimal.
- The money is then shipped back as a **foreign direct investment**, often exempt from taxation.

Impact of Black Money:

- Black money **eats up a part of the tax** and, thus, the **government's deficit increases.**
  o The government has to **balance this deficit** by **increasing taxes, decreasing subsidies and increasing borrowings.**
  o Borrowing leads to a further increase in the government's debt due to interest burden.
  o If the government is unable to balance the deficit, it has to decrease spending, which affects development.
- **Money Circulation** – People generally tend to keep black money in the form of gold, immovable property and other secret manners.
  o Such money **does not become part of the main economy** and, therefore, remains generally out of circulation.
- The black money keeps **circulating among the wealthy** and creates more opportunities for them.
- The infusion of unaccounted black money in the economy leads to **higher inflation**, which obviously hits the poor the most.
  o It also **increases the disparity** between the rich and the poor.

SEBI MULLS 'ONE COMMODITY ONE EXCHANGE' CONCEPT

Recently, capital markets regulator Security and Exchange Board of India (SEBI) has proposed 'one commodity one exchange' concept.

One Commodity One Exchange Concept:

- It is a concept based on a **single exchange launching contracts of a specific commodity derivative.**
- **Aim**: To help every exchange develop an **exclusive set of**

unfragmented liquid contracts on specific commodities.

Applicability:

- The concept is **applicable only for narrow agri-commodities** which do not fall into the sensitive and broad category.
  - Spices such as coriander or jeera, are examples of narrow agri-commodities.
  - Here, production is concentrated in a specific region but has high volatility.
  - Non-agri commodities should not fall under the purview.
- The agricultural commodities have been classified into three categories: **sensitive, broad and narrow.**

Significance of the concept:

- A single exchange launching contracts on a specific commodity **may have bigger impact locally as well as internationally.**
  - The multiple exchanges in India, competing contracts on the same commodity, resulted in the fragmentation of trading volumes.
- It will ensure that the concerned **exchange develops all kinds of derivative contracts on a specific commodity exclusively.**
- It brings about **comprehensive development and deepening of the Indian commodity derivatives markets.**
  - The focus will be more in adequate warehousing and storage, transport, communication

technologies and setting standards for that particular commodity.

- It will eventually help India to be in a **position to influence the global benchmark pricing of such commodities.**
  - Though India is one of the largest consumers or producers of a number of commodities, it had negligible say in setting commodity prices in such products.
- It may provide **a new impetus for stock exchanges to develop a market in their chosen commodities** for the benefit of the stakeholders.
  - Earlier, they were chasing the same set of stakeholders of a particular commodity.
- It may **curb the practice of stock exchanges that merely copy products launched by other stock exchanges.**
  - The focus will now be on building up new demand, rather than shifting demands.

Challenges:

- **It may create artificial barriers** at the cost of other markets and value chain participants.
  - This may result in increased overall costs, including trading, compliance and technology.
- **Exchanges may not always meaningfully develop the products blocked by them**.
  - An exchange may lose interest, after an initial production.
  - It may decide not to invest further in that product and block other exchanges from launching that contract.

- Allowing only one exchange to offer products in a commodity for 3-5 years **may go against market development.**

  o **It may result in failure of the exchange in building liquidity.**

PM JAN DHAN YOJNA ACCOUNTS SWELL TO 44 CRORE TILL OCTOBER THIS YEAR

Recently, Pradhan mantri jan dhan yojana (PMJDY), has crossed the 44-crore mark.

Pradhan Mantri Jan Dhan Yojana (PMJDY)

- It is a nationwide scheme launched by the Government of India to ensure **financial inclusion** of every individual who does not have a bank account in India.
- **Aim**: To provide access to financial services, like Banking, savings and deposit accounts, remittance, credit, insurance and pension in an affordable manner to all.

Objectives

- Ensure access of **financial products** & services at an affordable cost.
- Use of **technology** to lower cost & widen reach.

Six Pillars of the schemes

- Universal access to banking services.
- Basic savings bank accounts with overdraft facility.
- Financial Literacy Program.
- Creation of Credit Guarantee Fund.
- Insurance against accident and life cover.
- Pension scheme for Unorganized sector.

Benefits

Insurance benefits

- The account holders under this scheme will get an **accidental insurance** cover of Rs 1 lakh and a life cover of Rs 30,000.

Loan benefits

- The account holders under this scheme can avail an **overdraft facility** upto Rs 10,000.
- This is available against one account per household.

Mobile banking facility

- Enabling carrying out transactions through a **mobile phone** facilitates such account holders in checking of balance and also transferring funds with ease across India.

Challenges

- In tribal and hilly areas of the country, the **telecom network** is not reliable and therefore setting up business correspondent in these areas is difficult task.
- There has been a lot of **duplicacy** exists and sometimes states have not followed the service area approach.
- Parts of North east, Himachal Pradesh, Uttarakhand, J&K and 82 Left wing extremism (LWE) districts **face challenges of infrastructure and telecom connectivity**.

Suggestions

- There should be **engagement between public and private corporates**.
- NGO can **come forward in each area** and also **facilitate identification of the people not having bank account.**

- **Various union** like taxi drivers, autorickshaw union can also be engage to help them to open account.
- **More communication channels** like radio, TV etc can organised to raise awareness.

FCRA LICENSE OF 3 MINORITY NGOs REVOKED

The Union Ministry of Home Affairs has cancelled the FCRA registration of a Vadodara-based NGO that was accused by the Gujarat police of threatening national security.

Foreign Contribution Regulation (Amendment) Act (FCRA), 2020:

- The Foreign Contribution Regulation Act (FCRA) registration is **mandatory for associations** and **non-government organizations** (NGOs) **to receive foreign funds.**
- Registered NGOs can receive foreign contribution for **five purposes — social, educational, religious, economic and cultural.**

Objectives of the Act:

- To **strengthen the compliance mechanism,** enhance **transparency and accountability** in the receipt and utilization of foreign contribution.
- **Facilitate genuine non-governmental organizations or associations**, who are working for welfare of the society.

Key changes introduced in the amended Act:

Prohibiting public servants from receiving foreign contribution:

- The amendment has **expanded the list of persons**, who are prohibited from receiving foreign contribution.
- It has added "public servant", as defined in the Indian Penal Code, 1860 to this list.

Prohibition on transfer of foreign contribution:

- The amended Act, **prohibits** persons authorized under FCRA to receive foreign contributions, from **transferring such foreign contributions to any person.**

Lowering of the administrative expense cap:

- The cap on administrative expenses through foreign contributions have been **reduced to 20% from 50%.**

Power to prohibit a foreign contribution recipient from utilizing/receiving its funds:

- The act empowers the Government to **prohibit a person to utilize the fund**, if the Government believes that such person has contravened the FCRA.
- Such a restriction can be imposed by the Government, pending further inquiry and before a person is found guilty of such contravention.

Mandatory opening of FCRA bank account:

- The amended Act requires the recipient of foreign contribution to receive such amount, only in an account designated as "**FCRA Account**", opened in a branch of the **State Bank of India at New Delhi.**

Increase in the maximum limit for the period of suspension:

- The Act has given the government power to **suspend the registration certificate** of a person for **up to 360 days,** pending an inquiry for cancellation of FCRA registration.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT RELEASES MODEL RULES FOR MINIMUM TAX

Recently, the Organisation for Economic Co-operation and Development (OECD) published detailed rules to assist in the implementation of new international tax system.

Global corporate Minimum Tax Rate?

- A global corporate minimum tax is a **tax regime established by international agreement**.
- The countries adhering to the agreement would impose a specific **minimum tax rate** on the **income of corporations** subject to the respective jurisdictions' tax laws.
  - The OECD and G20 countries joined forces and developed an Action Plan to address BEPS (base erosion and profit shifting)
  - They created the **OECD/G20 Inclusive Framework on BEPS.**
  - It is signed by 136 countries including India, who agreed to enforce a minimum corporate tax rate of **15%.**

The two-pillar package

- **Aim:** To ensure that large Multinational Enterprises (MNEs) pay tax **where they operate and earn profits.**
- **Pillar One**

  - It will ensure a **fairer distribution of profits** and taxing rights among countries with respect to the largest MNEs, including digital companies.
  - It would re-**allocate some taxing rights over MNEs** from their home countries to the markets where they have business activities and earn profits.

Need of a minimum tax rate:

- To **discourage MNCs from making foreign investment decisions** on the basis of low tax rates.
- To **address base erosion and profit shifting (BEPS)** caused by MNCs' tax-avoidance practices
  - To discourage multinationals from shifting profits and tax revenues to low-tax countries
- It would reduce tax competition and create a fairer distribution of tax revenues.
- To meet challenges created by the increasingly digitalized global economy.

Pillar II Model Rules/ GLOBE Rules:

- The Pillar Two model rules provide governments a building-block in

the **development of a two-pillar solution.**

- **Aim:** To address the **tax challenges** arising from digitalisation and globalisation of the economy.
- The rules set out the mechanism for **Global Anti-Base Erosion (GloBE) rules** under Pillar Two:
  o It will introduce a **global minimum corporate tax rate set at 15% from 2023.**
  o The **minimum tax will apply to MNEs** with revenue above EUR 750 million
  o It is estimated to generate around USD 150 billion in additional global tax revenues annually.
- The GloBE rules provide for a **co-ordinated system of taxation.**
- **Aim**: To **ensure large MNE groups pay this minimum level of tax** on income arising in each of the jurisdictions in which they operate.
- The rules **create a "top-up tax"** to be applied on profits in any jurisdiction whenever the effective tax rate is below the minimum 15% rate.
  o The GloBE Rules apply a minimum rate on a jurisdictional basis.

Exceptions:

Pillar Two Model Rules do not apply to:

- government entities, international organisations and non-profit organisations
- entities that meet the definition of a pension, investment or real estate fund.

Significance of Pillar II Rules:

- The new Pillar Two model rules will **assist countries to bring the**

GloBE rules into domestic legislation in 2022.

- They **provide for a co-ordinated system of interlocking rules** that:
  o **define the MNEs** within the scope of the minimum tax;
  o set out a **mechanism for calculating an MNE's effective tax** rate on a jurisdictional basis
  o for determining the amount of top-up tax payable under the rules;
  o impose the top-up tax on a member of the MNE group in accordance with an agreed rule order.
- It also addresses the **treatment of acquisitions and disposals** of group members
- It also includes specific rules to deal with **particular holding structures and tax neutrality regimes.**
- The rules address administrative aspects and **provide for transitional rules for MNEs** that become subject to the global minimum tax.

Benefits:

- The minimum tax would **discourage countries from competing to attract corporations** by offering low tax rates.
- The new rules let countries to **impose an extra tax** on companies not meeting a 15% effective minimum rate.
- It will encourage multinationals **to repatriate capital to their country**, giving a **boost to those economies.**

RBI TO CONDUCT 4-DAY VRRR AUCTION WORTH ₹2-LAKH CRORE

Recently, the Reserve Bank of India (RBI) said it will conduct a four-day variable rate reverse repo (VRRR) auction.

What is Repo rate?

- REPO rate is the **rate of interest at which the Reserve Bank of India (RBI), lends money** to the commercial banks.
  - In case of a financial crisis, the commercial banks can lend money from the Reserve Bank of India.
- Repo rate is used by the central bank **to control the money supply** in the market
  - This helps in **controlling inflation** and helps regulate the economy.
- The **rates are decided** by the central bank on the **basis of the inflation or recession** in the market of the country.

Reverse Repo Rate

- Reverse repo rate is the **interest offered by the RBI to banks** who deposit funds into the treasury.
  - When banks generate excess funds, they may deposit the money in the central bank.
- A high reverse repo rate helps inject liquidity into the economic system.
- It is the **rate at which RBI takes money from banks**.
  - A part of it is done at a fixed rate and some of it at a **variable rate.**

- The reverse repo rate has an **impact on the economy.**
  - When the reverse repo rate is increased banks deposit their surplus funds with RBI in order to gain interest.
  - The economy experiences reduced money flow and the banks find it more feasible to deposit the money in the central bank.

Why is VRR auction conducted?

- The RBI is conducting VRR auction as a primary tool for **market liquidity absorption**.
- During variable rate reverse repo auctions, banks lend their excess liquid reserves to the central bank, getting between 3.8-3.9 percent interest.
  - Previously, the general period for VRRRs has either been 7, 14 or 28 days.

Genesis:

- **In 2020,** to keep liquidity easy in the market, RBI sought to increase the liquidity in the system by printing more money.
- In **the early 2021**, banks have been depositing money with the RBI through the fixed rate reverse repo window earning 3.35 %.
- The VRRR can be regarded as **RBI's move to force banks to move from the fixed rate of 3.35 percent to the VRRR window**.

SPICES PRODUCTION IN THE COUNTRY GREW FROM 67 LAKH TONNES IN 2014-15 TO 107 LAKH TONNES IN 2020-21

Recently, Union Agriculture Minister released the book **Spices Statistics at a Glance 2021**.

- The book includes **spices statistics** like, area, production, productivity, export, import, price

and value of output of various spices produced in the country.
- **Published by:** Directorate of Arecanut and Spices Development (DASD), Ministry of Agriculture & Farmers Welfare.
- Spices production in the country **grew with an annual growth rate 7.9%,** since 2014-15.

- Spices exports contribute to **41% of the total export earnings** from all **horticultural crops.**
- o It ranks fourth among agricultural commodities after only marine products, non-basmati rice and basmati rice.

BIG DROP IN TOY IMPORTS IN LAST THREE YEARS, SAYS PIYUSH GOYAL

Recently, Commerce and Industry Minister stated that the government is protecting the interest of the domestic toy industry by promoting Made-in-India toys.

India's toy scenario
- India's domestic toy market is valued at **Rs. 5750 Crores per annum**.
- Currently, the production and import of toys in India rising at the rate of 10-15% every single year.
- The toy industry in India is facing severe competition from Chinese toy imports.
- o **China** is the **largest exporter of toys in the world.**
- The global market for toys is estimated at **US$ 80 billion**.
- o Indian toy market comprises less than **0.08 percent of this huge market.**

Import of toys in India
- India's import of toys in the financial year 2018-2019 stood at $1.4 billion.
- Almost 85% of the toys sold in India are imported, with China being the top source, followed by **Sri Lanka, Malaysia, Germany, Hong Kong, and the US**.

Measures to promote the toy industry
- The government has emphasized using tourism as a tool to promote India's culture, especially in regions that are renowned for handcrafted toys.
- Under the '**Vocal for Local'** slogan and '**Aatmanirbhar Bharat'** campaign, the government shall explore opportunities to tap the potential of the sector.
- A **national action plan** has been created by the Department for Promotion of Industry and Internal Trade (DPIIT), MSME, and other departments to promote the toy industry.
- **Toy Cluster Programme** was organized in 2020, to build toy clusters in dedicated SEZs and help them become customized, self-sustained ecosystems catering to export markets.
- **Toycathon-2021**, an online toy hackathon for innovative toys, is another initiative taken by six different ministries and departments of the government.
- o It aims to enhance toy manufacturing capabilities.

- The Indian Government had organized the **India Toy Fair 2021**, making India a global hub for the manufacturing and sourcing of toys.
- The Government has issued **Toys (Quality Control) Order, 2020**.

- As per the Order, every toy shall conform to the requirements of relevant Indian Standard and bear the Standard Mark under a license from BIS as per scheme-I of BIS Regulations, 2018.

SAT IMPOSED PENALTY ON SEBI

Recently, Securities Appellate Tribunal (SAT) imposed a penalty on the Securities and Exchange Board of India (SEBI) for abuse of the court process.

Securities Appellate Tribunal (SAT)

- It is a statutory tribunal **established** under the **SEBI Act, 1992**.
- It has the **only bench** which sits **in Mumbai**.
- It hears and disposes of appeals against:
- Orders passed by the SEBI or by an adjudicating officer under **the SEBI Act.**
- Orders passed by the Pension Fund Regulatory and Development Authority (PFRDA) under the **PFRDA Act, 2013.**
- Orders passed by the Insurance Regulatory Development Authority of India (IRDAI) under the Insurance Act, 1938, the General Insurance Business (Nationalization) Act, 1972 and the Insurance Regulatory and

Development Authority Act, 1999, and the Rules and Regulations framed thereunder.

SAT Composition:

- It has a presiding officer and 2 other members.
- All members and presiding officers will be **appointed by the Union Government** in consultation with the Chief Justice of India.
- Like other tribunals,
- SAT is **not bounded by** the procedures of **the Code of Civil Procedure, 1908**.
- **Appeal** against SAT's decision lies **in High Court**.

Key fact:

A tribunal is a specialized adjudicating body. Provision about tribunals was added to the constitution by **42nd Amendment Act**, 1976. It added:

- Article 323-A: Administrative Tribunals.
- Article 323-B: Tribunals for other matters.

INDIA'S MONETARY POLICY FINANCIALLY INCLUSIVE BY DESIGN: RBI DG PATRA

Reserve Bank of India has said that India's monetary policy is by design financially inclusive.

Monetary Policy:

- Monetary policy refers to the **policy of the central bank** with regard to the **use of monetary instruments** under its

control to achieve the goals specified in the Act.

- **The Reserve Bank of India (RBI)** is vested with the responsibility of **conducting monetary policy.**
  o This responsibility is **explicitly mandated** under the Reserve **Bank of India Act, 1934.**

Tools of Monetary Policy:

There are several direct and indirect instruments that are used for implementing monetary policy.

Repo Rate:

- It is the (fixed) interest rate at which the **Reserve Bank provides overnight liquidity to banks** against the collateral of government and other approved securities under the liquidity adjustment facility (LAF).

Reverse Repo Rate:

- It is the (fixed) interest rate at which the Reserve Bank **absorbs liquidity**, on an **overnight basis**, **from banks** against the collateral of eligible government securities under the LAF.

Liquidity Adjustment Facility (LAF):

- It is a facility that allows banks to **borrow money through repurchase agreements** (repos) or to make loans to the RBI through reverse repo agreements.
- The LAF consists of **overnight as well as term repo auctions**.
- **Aim of term repo:** To help develop the inter-bank term money market, which in turn can set market-based benchmarks for pricing of loans and deposits, and

hence improve transmission of monetary policy.

- RBI also conducts **variable interest rate reverse repo** auctions, as necessitated under the market conditions.

Marginal Standing Facility (MSF):

- It is a facility under which **scheduled commercial banks** can **borrow additional amount** of overnight money from the Reserve Bank by dipping into their Statutory Liquidity Ratio (SLR) portfolio **up to a limit** at a **penal rate of interest.**
- This provides a safety valve against unanticipated liquidity shocks to the banking system.

Corridor:

- The MSF rate and reverse repo rate determine the corridor for the daily movement in the weighted average call money rate.

Bank Rate:

- It is the rate at which the Reserve Bank is ready to **buy or rediscount bills of exchange** or other commercial papers.
- The Bank Rate is published in Reserve Bank of India Act, 1934.
- This rate has been **aligned to the MSF rate** and, therefore, changes automatically as and when the MSF rate changes alongside policy repo rate changes.

Cash Reserve Ratio (CRR):

- It is the average **daily balance** that a **bank** is required **to maintain with the Reserve Bank as** a **share of** such per cent of its **Net demand and time liabilities (NDTL)** that the

Reserve Bank may notify from time to time.

Statutory Liquidity Ratio (SLR):

- It is the **share of NDTL** that a bank is required to maintain in **safe and liquid assets**, such as, unencumbered government securities, cash and gold.
- Changes in SLR often influence the availability of resources in the banking system for lending to the private sector.

Open Market Operations (OMOs):

- These include both, **outright purchase and sale of government securities**, for injection and absorption of durable liquidity, respectively.

Market Stabilisation Scheme (MSS):

- **Surplus liquidity** of a more enduring nature arising from large capital inflows is **absorbed through sale of short-dated government securities and treasury bills.**
- The cash so mobilised is **held in a separate government account** with the Reserve Bank.

Financial Inclusion:

- Financial inclusion is the process of **extending the reach of formal banking services** and products **to the unbanked population** in the country.
- Financial inclusion appeared to be the **lowest in rural, agriculture-**
- **dependent areas** where food was the main source of income.

Financial Inclusion and Monetary Policy:

Financial inclusion is found to improve the transmission of interest rate-based monetary policy impulses in two ways.

- Financial inclusion leads to preference **shifts from cash to interest-bearing bank deposits** and other financial assets.
- Financial inclusion is expected to **expand the access to bank credit**, which is interest sensitive and affected by changes in the policy rate.
  - Hence financial inclusion e**nhances the potency of interest-rate based monetary policy** by causing an increasing number of people to become responsive to interest rate cycles.

Financial Inclusion Index (FI Index):

- The Reserve Bank of India (RBI) introduced the Financial Inclusion Index (FI-Index) **to gauge the accessibility** of banking and financial services and products and the usage and quality of such facilities to Indian population.
- The index rose from 49.9 in March 2019, to 53.1 in March 2020, and further to **53.9 in March 2021.**

INDIA CAN GENERATE USD 813 BN IN REVENUES FROM AGRI, FOOD SECTOR BY 2030: REPORT

Recently, a report titled 'Investing for Impact: Food, Agri and Agritech' was recently launched Aspire Impact.

Highlights:

- India's agricultural mechanization levels, is at 40-45 percent unlike

90 percent in the developed economies.

- With a gap of 3**.2 million tonnes** in cold storage, the food processing industry incurred a loss worth **USD 14 billion** in 2018.
- 55 percent of India's forests are prone to fire with 70 percent having no natural regeneration.
- To meet the dairy need, India is required around **600 million tonnes of milk per year in 2060**.

- Smart innovation, infrastructure and policy support and newer business models can attract **USD 272 billion** in investments and generate USD 813 billion in revenue.
- India is at the **biggest production risk** with **68 % of the cultivation area being directly dependent upon the monsoon** accounting for 40-45 % of total agriculture production.

ELECTRONIC GOLD RECEIPTS ARE NOW 'SECURITIES', SAYS FINANCE MINISTRY

Recently, Finance Ministry has specified Electronic Gold Receipt (EGR) as securities under the Securities Contracts (Regulation) Act 1956.

- EGR is an **electronic receipt** issued on the basis of deposit of underlying physical gold in accordance with the regulations made by SEBI.

- It will enable **trading of EGR** in existing exchanges under a separate segment.
- EGRs will be held in demat form and can be converted into **physical gold** when needed.
- EGR will have trading, **clearing and settlement features** akin to any other securities.

INDIA'S TEXTILE AND APPAREL EXPORTS OUTSHINE PRE-COVID NUMBERS

India's textile and apparel exports have seen a 53 per cent growth during current fiscal year at around 26 billion USD.

Highlights:

- **China-plus-one policy** has helped textile companies in achieving higher growth.
  - China-plus-one policy is a business strategy to avoid investing only in China and diversify business into other countries.
- Textile Export was valued at **$263 billion** during the April-November period in 2021-22.

- The commodities included **cotton yarn, fabrics, made-ups, handloom products, man-made yarn, jute, textiles and apparel**
- The textile sector contributed **9.9 per cent** of the total exports.

Indian government schemes to promote textile sector

- **Budget allotted**- Rs. 3,514.79 crore in the 2020-21 budget.

Schemes and initiatives are-
Amended Technology Upgradation Fund Scheme (A-TUFS):

  - **Aim-** Make in India' and 'Zero Defect and Zero Effect' in manufacturing, the government

provides credit linked capital investment subsidy.

- **Schemes for the development of the Power loom Sector (Power-Tex):**
  o **Aim**-To improve the work efficiency and to enhance the competitiveness of power loom in the global market

Schemes for Technical Textiles, Scheme for Integrated Textile Parks (SITP)
  o **Aim-** to provide infrastructure facilities for setting up textile units in potential growth areas matching with the international social and environmental standards.

Scheme for Additional Grant for Apparel Manufacturing Units under SITP (SAGAM)
  o **Aim-** To generate employment opportunities through Apparel Manufacturing.

SAMARTH- The Scheme for Capacity Building in Textile Sector (SCBTS):
  o **Aim-** to skill the youth for gainful and sustainable employment in the textile sector.

- **Jute (ICARE- Improved Cultivation and Advanced Retting Exercise):**
  o **Aim-** to aware and train the jute farmers for efficient and effective utilization of the improved jute production technologies and increase the fibre productivity as well as quality on a larger scale.

Integrated Processing Development Scheme (IPDS):
  o **Aim**- to facilitate the textile industry to become globally competitive using environmentally friendly processing standards and technology

Silk Samagra:
  o **Aim-** to scale up production by improving the quality and productivity and to empower downtrodden, poor & backward families through various activities of sericulture in the country.

National Handloom Development Programme:
  o **Aim-** to serve weavers of the Block with all facilities of pre loom and post loom activities.

National Handicraft Development Programme
  o **Objectives**-
  ▪ Promoting premium handicrafts products for the niche market.
  ▪ Expansion of production base for utility-based, life style and mass production handicrafts products.
  ▪ Preservation and protection of heritage/languishing crafts.

Integrated Wool Development Programme (IWDP)
  o **Objectives**-
  ▪ To increase the annual wool production in India
  ▪ To improve the quality of wool fibre and quality of processing the wool
  ▪ To establish service and research centres to improve the quantity and quality of import and export production
  ▪ To increase marketing and branding promotion for export production of wool.

North East Region Textiles Promotion Scheme (NERTPS)
  o **Aim**- to promote textiles industry in the North East Region by providing infrastructure, capacity

building and marketing support to the industry.

Rebate of State and Central Taxes and Levies (ROSCTL)

- o **Aim**- to help exporters cut high logistics and other costs and enable them to compete globally

Scheme for Production and Employment Linked Support for Garmenting Units (SPELSGU)

- o **Aim**- to incentivize production and employment generation in the garmenting sector.

RBI RELEASES REPORT ON TREND AND PROGRESS OF BANKING IN INDIA

The Reserve Bank of India had recently released a report on "Trend and Progress of Banking in India 2020-21".

Highlights:

- The consolidated balance sheet of **scheduled commercial banks (SCBs)** expanded in size in 2020-21 despite of the coronavirus pandemic and economic recession.
- **The capital to risk-weighted assets (CRAR) ratio** of SCBs has been strengthened from **14.8%** in 2020 to **16.3%** in March 2021 and further to 16.6% at the end of September 2021.
  - o Capital to risk weighted assets (CRAR) ratio is also known as the **capital adequacy ratio.**
  - o It is calculated **by dividing a bank's capital by its risk-weighted assets.**
  - o **Reason**- It was aided by higher retained earnings, recapitalisation of Public Sector Bank (PSBs) and capital raising from the market by both PSBs and private sector banks.

- **The gross non-performing assets (GNPA)** ratio of SCBs declined from **8.2%** at end of March 2020 to **6.9% at** end-September 2021.
  - o Gross non-performing assets refer to the **sum of all the loans** that have been defaulted by the borrowers within the provided period.
- The **profitability of state co-operative banks** and district central co-operative banks improved while their asset quality deteriorated in 2019-20.
- The **introduction of Central bank digital currency** (CBDC) has the potential to enhance the efficiency of cross-border payments and it can provide an alternative to correspondent banks.
- It can **offer benefits** to users in terms of liquidity, scalability, acceptance, ease of transactions with anonymity, and faster settlement.

GOVT ADDS INSURANCE EXPERTS TO BANKS BOARD BUREAU

The government has appointed insurance experts to the Banks Board Bureau for two-year term.

- Reason- to help in selection and appointment of directors on the

boards of public sector insurance companies.

Banks Board Bureau

- It is an **autonomous advisory body** created by the government.

- It was created after the recommendations of the **Committee** to Review Governance of Boards of Banks in India (**Chairman -PJ Nayak Committee – 2014).**
- **Aim**- to enhance the governance of the Public Sector Banks and state-owned financial institutions.
- **Established-** 2016

Composition

- Chairman
- Ex-officio members (3)-
  o Secretary of Department of Public Enterprises,
  o Secretary of the Department of Financial Services
  o Deputy Governor of the Reserve Bank of India,
- Expert members (5)- out of which two are from the private sector.

Functions-

- To promote excellence in Corporate Governance in **Public Sector Financial Institutions.**
- To make **recommendations for appointment** of whole-time directors as well as non-executive chairpersons of Public Sector Banks (PSBs) and state-owned financial institutions.
- To the **formulate and enforce of a code of conduct** and ethics for managerial personnel in mandated institutions.
- To help **banks in terms of developing business strategies** and capital raising plan.

SEBI TWEAKS SHARE SALE NORMS FOR IPOs

The Securities and Exchange Board of India tightened norms for public share sales.

Highlights of order

- Anchor investors to **lock in 50 per cent** of their investment for 90 days and 30 days for remaining 50%.
- Investors holding over 20% stake can sell a maximum of 50% of their shares through offer for sale.
- Regulator has tightened **disclosures** around **IPO objectives.**
  o Amount for **general corporate purpose (GCP) will not exceed 25 per cent** of the total amount being raised.
- **Credit rating agencies (CRAs)** will be permitted to act as monitoring agency **instead of Scheduled Commercial Banks and Public Financial Institutions** for utilisation of issue proceeds, including GCP.
- **A third of IPO allocations** under NII (Non-institutional investors) category reserved for application size of Rs 2 lakh to Rs 1 million and **two-thirds for applications** higher than Rs 1 million.
- **Mandated valuation reports** if preferential issue allotments result in a change of control.
- Issuer companies have to **adhere to guidelines provided under their Articles of Association** for pricing of preferential issue, in addition to pricing guidelines.

- An **additional requirement for a valuation report** from a registered independent valuer shall be required **in case of change in control/allotment of more than 5 per cent of post issue** fully diluted share capital of the issuer company to an allottee or to allottees acting in concert.
- Rationalised the time period for **filing settlement applications by entities to 60 days** from the date of receiving show-cause notice.
- Introduced provisions relating to **appointment or re-appointment** of persons **who fail to get elected as directors,** including whole-time directors, managing directors and managers, at the general meeting of a listed entity.

Order regarding mutual fund

- **No mutual fund (MF) in India** will be able **to wind up any of its schemes** unless the unitholders give their consent through a voting process.
  - o Voting process is simple and it is **one vote per unit**.
  - o Voting results need to be **published within 45 days** of the publication of notice of circumstances leading to the winding up.
- In case the **trustees fail to obtain consent**, the **scheme should open** for business activity from the **second business day** after the publication of the results of the voting.

Mutual fund

- A mutual fund is a **type of investment vehicle** consisting of a portfolio of stocks, bonds, or other securities.
- Mutual funds give small or individual investors access to diversified, professionally managed portfolios at a low price.

Hedge fund

- Hedge funds are actively managed alternative investments that typically use **non-traditional and risky investment** strategies or asset classes.
- Hedge funds charge much **higher fees than conventional investment** funds and require **high minimum deposits.**

Offer for sale

- It is a simpler method of **share sale** through the exchange platform for listed companies.
- OFS mechanism is used **only when existing shares are put on the block.**
- **Only promoters or shareholders holding more than 10 per cent of the share capital** in a company can come up with such an issue.

Anchor investor

- Anchor investors are institutional investors **who are offered shares in an IPO a day before the offer opens.**
- SEBI introduced the concept of anchor investors in IPOs in 2009.
- Each anchor investor has to put a minimum of ₹10 crores in the issue.

Non-institutional investors (NII)

- Institutions that want to subscribe for more than Rs 2 lakh

are called non-institutional investors.

- NII need not to register with SEBI.

Preferential share

- Preference shares (preferred stock) are company stock with **dividends that are paid to shareholders before common stock dividends are paid out.**
- There are **four types of preferred stock** - cumulative (guaranteed), non-cumulative, participating and convertible.
- Preference shares are **ideal for risk-averse investors** and they are callable (the issuer can redeem them at any time).

Initial public offering

- An initial public offering (IPO) refers to the **process of offering shares of a private corporation** to the public in a new stock issuance.
- Companies **must meet requirements** by exchanges and the Securities and Exchange Commission (SEC) to hold an IPO.
- IPOs provide companies with **an opportunity to obtain capital** by offering shares through the primary market.

- Companies hire investment banks to market, gauge demand, set the IPO price and date, and more.

Securities and Exchange Board of India (SEBI)

- It was **established in 1988** and given **Statutory Powers** in 1992 through the SEBI Act, 1992
- It is a **regulatory body for securities and commodity market** in India under the ownership of Ministry of Finance, Government of India.
- **Headquarter**-Mumbai, Maharashtra.

Powers

- To **approve by–laws** of Securities exchanges.
- To require the Securities exchange to **amend their by–laws**.
- **Inspect the books of accounts** and call for periodical returns from recognised Securities exchanges.
- **Inspect the books of accounts** of financial intermediaries.
- **Compel certain companies to list their shares** in one or more Securities exchanges.
- **Registration** of Brokers and sub-brokers.

CENTRAL CONSUMER PROTECTION AUTHORITY ISSUES 15 NOTICES AGAINST E-COMMERCE COMPANIES FOR VIOLATION OF COMPULSORY STANDARDS

Recently, the Central Consumer Protection Authority issued a safety notice to alert consumers against buying household goods which do not have valid Indian Standards Institute Mark.

BIS Act:

- **Central Government** directs conformity to standard and

compulsory use of standard mark under **Section 16 of BIS Act**.

- These directions are published in form of **Quality Control Orders** (QCO).
- **Aim**: To protect consumers from risk of suffering injury, harm and

ensure required safety & technical standards to be followed.

Central Consumer Protection Authority (CCPA):

- CCPA was established in 2020 as per the **Consumer Protection Act**, 2019.
- **Aim:** To promote, protect and enforce the rights of consumers as a class.

Functions:

- **To conduct investigations** into violation of consumer rights.
- Institute complaints / prosecution.
- Order recall of **unsafe goods and services**.
- Order discontinuation of unfair trade practices and misleading advertisements.
- **Impose penalties** on manufacturers/endorsers/publishers of misleading advertisements

Rules and Regulations under CCPA:

- **The Consumer Protection (General) Rules**, 2020
- The Consumer Protection (Central Consumer Protection Council) Rules, 2020.
- The Consumer Protection (Consumer Disputes Redressal Commissions) Rules, 2020.

- **The Consumer Protection (Mediation) Rules,** 2020**.**
- The Consumer Protection (Salary, allowances and conditions of service of President and Members of the State Commission and District Commission) Model Rules, 2020.
- The Consumer Protection (Qualification for appointment, method of recruitment, procedure of appointment, term of office, resignation and removal of the President and members of the State Commission and District Commission) Rules, 2020.
- **The Consumer Protection (E-Commerce) Rules**, 2020.

Regulations by National Consumer Disputes Redressal Commission:

- **The Consumer Protection (Consumer Commission Procedure) Regulations**, 2020.
- The Consumer Protection (Administrative Control over the State Commission and the District Commission) Regulations, 2020.
- **The Consumer Protection (Mediation) Regulations**, 2020.

GOVT ASKS BANK TO LEND ONLY ON NEGOTIABLE WAREHOUSE RECEIPT

Recently, the government has nudged banks to finance warehouses only against negotiable warehouse receipts (NWRs) and electronic-NWRs.

Negotiable Warehouse Receipt System

- They are **documents** issued by warehouses to depositors against

the commodities deposited in the warehouses.

- Warehouse Receipts may be either **non-negotiable or negotiable**.
- The term 'negotiable warehouse receipt' is defined in Section 2(m) of the **Warehousing**

(Development and Regulation) Act, 2007.

- A negotiable instrument can be **transferred** to any number of persons before maturity.
- It can be traded, sold, swapped and used as collateral to support borrowing.

Benefits of Negotiable warehouse receipts (NWR)

- NWRs issued by **registered warehouses** help farmers to seek loans from banks against NWR.
- It provide farmers with an instrument that allows them to extend the sales period of modestly **perishable products** well beyond the harvesting season.
- It can avoid **distress sale** of agricultural produce by the farmers in the peak marketing season when there is glut in the market.
- It allow transfer of **ownership** of that commodity stored in a warehouse without having to deliver the physical commodity.
- These receipts is also beneficial to other **stakeholders** such as, banks, financial Institutions, insurance companies, trade, commodity exchanges as well as consumers.

Warehousing Development and Regulatory Authority

- It is a Statutory Authority under the Department of Food and Public Distribution.
- **Aim:** To ensure implementation of the provisions of the Warehousing (Development & Regulation) Act, 2007.

- **Commodities notified under Warehousing (Development & Regulation) Act, 2007:** 123 agricultural commodities including cereals, pulses, oil seeds etc for issuing negotiable warehouse receipts and 26 horticultural commodities for cold storage.

Objective

- To implement the **national food security Act 2013,** throughout the country.
- To undertake price support operations through **efficient procurement** of wheat, paddy and coarse gains.
- To Strength the **Targeted Public Distributions Systems.**
- To encourage **scientific warehousing of goods.**
- To promote shorter and efficient **supply chains**.
- To specify the **qualifications**, code of conduct and practical training for warehousemen and staff engaged in warehousing business.
- To make **regulations** laying down the standards for approval of certifying agencies for grading of goods.
- To conduct **enquiries and investigation** including audit of the warehouses and accreditation agencies.
- To renew, modify, withdraw, suspend or cancel **certificate of registration** of warehouse.

Composition of the Authority

- The Authority consists of a chairperson and two Members

appointed by the **Central Government.**

GIG ECONOMY: GOOD FOR COMPANIES, BAD FOR WORKERS

Due to pandemic, India has witnessed a **surge in gig worker's demand**.

Impact of covid-19

- The pandemic-led boom in demand for gig workers has had **two significant implications** on the **contractual labour ecosystem**.
  o It has created **new business models** to cater to the growing requirement for on-demand staffing.
  o Put the spotlight on the **labour codes** that **recognise gig workers** and provide for a universal minimum wage.

Gig economy

- **As per the World Economic Forum,** it is defined by its focus on workforce participation and income generation via "gigs", single projects or tasks for which a worker is hired.
- The gig economy is based on **flexible, temporary, or freelance jobs**, often involving connecting with clients or customers through an online platform.
  o Gig workers are **much more likely** to be **part-time workers and to work from home**.
- The gig economy can **benefit workers, businesses, and consumers** by making work more adaptable to the needs of the moment and demand for flexible lifestyles.

India's scenario

According to the report of **Boston consulting group,**

- India's **gig workforce comprises 15 million workers** employed across industries such as software, shared services and professional services.
- This number is expected to grow to **around 24 million** in the near-**medium term** and to **90 million in the long term.**

Recognition of gig worker in labour codes

- **The Code on Wages, 2019,** provides for universal minimum wage and floor wage across organised and unorganised sectors, **including gig workers**.
- **The Code on Social Security, 2020**, **recognises gig workers** as a new occupational category**.**
  o It **defines gig worker** as a person who performs work or participates in work arrangement and earns from such activities, **outside of the traditional employer-employee relationship.**

Issues with the gig economy

- **Lack of benefits:** A gig worker **won't have health insurance or other benefits** they would get from working as full-time employee.
- **Lack of income:** Income depend on **the nature of job**, so it is difficult to maintain consistent income.

- **Career opportunity:** Because temporary employees are **cheaper to hire**, the gig economy may make **it harder for full-time employees** to develop their careers.
- **Job security**: Job security is a biggest issue because these jobs are on contract basis.
- **Life imbalance**: **Work-life balance can be disrupted** if the

worker isn't used to making their own schedules.
- **Regulatory issue:** With **no regulation to control platforms enabling gig work**, they can fall into complacency and **seek to increase shareholder value** by such means that may jeopardise the wellbeing of workers.

RBI RELEASES THE FINANCIAL STABILITY REPORT, JULY 2021

Recently, **Reserve bank of India (RBI)** released 'Financial Stability Report'.

Financial Stability Report
- It is released in **bi-annually**.
- Report reflects the risks to **financial stability and the resilience** of the financial system.

Highlights:
- Report is published on three standards: baseline stress scenario, medium stress, severe stress scenario.
- **Under the baseline scenario,** the gross non-performing assets (NPAs) of banks may increase from 6.9% in September 2021 to 8.1% by September 2022 and **under a severe stress scenario** it could be 9.5%.
  o **For public sector banks**, the gross NPA ratio may rise **from 8.8% currently to 10.5%** by September 2022, under the baseline scenario.
  o For private banks, bad loans may rise **from 4.6% to 5.2%** over this period.

- **Global economic recovery** has been **losing momentum** in the second half of 2021 due to:
  o Resurfacing Covid-19 infections and the new variant Omicron
  o Supply disruptions and bottlenecks
  o Elevated inflationary levels
  o Shifts in monetary policy stances and actions across advanced economies and emerging market economies.
- **Stressed on close monitoring** of micro, small and medium enterprises (MSME).
- For Scheduled commercial banks
  o The **capital to risk-weighted assets ratio (CRAR)** rose to a new peak of 16.6%.
  ▪ CRAR is expressed as a **percentage of a bank's risk-weighted credit exposures**.
  o **Provisioning coverage ratio** (PCR) stood at 68.1% in September 2021.
  ▪ PCR is the **percentage of funds** that a **bank sets aside** for losses due to bad debts.

Consumer credit risk

- RBI flagged a relatively high risk include **consumer lending and microloans**.
- In the case of consumer loans, bad loans have **stabilised** after rising in the immediate aftermath of the Covid crisis. However, **delinquencies are still at elevated levels**.
- **Across individual consumer loan** categories, **education loans** had the highest delinquency rate at 7.1%, while **housing loans had the lowest** rate at 1.9%.

Entry of big tech in financial services

Report highlights the three unique challenges of big techs company.

- They **straddle many different (non-financial) lines of business** with sometimes opaque overarching governance structures.
- They have the **potential to become dominant players** in financial services.
- Big techs already have **a huge customer base** and can become dominant players, giving little room to smaller firms.

Nonperforming Asset (NPA)

- **A non-performing asset (NPA) is a** loan or advance for which the **principal or interest payment** remained **overdue for a period of 90 days**.
- NPAs are **recorded on a bank's balance sheet** after a prolonged period of non-payment by the borrower.
- NPAs place **financial burden on the lender**; a significant number

of NPAs over a period of time may indicate to regulators that the financial fitness of the bank is in jeopardy.

Classification of NPA

- NPAs can be classified as a **substandard asset, doubtful asset, or loss asset**, depending on the length of time overdue and probability of repayment.
  - o **Substandard asset**- an asset classified as an NPA for **less than a period of 12 months**.
  - o **Doubtful asset** - an asset that has been non-performing for **more than a period of 12 months.**
  - o **Loss assets** - loans with losses that need to be **fully written off.**
- **Lenders have options to recover their losses**, including taking possession of any collateral or selling off the loan at a significant discount to a collection agency.

Types of Nonperforming Assets (NPA)

- **Overdraft and cash credit (OD/CC) accounts** left out-of-order for more than 90 days.
- **Agricultural advances** whose interest or principal installment payments remain overdue
  - o for two crop/harvest seasons **for short duration crops.**
  - o For one crop season **for long duration crops.**
- Expected payment on any other type of account is **overdue for more than 90 days**.

Measures to Curb NPAs in India

- **Creation of DRT** or Debt Recovery Tribunals.
- Impetus to **Asset Reconstruction Companies** to proliferate.

- Introduced corporate debt restricting and **the Insolvency and Bankruptcy Code.**
- **Mission Indradhanush** to bring about reforms in the public sector banks.

- **SAMADHAN scheme** introduced fir asset management and debt change structure.
- **Asset Quality Review** in Banks.

GOVT APPROVES 19TH TRANCHE OF ELECTORAL BONDS FOR SALE ON JANUARY 1

Recently, the government has approved the issuance of the 19th tranche of electoral bonds.

Electoral bonds
- An electoral bond is designed to be a **bearer instrument like a Promissory Note.**
- **Aim:** To address the problem of anonymous cash donations made to political parties which lead to generation of black money in the economy.
- The electoral bonds were introduced with the **Finance Bill (2017).**
- The bonds are **similar to banknotes that are payable to the bearer on demand and are free of interest.**
- The citizen or corporate can then donate the same to any eligible political party of his/her choice.
- **Eligibility to purchase the bond:** A citizen of India or a body incorporated in India

How Electoral Bonds work:

Features of Electoral Bonds
- Can only be **encashed by political parties**, which had secured at least 1 % of the votes polled in the most recent Lok Sabha or state election.
- Can be purchased for any value in multiples of **Rs.1,000, Rs.10,000, Rs.10 lakhs, and Rs.1 crore from State Bank of India (SBI).**
- Electoral bonds have a life of **15 days** during which they can be used to make donations to registered political parties.
- The electoral bonds are available for purchase for a period of 10 days each in months of **January, April, July and October.**
- The donor and the party details are available with the bank, but the **political party might not be aware of who the donor is** (Name of the donor is not mentioned on the bond.

LIC, GIC, NEW INDIA ASSURANCE ARE DOMESTIC SYSTEMICALLY IMPORTANT INSURERS FOR 2021-22

Life Insurance Corporation of India, General Insurance Corporation of India and New India Assurance Co. Ltd will be continued in the list of D-SIIs in 2022.

Domestic Systemically Important Insurer (D-SII)

- It refers to insurers of such size, market importance and domestic and global inter connectedness whose distress or failure would cause a significant dislocation in the **domestic financial system**.
- They are perceived as insurers that are '**too big or too important to fail' (TBTF).**
- The **parameters** for identification of D-SIIs:
- o The size of operations in terms of total revenue, including premium underwritten and the value of assets under management.
- o **Global activities** across more than one jurisdiction.
- o **Lack of substitutability** of their products or operations.
- o **Interconnectedness** through counterparty exposure and macro-economic exposure.

Genesis

- The Basel Committee on Banking Supervision issued the rules text on the assessment methodology for **global systemically important banks (G-SIBs).**

- In 2011, the **G20** Leaders and the **Financial Stability Board** work on modalities to extend expeditiously the G-SIBs framework to **domestic systemically important banks (D-SIBs).**

Domestic Systemically Important Bank

- D-SIB framework requires the Reserve Bank to disclose the names of banks designated as D-SIBs and place these banks in appropriate buckets depending upon their **Systemic Importance Scores (SISs).**
- Based on the **bucket** in which a D-SIB is placed, an additional common equity requirement has to be applied to it.
- In case a foreign bank having branch presence in India is a **Global Systemically Important Bank (G-SIB).**
- o It has to maintain additional **Common Equity Tier (CET1)** capital surcharge in India as applicable to it as a G-SIB and proportionate to its **Risk Weighted Assets (RWAs)** in India.

SBI ADOPTS NEW BENCHMARK RATE, DROPS DECADES OLD LIBOR

State Bank of India (SBI) has adopted a new benchmark in place of the London Inter-Bank Offered Rate (Libor), which has been **used to price foreign currency loans.**

- Now, the global benchmark will be discarded for new contracts from 1st January 2022.
- It has already started **offering ARR (alternate reference**

rates) -based products to customers.

London Interbank Offered Rate (**LIBOR**)

- LIBOR is the **benchmark interest rate** at which major global banks lend to one another.
- LIBOR is **administered** by the **Intercontinental Exchange**, which asks major global banks

how much they would charge other banks for short-term loans.

- The rate is calculated using the Waterfall Methodology, a standardized, transaction-based, data-driven, layered method.
- LIBOR has been **subject to manipulation, scandal, and methodological critique**, making it less credible today as a benchmark rate.

Alternatives to LIBOR

Secured overnight financing rate (SOFR)

- It is an **influential interest rate** that banks **use to price U.S.**

dollar-denominated derivatives and loans.
- It's **based on the rates** that large financial institutions pay each other **for overnight loans**.

Sterling Overnight Index Average (SONIA)

- In the United Kingdom, SONIA replaced Libor in 2021.
- Administered by the Bank of England, **SONIA reflects the average rates for overnight UK Pound-denominated loans** among banks and financial institutions.

INDIA & WORLD

SRI LANKA'S MALAIYAHA TAMILS LIVING IN INHUMANE, DEGRADING CONDITIONS: U.N. EXPERT

According to UN, Sri Lanka's Malaiyaha Tamil workers are living in inhumane and degrading conditions.

- **Malaiyaha Tamils** –They were brought from India to work in the plantation sector.
- They continue to face multiple forms of discrimination based on their origin.

What is the Issue?

- The **Malaiyaha Tamil community** has been historically neglected and marginalised.
- Roughly 1.5 lakh people from the community are engaged in direct labour in the estates, and most of them are women.
- Their daily wage is about **₹373** for plucking 18-22 kgs tea leaves every day.

o Up to 10 people live in a 10x12 space with poor sanitation facilities.
- India has committed to building **14,000 houses in Sri Lanka.**

India and Sri Lanka Relations:
- India and Sri Lanka have a legacy of **intellectual,** cultural, religious and linguistic interaction.

Commercial Relations
- The entry into force of the **India-Sri Lanka Free Trade Agreement** (ISFTA) contributed towards the expansion of trade between the two countries.
- Sri Lanka remains among the largest trade partners of India in the SAARC.
- In 2020, India was Sri Lanka's **2nd largest trading partner** with the bilateral merchandise trade amounting to about USD $ 3.6 billion.
- India is one of the largest contributors to **Foreign Direct Investment** in Sri Lanka.
  o FDI from India amounted to about US$ 1.7 billion during the period 2005 to 2019.

Development Cooperation
- **Grant projects** cut across sectors such as education, health, livelihood, housing, industrial development.
- The **Indian Housing Project**, aims to build 50,000 houses in

EXERCISE EKUVERIN
- 11th edition of exercise EKUVERIN between **India & Maldives** was conducted at Kadhdhoo Island, Maldives.
- It is conducted since **2009.**

war affected areas and estate workers in the plantation areas is a flagship grant project in Sri Lanka.
- The country-wide 1990 **Emergency Ambulance Service** is another flagship project.

India-Sri Lanka Foundation
- The **India-Sri Lanka Foundation** was set up in December 1998 as an intergovernmental initiative.
- **Aim**: To enhance scientific, technical, educational and cultural cooperation through civil society exchanges and enhancing contact between the younger generations of the two countries.

Tourism:
- **Government of India** formally launched the e-Tourist Visa scheme for Sri Lankan tourists on in 2015.
- In 2019, Sri Lanka included India in the free visa on arrival scheme.

Human resource development
- **India now offers** about 710 scholarship slots annually to Sri Lankan students.
- Indian institutes under '**Study in India'** Program provide technical expertise across a diverse range of courses.

- The exercise will enhance synergy & inter-operability between **armed forces** of both the nations in terms of transnational terrorism both on land & at sea, conducting **Counter Terrorism &**

Counter Insurgency Operations etc.

PM MODI AND RUSSIAN PREZ VLADMIR PUTIN HOLD 21ST INDIA-RUSSIA ANNUAL SUMMIT IN NEW DELHI; TWO COUNTRIES SIGN RECORD 28 AGREEMENTS

21st edition of annual summit between India and Russia was held recently in which both countries signed 28 agreements.

- Both sides set a target of increasing **bilateral trade to $30 billion and bilateral investments to $50 billion by 2025.**
- Both agreed to hold **3rd edition of the India-Russia Strategic Economic Dialogue** (IRSED) in April 15, 2021.

Defence agreements

India and Russia have signed four agreements for defence cooperation:

- A Protocol on amending the agreement between India and Russia on **cooperation in the field of Kalashnikov Series Small Arms Manufacturing.**
- The contract for procurement of **AK-203 Assault Rifles** through Indo-Russia Rifles Private Limited that will be manufactured in India.
- In addition, 70,000 rifles will be procured from Russia.
- The agreement on the **program for Military-Technical Cooperation from 2021-2031**
- Protocol of the 20th **India Russia Inter-Governmental Commission on Military and Military-Technical Cooperation** (IRIGC-M&MTC).

However, both countries could not conclude the **reciprocal logistics support agreement (RELOS).**

India Russia Relations:

Economic Relations:

- Bilateral trade between both countries is concentrated in key **value chain sectors**.
- Bilateral trade during April 2020-March 2021 amounted USD **8.1 billion.**
- Indian exports amounted USD 2.6 billion while imports from Russia amounted USD 5.48 billion with both governments setting a bilateral trade target of **$30 billion by 2025.**
- **Bilateral bodies** that conduct economic relations between the two countries include:
- India Russia Inter Governmental Commission (IRIGC)
- Indo-Russian Forum on Trade and Investment
- India-Russia Business Council
- India-Russia Trade, Investment and Technology Promotion Council

International/Multilateral Organizations:

India and Russia are a part of various international organizations like:

- **BRICS:** BRICS is the acronym coined to associate **five major emerging economies**: Brazil,

Russia, India, China, and South Africa.

o The BRICS members are known for their **significant influence on regional affairs.**

- **Nuclear Suppliers Group (NSG):** Russia has been a vocal supporter of India's permanent membership at the Nuclear Supplier's Group.

- **Shanghai Co-operation Organization (SCO):** It is a Eurasian political, economic, and security alliance. It is the world's largest regional organisation in geographic scope and population.

Defence and Security:

- India-Russia military technical cooperation has evolved from a buyer - seller framework to one involving **joint research, development and production** of advanced defence technologies and systems.

o India and Russia have several major joint military programmes including:

▪ **BrahMos** cruise missile programme

▪ 5th generation **fighter jet** programme

▪ **Sukhoi Su-30MKI** programme (230+ to be built by Hindustan Aeronautics)

▪ Ilyushin/HAL Tactical Transport Aircraft

▪ KA-226T twin-engine utility helicopters

- Russia also plays a very important role in assisting the Indian Navy with its submarine programmes:

o Indian Navy's first submarine, '**Foxtrot Class'** was manufactured in Russia.

▪ Nine of the fourteen conventional submarines operated by India are Russian

o India is dependent on Russia for its nuclear submarine programme.

o **INS Vikramaditya**, the sole aircraft carrier operated by India, is Russian in origin.

Joint Exercises:

- **Exercise INDRA:** Indo- Russia joint Military Exercise

- **Exercise Indra Navy:** Biennial Naval Exercise between India and Russia

Nuclear Energy

- Russia is an important partner for India in the area of **peaceful use of nuclear energy.**

o **Kudankulam Nuclear Power Plant** (KKNPP) is being built in India with **Russian cooperation.**

Space Cooperation

- Both sides cooperate in the peaceful uses of outer space, including satellite launches, **GLONASS navigation system**, remote sensing and other societal applications of outer space.

o GLONASS is a **global navigation satellite system**, providing real time position and velocity determination for military and civilian users.

Science and Technology

- The Working Group on Science and Technology functioning under the **Integrated Long-Term Programme (ILTP)** and the **Basic**

Science Cooperation Programme are the two main **institutional mechanisms** for bilateral Science and Technology cooperation.

- **The Science Academies** of the two countries promote **inter-academy exchanges**.
- A number of new initiatives in this sphere include India-Russia Bridge to Innovation, cooperation in telemedicine, creation of a **Traditional Knowledge Digital Library (TKDL**) and the **Russia India Network (RIN) of universities.**

Cultural Relations

- About 20 **Russian Institutions** regularly **teach Hindi** to about 1500 Russian students.
  - o Apart from Hindi, languages such as Tamil, Marathi, Gujarati, Bengali, Urdu, Sanskrit and Pali are taught in Russian Institutions.
- A "**Festival of India in Russia**" was held in Russia between September 2018 to March 2019 in 22 cities showcasing the best of Indian music, dance, food and spiritual traditions.
- On October 2, an **exhibition dedicated** to the 150th anniversary of **Mahatma Gandhi** and about his **friendship with the Russian writer Leo Tolstoy** was opened at the State Duma of the Russian Federation.

INDIAN OCEAN CONFERENCE- IOC

- 5th Indian Ocean Conference was recently held.
  - o Theme of the Indian Ocean Conference 2021: "**Indian Ocean: Ecology, Economy, Epidemic**".
- The IOC is an **intergovernmental organisation.**
- **Objectives:** To promote peace and stability, maritime security, food security, environmental conservation, fisheries, climate change adaptation, the interests of island developing states, public health and cultural expression.
- It comprises of five small-island states in the Western Indian Ocean:
  - o The Comoros
  - o Madagascar
  - o Mauritius
  - o Réunion (a French department)
  - o Seychelles.
- Decisions in the IOC are **consensus-based.**
- **India** is an **Observer Nation** in the conference.

CIPRIAN FOIAS PRICE

Recently, Indo-American Mathematician **Nikhil Srivastava** is selected for the inaugural Ciprian Foias Prize.
About the Prize

- The prize was established in 2020 in memory of Ciprian Foias by his colleagues and friends.

o He was an influential scholar in **Operator Theory and fluid mechanics.**

▪ The award recognizes Prof. Srivastava's work that introduced and developed methods for understanding the characteristic **polynomial of matrices.**

• The current prize amount is **USD 5,000**.

• The prize is **awarded every three years.**

PUNE TO HOST JOINT MILITARY EXERCISE WITH BIMSTEC COUNTRIES

Recently, PANEX-21 was held for the member nations of BIMSTEC countries.

PANEX 21:

• It is a **Humanitarian Assistance and Disaster Relief exercise.**

• **Aim:** To build regional cooperation in responding to natural disasters.

• The exercise is to be **held among the BIMSTEC** countries.

o BIMSTEC countries are Bhutan, Bangladesh, Nepal, Myanmar, Sri Lanka, India and Thailand.

INDIA UNSEATS BRAZIL TO BECOME TOP FOOD SUPPLIER TO ARAB NATIONS AFTER 15 YEARS

Recently, India surpassed Brazil in food exports to the League of Arab States after 15 years.

Arab league

• The Arab League, officially the League of Arab States, is a **union of Arabic-speaking African and Asian countries.**

o It includes Northern, Western & Eastern Africa and Western Asia.

• **Administrative center:** Cairo, Egypt

• **Formed in:** Cairo, 22 March 1945

• **Egypt, Jordan, Lebanon, Iraq, Syria, Saudi Arabia and Yemen** are founding members.

• **Aim:**

o To draw closer the relations between member states and co-ordinate collaboration between them.

o To safeguard their independence and sovereignty.

o To consider in a general way the affairs and interests of the Arab countries.

• Each member's representative has **one vote**, irrespective of their country's size.

• The **council meets twice a year**, in March and September.

o They may convene a special session at the request of two members.

India's food export

• India's export of processed food products has witnessed a growth of 26.51% in Rupee term during April-February (2020-21) as compared to the same period during the previous year (2019-20).

o Total value of the export of processed products was Rs. 43,798 crores during April-February 2021.

Government of India initiatives to promote food export

- For boosting agricultural and processed food products exports, Agricultural and Processed Food Products Export Development Authority (APEDA) initiated a series of measures that include:
  o **Virtual buyer-seller meet**
  o **Product promotion meeting**
  o **Creation of products specific export promotion forums**
  o **Ensuring market access through organizing exports promotion activities**
- Major processed food products exported from India include pulses, processed vegetables, processed fruits, and juices.
- **Agriculture and Processed Foods Export Promotion Scheme:** Financial assistance under this Scheme of APEDA for the Medium-Term Expenditure Framework was provided for infrastructure Development, Quality Development and Market Promotion.
- **Export promotion of GI products:** APEDA has taken initiative to promote exports of products which registered with Geographical Indications (GI) certification in India.
- **Opening up market access &export promotion in international markets:** APEDA has played an important role in opening up of new market for agricultural products in the recent past such as Canada, China, South Korea, Taiwan, Portugal, Indonesia, Iran etc.

THREE INDIAN COMPANIES IN TOP 100 DEFENCE MANUFACTURERS GREW BY 1.7%, SAYS REPORT

Recently, Stockholm International Peace Research Institute (SIPRI) released a report named "The SIPRI Top 100 Arms-Producing And Military Services Companies, 2020".

Highlights of the report:

- **Arms sales increased** even as the global economy contracted by 3.1 per cent.
- The Indian companies showed an increase of 1.9% compared to 2019. They are:
  o **Hindustan Aeronautics Limited (HAL)**, ranked 42nd, increased by 1.5%
  o **Indian Ordnance Factories**, ranked 60th, rose by 0.2%
  o **Bharat Electronics Limited (BEL),** ranked 66th, increased by 4.0%
- India has the **smallest share** among the top 11 defence manufacturing nations.
  o Domestic procurement has helped to shield Indian companies against the negative economic consequences of the pandemic.
- With 41 arms companies, the USA has the **highest number** of companies in the top 100 worldwide.

STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE (SIPRI)

- SIPRI is an independent **international**

institute dedicated to research into conflict, armaments, arms control and disarmament.
- It was established in **1966**, on the basis of a decision by the **Swedish Parliament.**
- **Headquarters: Stockholm**
- It provides data, analysis and recommendations, based on open sources.
- **Vision**
  o SIPRI's vision is a world in which sources of insecurity are identified and understood, **conflicts are prevented or resolved, and peace is sustained.**

Objectives:
  o undertake research and activities on security, conflict and peace;
  o provide policy analysis and recommendations;
  o facilitate dialogue and build capacities;
  o promote transparency and accountability; and
  o deliver authoritative information to global audiences.
Funding:
It receives a substantial part of its funding in the form of an **annual grant from the Swedish Government.**

ESA INKS DEAL WITH AIRBUS FOR NEW 'ARIEL' SATELLITE TO HUNT FOR HIDDEN EXOPLANETS

Recently, the **European Space Agency (ESA)** has announced its collaboration with **aerospace** company Airbus for the development of Ariel satellite to study exoplanets.
- **Ariel (Atmospheric Remote-sensing Infrared Exoplanet Large-survey)** is the third satelitie in a trio of ESA's dedicated exoplanet missions.
  o The first mission, **Cheops**, was launched in 2019, while **Plato** will be launched in 2026.

  o Planets that are located outside of solar system and orbit their own host star or several stars are called **exoplanets.**
- It will be launched in **2029.**
- It is being developed to survey about **1000 exoplanets in visible and infrared wavelengths to study the formation** and evolution as well as the composition of the exoplanets.

INDIA AMONG THE MOST UNEQUAL COUNTRIES WITH AN AFFLUENT ELITE

Recently, **World Inequality Report 2022** was released by **Paris**-based World Inequality Lab.
- It presents the updated and complete data on the various facets of inequality worldwide as of 2021, such as global **wealth,**

income, gender and ecological inequality.
Highlights:
- It flags **India as a poor and very unequal country**.
  o The top 10% holds 57% of national income in 2021.

- o Bottom 50% holding just 13%.
- **1% richest people** in India hold **22 % of the total national income** in 2021.
- **India's middle class is relatively poor** with an average wealth of Rs 7,23,930, or 29.5% of the total national income.
- **Bihar, Jharkhand and Uttar Pradesh have the highest proportion of poor people.**
- **Inequality in India has widened compared to British rule.**
- o Increase in private wealth from 290% in 1980 to 560% in 2020.
- The economic reforms and liberalization adopted by India have mostly benefited the top 1%.
- o There was a **faster recovery in inequality post-independence** owing to the transition from highly regulated economic system.

International Trend:

- There was a **drop in global income** during 2020, with about half in rich countries, and half in low-income and emerging countries.
- The **rise in private wealth** has also been unequal within countries and at world levels.
- o The difference in inequality increased during the pandemic.
- The **richest 10% of the global population currently takes 52% of global income:**
- o The poorest half of the global population barely owns any wealth at just 2% of the total.

- **Inequalities within countries are now greater** than those between countries.
- **It notes that global income and wealth inequalities are** connected to **ecological inequalities and to inequalities in contributions to climate change.**
- The report has suggested levying a modest progressive wealth tax on multimillionaires

Regional Trends:

- BRICS nations such as **South Africa and Brazil have wider income inequalities than India**.
- The **Middle East and North Africa (MENA)** are the most unequal regions in the world, whereas Europe has the lowest inequality levels.
- o In Europe, the top 10%'s income share is around 36%, and in MENA, it is 58%
- The ratio of total wealth to total income rose from around 450% in the early 1990s to about 600% today.
- o Emerging economies such as China experienced faster increases than wealthy countries due to their transition away from communism.

Gender Inequality:

- Women's share of total incomes from work is less than 35% now as compared to 30% in 1990
- The female labour income share is equal to 18 per cent, significantly lower than the average in Asia.

IMO AWARD FOR EXCEPTIONAL BRAVERY AT SEA TO INDIAN NAVY

International Maritime Organization council has awarded Certificate of Commendation to Indian Navy, Indian Coast Guard and Master along with crew members of tugboat Ocean Bliss recently.

IMO Award:

- The annual award was established by **International Maritime Organization**.
- **Aim:** To provide international recognition for those who, at the risk of losing their own life, perform acts of exceptional bravery, displaying outstanding courage in attempting to save life at sea or in attempting to prevent damage to the marine environment.

Categories of Honour:

- The Award itself, for the nominee who have performed the most **outstanding act of bravery**.
- **Certificates of commendation** are awarded to nominees who have committed acts of extraordinary bravery.
- **Letters of commendation** sent to those nominees who deserve special recognition for meritorious actions.

NUMBER OF JAILED JOURNALISTS REACHED GLOBAL HIGH IN 2021, AT LEAST 21 KILLED FOR THEIR COVERAGE -CPJ REPORT

Recently, Committee to Protect Journalists (CPJ) released a report on journalist lock-up and killing.

Highlights of report

- **293 journalists** have been jailed across the world in 2021 for their work while 24 were killed.
- **Top 3 countries with highest journalist lock-up**: China (50), Myanmar (26) and Egypt (25).
- In Saudi Arabia, leaders are increasingly finding more sophisticated ways to block independent reporters and outlets.
- Ethiopia emerged in 2021 as the second-worst jailer of journalists in sub-Saharan Africa, after Eritrea.
- **No journalists were jailed in North America** at the time of the census deadline.
  - However, the U.S. Press Freedom Tracker, a partner of CPJ, recorded 56 arrests and detentions of journalists across the U.S. during 2021.
- The deadliest countries for journalists in 2021 were **Mexico and India.**
  - **Four journalists were killed in India**, while three were murdered in Mexico.

INDIA TOPS THE WORLD WITH 11% OF GLOBAL DEATH IN ROAD ACCIDENTS: WORLD BANK REPORT

According to a report by the World Bank, India accounts the highest in the world in terms of global **death in road accidents**.

Highlights of the Report:

- **India tops the world** in road crash deaths and injuries.
- It accounts for 11 % of the **global death** in road accidents.
- It accounts for **4.5 lakh road crashes** per annum, in which 1.5 lakh people die.
- It has 1 percent of the world's vehicles, witnessing 53 road crashes every hour; killing 1 person every 4 minutes.

Causes of Accidents:

- Vehicle design and condition
- Road engineering, speeding
- Drunken driving/ consumption of alcohol and drugs
- Driving on the wrong side
- Jumping the red light
- Use of mobile phones.

Impact on Road Accident on Economy: World Bank Estimates

- **The road crash fatality rate** is three times higher in low-income countries compared to high-income countries especially in India.
- The crash costs at Rs 5.96 lakh crore or 3.14 per cent of **gross domestic product** (GDP).
- The road crash and serious injury cost estimate at 7.5 per cent of India's GDP or Rs 12.9 lakh crore for 2016.
- **Vulnerable road users** are forced to share space with other less vulnerable road users, the income level of an individual has a direct bearing on the mode of transport used.
  - This in turn further determines the level of risk faced by a particular road user.

- **Daily wage workers** and workers employed as casual labourers in informal activities are more vulnerable compared to workers engaged in regular activities.

The Ministry Estimates:

- The **socio-economic costs** of road crashes are Rs 1,47,114 crore in India, equivalent to 0.77 per cent of the country's GDP.
- At the individual level, **road crash injuries** and deaths impose a severe financial burden and push entire households into poverty and the already poor into debt.
- 76.2 per cent of people killed in road crashes are in their prime working-age, 18-45 years.

Government Initiatives to prevent Road Accidents:

Education:

- The **Ministry implements a scheme** for undertaking publicity measures and awareness campaigns on road safety to create awareness among road users through the electronic media, print media, NGOs etc.
- Observance of **National Road Safety Month**/Week every year for spreading awareness and strengthening road safety.

Road Engineering

- High priority to identification and rectification of **accident-prone spots** on national highways.
- **Guidelines for pedestrian facilities** on national highways for persons with disabilities have been issued.

Vehicle Engineering

- **Safety standards for automobiles** have been improved

including airbags, antilock-braking system (ABS), tyres, crash test, etc.

- Scheme for setting up one **model inspection & certification centre** in each State/UT with Central assistance for testing the fitness of vehicles.

Emergency Care:

- The Motor Vehicles (Amendment) Act, 2019 provides a scheme for the **cashless treatment** of victims of the accident during the golden hour.
- The **National Highways Authority of India** has made provisions for ambulances at all toll plazas on the completed corridor of National Highways.

BALAKRISHNA DOSHI WINS PRESTIGIOUS ROYAL GOLD MEDAL 2022; PM MODI CONGRATULATES 94-YEAR-OLD ARCHITECT

Recently **Balkrishna Doshi** honoured with the **Royal Gold Medal 2022**.

Royal Gold Medal

- It is the **world's highest honour for architecture**.
- It is **awarded annually** by the **Royal Institute of British Architects** on behalf of the British monarch.

- It given to a person or group of people who have had a **significant influence on the advancement of architecture.**
- It was first awarded in 1848 to **Charles Robert Cockerell**.
- Candidates of **all nationalities** are eligible to receive the award.

ADDRESS GLOBAL WATER WOES

Atal Innovation Mission, NITI Aayog and the Royal Embassy of Denmark to India has announced the second edition of water innovation challenges.

- **Aim-**
  - To address global water woes through innovations as part of the **Indo-Danish Bilateral Green Strategic partnership.**
  - To improve **sustainable water supply in India** and at the global level.
  - To identify **innovative & next-gen solutions**.
  - To solve proposed challenges
    in **collaboration with**

  corporate and public partners.
- **Concerned area of the challenge-**
  - Digital water management solutions
  - Solutions for monitoring and prevention of leakage in city water supply
  - Wastewater management across Rural/Agri belts and Urban settlements
  - Rainwater harvesting in Rural and urban settlements
  - Safe and sustained drinking water

- The winners will represent India at the **International Water Congress 2022**.

INDIA VOTES AGAINST U.N. DRAFT RESOLUTION ON CLIMATE CHANGE

Recently, **India voted against** a **draft resolution** at the United Nations Security Council (UNSC) linking **climate to security**.

- The resolution was sponsored by Ireland and Niger, and it did not pass, with 12 UNSC members voting for it, India and Russia voting against it and China abstaining

India's concerns over the Draft:

- The decisions in UN Security Council **could be taken without consensus or the involvement of most developing countries**.
- o Thus, it is **not fair to decide on climate issues in UNSC**, on which only few countries can decide on all climate-related issues.
- **Developing and least developed countries** had worked over the last two decades to make common but differentiated responsibilities, a fundamental tenet of climate action.
- o **Common but differentiated responsibilities CBDR):** It says that all states are responsible for addressing global environmental destruction yet not equally responsible.
- o **Under CBDR, developed countries** were supposed to provide $100 billion per year in climate finance for developing countries as a whole, by 2020.

- They had not met their promises with regard to climate action till now.
- India alone would need a trillion dollars by 2030 to achieve its **climate ambitions**.

UN Security Council:

- UNSC is one of the six main organs of the UN.
- The first session was held in 17 January 1946, London.
- **Headquarters**: New York, US.
- **Aim:** Maintaining international peace and security.
- **It consists of 15 members**; five permanent and 10 non-permanent members.
- o The five permanent members are the US, UK, Russia, China and France.
- o Every year five non-permanent members are elected for a tenure of two years.

Objectives:

- To maintain international peace and security.
- To develop friendly relations among nations.
- To cooperate in solving international problems and in promoting respect for human rights.
- To be a centre for harmonizing the actions of nations.

Powers of Permanent and Non-Permanent Members:

- The permanent members have a **veto power**.
  o This allows any of the five countries to block the adoption of a resolution.
- However, they cannot end or prevent a debate through this power.
- The **non-permanent members** do not have veto power.
  o However, they have collective right of veto, any resolution of the UNSC has to be passed by at least seven non-permanent members even if all the permanent members support it.
- **Every member-country** of the council including the non-permanent members, assumes the presidency of the council every month.
  o The presidency is determined in an alphabetical order.

Maintaining Peace and Security:

When a complaint concerning a threat to peace is brought, the council may:

- Set forth principles for such an agreement
- **Undertake investigation** and mediation in some cases
- Dispatch a mission
- Appoint special envoys
- Request the **Secretary-General** to use his offices to achieve a pacific settlement of the dispute.

When a dispute leads to hostilities, the council may:

- Issue ceasefire directives that can help prevent an escalation of the conflict.
- **Dispatch military observers** or a peacekeeping force to help reduce tensions, separate opposing forces and establish a calm in which peaceful settlements may be sought.
- **Economic sanctions**, arms embargoes, financial penalties and restrictions, and travel bans.
- Severance of diplomatic relations.
- Blockade
- Collective military action.

CABINET APPROVES TREATY BETWEEN INDIA AND POLAND CONCERNING MUTUAL LEGAL ASSISTANCE IN CRIMINAL MATTERS

The Union Cabinet has approved the Treaty on Mutual Legal Assistance (MLA) in Criminal Matters between India and Poland.

Mutual Legal Assistance Treaty (MLAT):

- It is an agreement between **two or more countries** for the purpose of **gathering and exchanging information** in an effort to **enforce public or criminal laws.**

- A mutual legal assistance request is commonly used to **formally interrogate** a suspect in a criminal case, when the **suspect resides in a foreign country.**
  o This assistance may take the form of:
  - **Examining and identifying people**, places and things
  - Custodial transfers

- Providing assistance with the **immobilization of the instruments** of criminal activity.

Mutual Legal Assistance in Criminal Matters:
Objective:

- To **enhance capability and effectiveness** of both countries **in investigation and prosecution** of **crimes, including** crimes related to **terrorism.**

Significance:

- It will **increase effectiveness** of India in **tackling criminal activities** involving Poland.
- Once in operation, the Treaty will be instrumental in gaining **better inputs and insights in the modus operandi** of **organized criminals** and terrorists.
- These in turn can be used to **fine tune policy decisions** in the field of **internal security.**

India and Poland Relations:
Agreements:
India and Poland have agreement on:

- Protocol on Amending the Agreement on Avoidance of Double Taxation and the Prevention of Fiscal Evasion with respect to Taxes and Income (2013)
- Agreement on Exemption from Visa Requirement for Holders of Diplomatic Passports (2015)
- Agreement on Cooperation in Agriculture and Allied Sectors (2017)

- Cooperation in the Area of Coal Mining (2019).

Economic & commercial Relations

- **Poland** is India's **largest trade partner** and export destination in the **Central European region.**
- **India's export to Poland** contributed to **0.48% of overall India's export.**
- **0.15% of India's import** was covered **by Poland** in 2019.

Investment:

- Indian investments in Poland are valued at over US$3 billion.
- Total Polish investment in India is estimated at US$ 672 million.

Cultural Relations:

- A **Hindi Chair** is in place at the **University of Warsaw.**
- The **Indology Department** of the Oriental Institute at the **University of Warsaw** is **the largest center for Indian studies in Central Europe.**
- Study of **Indian languages, literature, culture and Indology** is pursued at the **Polish Universities.**
- Polish Post issued a **Commemorative Stamp** on the 150th Birth Anniversary **of Mahatma Gandhiji.**

Consular Relations

- **Visas:** Poland had been included in **e-visa scheme** with effect from August 2015.

INDIA AND VIETNAM SIGN LETTER OF INTENT TO ESTABLISH PARTNERSHIP IN DIGITAL MEDIA

Why in news?

- Recently India and Vietnam sign letter of intent to establish partnership in **digital media**.
- It is frameworks on digital media and social networks, for conducting capacity building and training programs for media professionals and officials in the two countries.

It is a country in **Southeast Asia.**

- It located at the eastern edge of mainland Southeast Asia.
- It is the world's **fifteenth** most populous country.
- It borders by **China, Laos and Cambodia.**

- It shares maritime borders with Thailand through the **Gulf of Thailand** and Malaysia through the **South China Sea**.
- It is part of international and intergovernmental institutions including
o United Nations, ASEAN (Association of Southeast Asian Nations), APEC (Asia pacific economic cooperation), Non-Aligned Movement and World Trade Organization.
- It is located on the eastern **Indochinese Peninsula.**

HERE'S WHY CCI SUSPENDED THE DEAL BETWEEN AMAZON AND FUTURE COUPONS

The Competition Commission of India (CCI) revoked the US e-commerce giant's 2019 deal with Future Coupons.

Highlights of order

- A penalty of ₹200 crores on Amazon for failing to notify the details of its **'combination'**, as required in law.
- A separate penalty of ₹2 crores for suppressing the actual **scope and purpose of the combination.**
o Combination is a term used in competition law for acquisition, merger or amalgamation of two or more enterprises.

CCI suspended the deal?

- **In June 2019,** the Competition Commission of India (CCI) accused Amazon of concealing facts and making false submissions when it sought approval for its investment to purchase a 49% stake in Future

Group promoter firm Future Coupons Pvt Ltd.

Competition commission of India

- It is the **chief national competition regulator in India**.
- It is a **statutory body** within the **Ministry of Corporate Affairs**.
- It was established in October 2003. It became **fully functional in May 2009.**
- It is **responsible for enforcing the Competition Act, 2002** in order to promote competition and prevent activities that have an appreciable adverse effect on competition in India.
- It looks into cases and investigate it if the same has **negative impact on competition.**
- CCI also **approves combination under the act** so that two merging entities do not overtake the market.

INDIA-VIETNAM SIGN LETTER OF INTENT FOR COOPERATION IN POSTAL SECTOR

Recently, India and Vietnam signs **"Letter of Intent"** for enhanced cooperation in the Postal Sector.

India-Vietnam relation

- **India and Vietnam** has historical roots in the common struggle for liberation from colonial rule and the national struggle for independence.

Political exchange

- First ever India-Vietnam Virtual Summit was co-chaired by Prime Minister of India and Prime Minister of Vietnam in December 2020.
- There are **several bilateral mechanisms** at different levels between India and Vietnam.
  - The Joint Commission Meeting at the Foreign Ministers' level
  - The Foreign Office Consultations
  - Strategic Dialogue at Secretary-level

Trade and economic cooperation

- During Financial Year (FY) April 2020 – March 2021.
  - Bilateral trade between India and Vietnam reached **US$ 11.12 billion**
  - With Indian exports to Vietnam amounting to **US$ 4.99 billion**
  - Indian imports from Vietnam at **US$ 6.12 billion.**
- India has also been providing assistance to Vietnam within the **ASEAN framework**.

- Under the Mekong Ganga Cooperation (MGC) framework, India has been taking up Quick Impact Projects (QIPs) in Vietnam for development of community infrastructure

Tourism

- Both countries have facilitated simplified **visa regime** to promote bilateral tourism.
- Vietnam extended **e-visa facilities** to Indian citizens travelling to Vietnam.
- India has **e-tourist visa** arrangement for Vietnamese citizens since 2015.

Capacity Building, Training, Scholarships

- Vietnam has been a large recipient of training programmes under Indian Technical and Economic Cooperation (ITEC) programme.
- Indian Council of Cultural Relations has several annual scholarship programmes for Vietnam students.

Defence

- Indian Naval Ship **INS Kiltan** undertook a visit to Ho Chi Minh City to deliver flood relief materials for the people of Central Vietnam.
- **In December 2020, the PASSEX Exercise** was conducted with Vietnam People's Navy and Indian navy.

BHUTAN CONFERS ITS HIGHEST CIVILIAN AWARD ON PM MODI

Recently, The Prime minister of India receives Bhutan's highest civilian award.

- The **Order of the Druk Gyalpo** is also known as **the order of the Dragon King**.

- It is the **highest decoration of the Kingdom of Bhutan**.
- It is awarded in recognition of a lifetime of service to the people and the **Kingdom of Bhutan**.

A STRATEGIC BULWARK: ON THIRD INDIA-CENTRAL ASIA DIALOGUE

Recently, India hosted the third edition of the Central Asia Dialogue in New Delhi.

Central Asia Dialogue:

- It includes **five Central Asian** countries including Uzbekistan, Turkmenistan, Kyrgyzstan, Kazakhstan and Tajikistan and India.

Highlights:

Trade and Connectivity:

- Emphasis was laid on **optimum usage of** the **International North-South Transport Corridor** (I**NSTC**) and **Ashgabat Agreement** on International Transport and Transit Corridor to **enhance connectivity between India and the Central Asian countries.**
- Push for the **inclusion of Chabahar Port within** the framework of **INSTC.**
- Expression of Interest in cooperation on issues related to the development and strengthening of **regional connectivity** in Central and South Asia.

Region:

- Discussion on the current **situation in Afghanistan** and its impact on the region, following the Taliban's occupancy.

India and Central Asia relations:

- After the **split of the Soviet Union** and the formation of the independent republics in Central Asia, **India reset its ties** with the **strategically critical region of central asia.**
- India provided **financial aid to the region** and established diplomatic relations.
- India signed the **Strategic Partnership Agreements (SPA)** with Kazakhstan, Tajikistan and Uzbekistan to **stimulate defence cooperation and deepen trade relations.**
- In 2012, India **'Connect Central Asia'** policy aimed at furthering India's political, economic, historical and cultural connections with the region.
- **Central Asian countries** have been **keen to have India as a partner** as they have sought to diversify their strategic ties.
- They have admitted India into the **Ashgabat Agreement**, allowing India access to connectivity networks to facilitate trade and commercial interactions with both Central Asia and Eurasia.
- **Rising anti-Chinese sentiments** within the region and security threats from the Taliban

allow **India and Central Asia to reimagine their engagement.**

Ashgabat Agreement:

- The Ashgabat agreement is a **multimodal transport agreement** between the governments of **Kazakhstan, Uzbekistan, Turkmenistan, Iran, India, Pakistan, and Oman.**
- **Objective:** To **enhance connectivity within Eurasian region** and synchronize it with other transport corridors within that region including the International North–South Transport Corridor.

- Under the agreement, an **international transport and transit corridor** facilitating transportation of goods between **Central Asia and the Persian Gulf** will be constructed
- Ashgabat in Turkmenistan is the depository state for the agreement.
- The agreement was originally signed by **Iran, Oman, Qatar, Turkmenistan and Uzbekistan.**
- **India formally joined** in **February 2018.**

55 TN FISHERMEN HELD; 8 BOATS SEIZED BY SL NAVY; CM URGES CENTRE TO ACT

Recently, Sri Lankan Navy seized boats and arrested fisherman from Tamil Nadu off the **Katchatheevu island.**

Conflict between Lankan navy and Indian fishermen:

Genesis

Before 1970:

- Prior to 1970s, the coastal fishermen from both sides had an unregulated term with no governing law.

During 1970s:

- During the mid-1970s, the area was demarcated by the signing of **Maritime Boundary agreements of 1974 and 1976** between India and Sri Lanka.
- This demarcation of 'Fisheries Line' vis-à-vis the International Maritime Boundary Line (IMBL) made it illegal for fishermen from

either side to cross over into each other's waters to fish.

After 1970s:

- By the end of the 1970s, the Indian fishermen saw the **need for new grounds** to fish and began to encroach upon Sri Lankan waters despite the water-border agreement.
- On the other side, Sri Lanka descended into its **internal ethnic conflicts** and the resulting civil war of the early 1980s.
  - o As a result of the **civil war**, Sri Lanka's northern province and maritime **boundaries** nearby were **not tightly guarded.**
- As a result, **Indian trawlers** routinely **entered Lankan waters for fishing.**
- Absence of poor Tamil fishermen of Sri Lanka due to the war also

- favoured fishing by Indian trawlers.
- In 2009, with the **end of Sri Lankan civil war**, **arrests and attacks increased** on Indian fishermen by the Sri Lankan Navy.
- As **Sri Lankan fishermen returned to their side of the bay**, they faced the consequences posed by decade-long Indian trawling in the area.
- Due to their **smaller boats**, Sri Lankan fishermen could **never compete** with the high speeding motorboats, which was the major issue which initiated the conflict.

Katchatheevu Island:

- Katchatheevu is an **uninhabited island administered by Sri Lanka.**

Location:

- It is located, in the **Palk Strait**, between Neduntheevu, Sri Lanka

and Rameswaram, India and has been **traditionally used by both Sri Lankan Tamil and Indian fishermen.**

History:

- it was owned by the **Ramnad Kingdom** of Ramanathapuram Rameshwaram which later came under the **Madras Presidency** during **British rule** of India.
- **In 1974,** the island was **ceded to Sri Lanka** after an agreement was signed between the two countries **without consulting** the Tamil Nadu government.
- The agreement allows Indian fishermen access to Katchatheevu for **rest, for drying of nests and for the annual St Anthony's festival** but it did **not** ensure the **traditional fishing rights.**

PRESIDENT KOVIND TO INAUGURATE RENOVATED RAMNA KALI MANDIR IN DHAKA

Recently, President has inaugurated a famous Hindu temple in Dhaka.

Highlights

- The temple was **destroyed by Pakistani forces** during their Operation Searchlight **in 1971.**
  - o **Operation Searchlight** was the codename for a planned military operation by the Pakistan Army to curb the Bengali nationalist movement in former East Pakistan (now Bangladesh) in March 1971.
- The crackdown led to the genocide and

the **Bangladesh War of Liberation**.
- After the war, a small temple was set up at the site for people to offer prayers.

The Ramna Kali Temple

- 'Ramna' is derived from **Persian word** which means "**Lawn**".
- It is a symbol of the spiritual and cultural bonding among the people of India and Bangladesh

Genesis

- It is the **second oldest Hindu temple in Bangladesh** after the Dhakeshwari Temple.

- The temple is dedicated to the **Goddess Kali.**
- It was occupied by high officials of the Mughals during **early 1600s.**
- It is believed that the temple was built by **a Hindu sect**.
- The temple was **ordinary and petite** in terms of architecture but it had a **tall spire.**

The Temple and the War

- Pakistan army has targeted the **political Opposition** and

the **religious minorities** of East Pakistan
- They destroyed the temple during **Operation Searchlight of 1971.**
- A **reconstruction of the complex was announced in 2017**, when External Affairs Minister of India has inaugurated 15 development projects in Baridhara, Dhaka.

NITI AAYOG ENTERS INTO AGREEMENT WITH UN WFP TO DIVERSIFY FOOD BASKET IN PROGRAMMES

Recently, NITI Aayog has signed a Statement of Intent with the United Nations World Food Program to encourage and **promote millet production**.

- The partnership focuses on mainstreaming millets and supporting India in taking lead globally in knowledge exchange using the opportunity of 2023 as an **International Year of Millets**.
- It will aim at building **resilient livelihoods** for small-holder farmers and adaptation capacities to climate change and transforming **food systems**.
- It will strengthen the **climate-resilient agriculture** for enhanced food and **nutrition security** in India.

- The outcome of this partnership will be achieved in the following four phases:
- **Phase I:** Development of a best practice compendium around millet mainstreaming and a scale-up strategy.
- **Phase II:** Support scale-up of millet mainstreaming through knowledge sharing and intense engagement with select states.
- **Phase III:** Leverage India's expertise to support developing countries for millet mainstreaming.
- **Phase IV:** Working on building capacities for climate-resilient and adaptive livelihood practices.

FINMIN IMPOSES ANTI-DUMPING DUTY ON REFRIGERANT R-32 FROM CHINA

Recently, Finance Ministry has imposed definitive anti-dumping duty on imports of "**Hydrofluorocarbon (HFC) component R-32**" from China.

What is anti-dumping duty?

- An **anti-dumping duty** is a protectionist tariff that a domestic government imposes on imports

that it believes are priced below **fair market value**.

- To protect their respective economy, many countries impose duties on products they believe are being dumped in their national market.
  o It is done with the rationale that these products have the potential to undercut local businesses and the local economy.
- Dumping is a process wherein a company **exports** a product at a price that is significantly lower than the price it normally charges in its home (or its domestic) market.
- **Example:** If India started selling apples to the US for less than what they're worth in the US, then US apple producers would have a hard time selling their products to the domestic market.

The benefit of anti-dumping duty:

- **Anti-dumping duties** intend to save domestic jobs, these tariffs can also lead to higher prices for domestic consumers.
- Anti-dumping duties can **reduce the international competition** of domestic companies producing similar goods.

Hydrofluorocarbon (HFC)

- **Hydrofluorocarbons (HFCs)** are a group of industrial chemicals primarily used for cooling and refrigeration.
- HFCs were developed to replace stratospheric ozone-depleting substances that are currently being phased out under the **Montreal Protocol** on Substances that Deplete the Ozone Layer.

HFC climate impacts

- HFCs currently represent around 1% of total greenhouse gases.
- Its impact on global warming can be hundreds to thousands of times greater than that of carbon dioxide per unit of mass.

Road Ahead:

- HFC's can be most effectively controlled through a phase-down of their production and consumption.
- Global HFC phase-down could also provide indirect benefits through improvements in the energy efficiency of the refrigerators, air conditioners, and equipment that use these chemicals.

GOVT SIGNS 140 mn EURO LOAN AGREEMENT WITH KFW FOR ENERGY SECTOR REFORMS IN MADHYA PRADESH

Recently, the government of India signed a loan agreement with the German Development Bank for the Energy Reform Programme of Madhya Pradesh.

- The loan money will be used for the implementation of smart

meters & Advanced Metering Infrastructure (AMI).

Advanced Metering Infrastructure (AMI)

- AMI is a complex system or infrastructure of technologies that connect different **technological**

networks for making a **two-way communication network**.

- It includes technological networks like Customer Information Systems (CIS), Geographical Information Systems (GIS), Outage Management Systems (OMS), Work Management (WMS), Mobile Workforce Management (MWM) etc.

Need and benefits of using AIM in the Indian context:

- **System Reliability**: Effective **monitoring** will minimize power outages, making the system more reliable.

- **Energy Costs**: Easy monitoring will **reduce costs and wastages** in long term.
- **Electricity theft** will be reduced.
- Apart from electricity, AMI **can be used in** other fields like **gas and water distribution** and billing infrastructure.

Challenges for having AMI:

- High cost.
- Technological integration and management.
- Interoperability and standardization.

AGRA METRO RAIL PROJECT: INDIA, EIB SIGN CONTRACT FOR €250 MILLION LOAN

Recently, India and European Investment Bank signed a finance contract for first tranche loan of 250 million euros for Agra Metro Rail Project.

- **Aim:** To provide safe, reliable, affordable and environment friendly public Mass Rapid Transit System for Agra city.
- It will improve mobility for planned **urban development in Agra**.

- The project will also **enhance economic productivity** of the city and catalyze job creation.

European Investment Bank (EIB):

- EIB is the European Union's investment bank and is owned by the **EU Member States**.
- It focuses on the **areas of climate, environment**, small and medium sized enterprises (SMEs), development, cohesion and infrastructure.

TROUBLED WATERS: ON INDIAN FISHERMEN IN SRI LANKAN CUSTODY

Recently, there has been use of bottom trawlers by the Tamil Nadu fishermen, a practice opposed in Sri Lanka's on the ground that trawling damages the marine ecosystem.

What is bottom trawling?

- It is a method of fishing that involves dragging **heavy**

weighted nets across the sea floor, in an effort to catch fish.

- It is a favoured method by commercial fishing companies as it can catch **large quantities** of product in one go.

Concerns over Bottom Trawling

- It drags the large, weighted nets across the seafloor, everything that

happens to be in the way gets swept up in the net too.

- In addition to the **turtles**, **juvenile fish** and **invertebrates,** deep sea corals are also get swept up in trawling nets.
- Trawlers targets **seamounts** because they are known hot spots for fish and other marine life.
  o Coral forests, often found on seamounts, act as nurseries for juvenile fish and other invertebrates.
- It changes the flow of nutrients and carbon through the food web and alter **geomorphological landscapes**.
  o **How:** Bottom trawling can both resuspend and bury biologically recyclable organic material.
  o **Example:** Resuspension of nutrient solids like phosphorus

can result in oxygen deficient dead zones.

Suggestion

- The boats should be designed in such a way that fishermen get access to the **deeper parts** of the ocean and fish species.
- A knowledge can be given to fishermen for the construction of **tuna long liners** with gill nets.
- Imposing a limit on the **amount of sponge** and coral individual vessels and the entire fleet can pull up as bycatch.
- A system to warn other trawling vessels of an area with high concentrations of coral or sponge can be used.
- A **habitat review committee** that will meet annually to ensure the measures are working, and potentially improve the fishery even further can be formed.

INS SUDARSHINI DEPLOYMENT TO GULF COUNTRIES TO ENHANCE FOREIGN TRAINING COOPERATION

Recently, the Ministry of Defence deployed **Sail Training Ship** (STS) INS Sudarshini to the Gulf.

- **Class and type:** Three-masted barque
- It is indigenously built by **Goa Shipyard Ltd.**

- It was Commissioned in 2012.
- It is under Southern Naval command of Indian navy.
- The ship is a sister ship of **INS Tarangini** which was commissioned in 1997.

INDIA DELIVERS FOOD AID TO MOZAMBIQUE UNDER SAGAR MISSION

India delivers food aid to Mozambique under SAGAR Mission.
Highlights:

- Naval ship INS Kesari entered Port of **Maputo in Mozambique** to ship meals.

MISSION SAGAR

- It is a COVID-19 relief mission followed by **Mission Sagar II and Mission Sagar III.**
- **Launched-** 2020

- **Aim**- to deliver COVID-19 related assistance to the countries in the Indian Ocean Region.
- It is in line with '**SAGAR — Security and Growth for All in the Region'**.
  o **SAGAR**- It is a blueprint for cooperation in the Indo-Pacific region.

o **Launched**- 2015
o **Objective-** to deepen economic and security cooperation with its maritime neighbors and assist in building their maritime security capabilities.

SRI LANKA TO SIGN TRINCOMALEE OIL TANK FARM DEAL WITH INDIA IN A MONTH, SAYS MINISTER

As per the Ministry of New & Renewable Energy, Sri Lanka and India will jointly develop the Trincomalee oil tank farms.

Trincomalee Oil Tank Farms:

- **Trincomalee Oil Tank Farms** are located in China Bay.
- The facility was built by the British as a refuelling station during Second World War.
- It has 99 storage tanks with a capacity of 12,000 kilo litres each.
- Proposal for the development of oil tank farms was finalised in the Indo-Lanka Accord of 1987.
- **Indian Oil Corporation** set up Lanka IOC, its Sri Lankan subsidiary in 2003 to manage oil tanks.
- The LIOC currently runs 15 tanks. The recent agreement is regarding development of remaining oil tanks.

Genesis:

- **Trincomalee harbour** is the second deepest natural harbour in the world.
- In 2003, **the LIOC** obtained $1,00,000 to develop the oil tank farm spanning 850 acres in the north-eastern tip of the island.
- However, the agreement remained dormant for years.

Significance of the Deal

- Due to its strategic location in **the Indian Ocean**, a well-developed oil storage facility and refinery adjacent to the Trincomalee Port would have a global draw.
- From India's viewpoint, is an important counterbalance to the **southern Hambantota Port** backed by China.
- Developing the upper tank farm in Trincomalee would help the coastal towns of Sri Lanka to

become a **regional petroleum hub.**

-

INDIA, PHILIPPINES SET TO CONCLUDE BRAHMOS MISSILE DEAL

India and the Philippines are set to formally seal a government-to-government BrahMos deal after the several years of negotiations.

India- Philippines relations

- India and the Philippines **formally established diplomatic relations** on 26 November 1949.
- With the launch of **Look East policy,** India has **intensified** its relationship with Philippines.
- With the **Act East Policy initiated in 2014**, the relationship with Philippines has diversified further into **political-security; trade and industry and people-to-people realms**.

Political relation

- The **political cooperation** between India and the Philippines has been sustained since 1980s

Defence and security ties

- In 2006, two countries signed **Memorandum of Understanding (MoU**) on Defense and Security Cooperation.
- India and the Philippines have also begun holding **regular intelligence exchange (INTELLEX)** meetings on a range of sensitive issues.
- India trains Filipino foreign service officers at its Foreign Service Institute, and the both have begun **conducting military training exchanges**.
  - o The first exchange among their respective National Defense Colleges was conducted in India in 2013.
- Government of India sent an **Indian Air Force flight with relief material** for the victims of super typhoon 'Haiyan'.

Trade relation

- **India's export** to Philippines in 2021 is around 18.41 INR billion.
- **Indian investment in the Philippines** is mainly in the areas of textiles, IT&ITES, Infrastructure (airports), chemicals, automobiles and pharmaceuticals.
- **Collaboration in the BPO sector** has grown exponentially in the last ten years or so.

Science and technical(S&T) cooperation

- India and the Philippines have signed various agreements and **MoUs for cooperation in the energy sector.**

Culture & People to People Relations

- A large number of **Sanskrit words is used** in the local languages and the Hindu **epic story of Ramayana is very popular** in the Philippines**.**
- 36 Indian citizens have received the **Ramon Magsaysay award**, known as the 'Nobel prize of Asia,'.

- o **Ramon Magsaysay award** was instituted in memory of the **former Philippine** President.
- **The Indian Council of Cultural Relations also offers two scholarships** to the Filipino students for higher studies in India.
- To commemorate the **150th Birth Anniversary of Mahatma Gandhi**, the Embassy of India organized various events **in Manila**.

INTERNATIONAL DAY OF PERSONS WITH DISABILITIES 2021

International Day of Persons with Disabilities is celebrated to **promote the rights and well-being of persons with disabilities** in all spheres of society.

International Day of Persons with Disabilities (IDPD):

- It is **an international observance** promoted by the United Nations.
- **Established**- 1992
- **Objective**- To promote the rights of people with disabilities and to raise awareness around their well-being.
- **Theme**- Leadership and participation of persons with disabilities toward an inclusive, accessible and sustainable post-COVID-19 world.
- **Aim**- To create equal opportunities for persons with disabilities through the implementation of the 2030 Agenda for Sustainable Development.
- Later, **the Convention on the Rights of Persons with Disabilities (CRPD),** was also adopted in the year **2006**.

Current scenario in India:

- Out of total 70.22 crore male Indian citizens, **1.5 crore are disabled**.
- **1.18 crore disabled women** in India out of 65.46 crore female Indian citizens.
- **20.3%** of Indians with disabilities have **movement disabilities**
- **18.9%** have **hearing impairments**
- **18.8%** have **visual impairments.**
- India is at the **first spot in the world with the most visually challenged**.

- More than **65%** of the overall disabled Indian population **lives in rural areas**.
- Only **61% of the disabled children** aged 5-19 years were getting an education.
  o **27%** never went to a school.
- Out of the total disabled population**, 58%** people are literates.
  o **62%** of disabled males
  o **45%** of disabled females

Schemes of Government of India for the Welfare of Persons with Disabilities:

- **Deendayal Disabled Rehabilitation Scheme (DDRS)**
  o It is a **central sector** scheme
  o **Objective-** to provide grant-in-aid to (NGOs) for projects relating to rehabilitation for PwDs
- **District Disability Rehabilitation Centers (DDRCs)**
  o **Objective**- to facilitate creation of infrastructure and capacity building at district level for awareness, rehabilitation, training and guidance of rehabilitation professionals.
- **Assistance to Disabled Persons**
  o **Objective**- to assist the needy disabled persons in procuring durable, sophisticated and scientifically manufactured, modern, standard aids and appliances.
- **Accessible India Campaign/ Sugamya Bharat Abhiyan**
  o **Objective-** to create an enabling and barrier free environment
  o **Focus**- Built Environment, Public Transportation and Information & Communication Technologies.

- **Awareness Generation and Publicity Scheme**
  o To spread awareness about the legal rights of disabled persons.
- **Research on Disability Related Technology, Products and Issues**
  o It was introduced in the year 2015-16.
  o It was decided to merge the scheme under the umbrella scheme of SIPDA
  o **Objectives**
  ▪ To promote research in prevention and prevalence of disability
  ▪ To ensure active and compulsory involvement of PwDs in applied research and product development projects
- **Unique Disability ID Project (UDID)**
  o **Objective**- to create a National Database for Persons with Disabilities (PwDs)
- **In**-**Service Training and Sensitization of Key Functionaries of Central and State Government, Local Bodies and other Service Providers**
  o **Objective**- to train and sensitize Government Local Bodies on new and important issues facing the disability sector.
- **Scholarship scheme**
  o **Objective**- to empower disabled students to study further in order to earn their livelihood and to find a dignified place in the society.

WHY A THIRD OF THE WORLD, NEARLY THREE BILLION PEOPLE, HAVE NEVER USED THE INTERNET

The International Telecommunication Union (ITU), has unveiled its report on global growth in Internet usage recently.

Increase in Internet Usage:

- **The internet usage has** accelerated during the pandemic.
- o However, 37 % of the world's population have still never used the Internet.
- In 2019, 4.1 billion people were using the Internet.
- The number of users has surged by 782 million to reach 4.9 billion people in 2021.
- **In 2020**, the number of Internet users grew by 10.2 % driven by developing countries where Internet use went up 13.3 %.
- In 2021, growth has returned to a more modest 5.8 %, in line with pre-crisis rates.
- Internet users in **least developed countries** (LDCs) increased by 20 % and now accounts for 27 % of the population.

Gender Digital Divide:

- **Gender Internet divide** has been narrowing in recent years. Thus, the global gender parity score has improved from 0.89 in 2018 to 0.92 in 2020.
- **Globally 62 %** of all men were using the Internet, compared with 57 % of all women in 2020
- The divide remains wide in the LDCs where only 19 % of women are using the Internet

- o **In developing countries,** it was 27 % of women versus 38 % of men.

Internet users in Urban and Rural Areas:

- **Globally**, people in urban areas are **twice more likely to use the Internet** than those in rural areas.
- In the LDCs, urban dwellers are four times as likely to use the internet as are people living in rural areas.
- **In developed economies** the connectivity rate in urban areas is only four percentage higher than in rural areas.

Youth Internet Users:

- In 2020, 71 % of the **world's youth** aged between 15 and 24 years were using the Internet, compared with 57 % of the other age groups.
- For Africa the ratio was 1.47, and for the **Asia-Pacific region** it was 1.35.

International Telecommunication Union:

- ITU is the United Nations specialized agency for information and communication technologies (ICTs).
- **Established:** 17 May 1865
- o It is the **oldest** existing international **organization**.
- **Member States:** 193 including India.

Objectives:

- Coordinating the shared global use of the **radio spectrum**.
- **Promoting** international cooperation in assigning satellite orbits.
- Improving **communication infrastructure** in the developing world.
- Foster seamless interconnection of various **communications systems**.

Functions of ITU:

- It coordinates with the **world's satellites** through management of spectrum and orbits, vehicle GPS navigation, maritime and aeronautical communications.
- It makes internet access possible. The majority of **internet connections** are facilitated by ITU standards.
- ITU helps **support communications** in the wake of disasters and emergencies.
- It works with the industry to **define new technologies** that will support tomorrow's networks and services.
- **It powers** the mobile revolution, forging the technical standards and policy frameworks that make mobile and broadband possible.
- Works with **public and private sector partners** to ensure ICT access and services are affordable, equitable and universal.
- **Empowers people** around the world through technology education and training.

2021 UNESCO ASIA-PACIFIC AWARDS FOR CULTURAL HERITAGE CONSERVATION: ANNOUNCEMENT OF WINNERS

Recently, a project on **holistic urban revitalisation** of **Nizamuddin Basti community** in Delhi won 2 awards under UNESCO Asia-Pacific Awards for Cultural Heritage Conservation.

Awards Categories in which India won:

- o Award of Excellence
- o Special Recognition for Sustainable Development award
- UNESCO Asia Pacific Heritage Awards are given since 2000.
- Given for: Exemplary efforts by individuals and organizations to restore or conserve structures, places and properties of heritage value in the region.
- **Nine projects** from six countries **Bangladesh, China, India, Japan, Malaysia, and**

Thailand have been honoured by these awards.

The complete list of 2021 awarded projects comprises:

Award of Excellence:

Nizamuddin Basti, New Delhi, India

Award of Distinction:

- Jingdezhen Pengjia Alley Compound, Jiangxi, China
- Kesennuma Historic Citiscape, Miyagi, Japan

Award of Merit:

- Doleshwar Hanafia Jame Mosque, Dhaka, Bangladesh
- Thai Pak Koong (Ng Suk) Temple, Penang, Malaysia
- Baan Khun Phithak Raya, Pattani, Thailand

New Design in Heritage Contexts:

- Shajing Ancient Fair, Shenzhen, China
- Songyang Culture Neighborhood, Zhejiang, China

Special Recognition for Sustainable Development:

- Shajing Ancient Fair, Shenzhen, China

- Nizamuddin Basti, New Delhi, India
- Kesennuma Historic Citiscape, Miyagi, Japan
- Mrigadayavan Palace Woodshop, Phetchaburi, Thailand

SEMERU VOLCANO

Recently, the Semeru volcano on the tallest mountain on Java Island erupted, spewing towers of ash and hot clouds.

Mount Semeru:

- **Mount Semeru** (3,676m) among Indonesia's active volcanoes.
- It is located in a **subduction zone, where the Indo-Australian plate subducts under the Eurasia plate.**

SUMMARY EXECUTION

- The **United States** led a group of Western nations and allies in condemnation of the Taliban over summary killings of former members of the Afghan security forces recently.
- **In summary execution,** a person accused of a crime is **immediately**

- Indonesia sits on the **Pacific Ring of Fire,** where the meeting of continental plates causes high volcanic and seismic activity.
  o The **Ring of Fire, also referred to as the Circum-Pacific Belt, is** a path along the Pacific Ocean characterized by active volcanoes and frequent earthquakes.

    killed without the benefit of a full and fair trial.
- These executions are **practiced by police**, military, and paramilitary organizations and are frequently associated with guerrilla warfare, counter-insurgency, terrorism, etc.

WTO NEGOTIATIONS ON SERVICES REGULATIONS CONCLUDE

Recently, 67 member countries of the World Trade Organisation (WTO) concluded their negotiations on Services.

Key Highlights:

- It is the **first WTO deal** on services in over two decades.
- **Aim**: To make it easier for foreign service providers to access and follow the procedures for getting authorizations or licenses for operating in the host country and

be assured of legal certainty, regulatory and facilitation.
  o Under the **General Agreement on Trade in Services** (GATS), the WTO member countries are allowed to **determine the extent of market access** they will grant in various service sectors to the foreign entities.

Features:

- The provision on **non-discrimination** between men and women is included for the first time in the negotiation.
- The **Services Domestic Regulations (SDR)** does not alter the commitments of member countries under GATS.
  o It only deals with procedures.

Service Negotiations of WTO:

- WTO members focus on **advancing negotiations to achieve a higher level of market opening**, as mandated in **Article XIX** of the GATS.
- It began in 2000 under the GATS and became part of the Doha Round at the 2001 **Doha Ministerial Conference.**
- In 2011, members agreed on allowing **preferential treatment** to be granted to services and service suppliers of least-developed countries.
- **Aim:** Ensuring that measures relating to qualification requirements, technical standards and licensing do not constitute barriers to trade in services.

Need For Service Negotiations:

- **Services** account for over two-thirds of global production and employment. However, they represent only 25 per cent of total trade measured on a balance-of-payments (BoP) basis.
  o **BOP summarizes** all transactions that a country's individuals, companies, and government authorities complete with the bodies outside the country.
  o China, Russia, United States, United Kingdom, European Union

and other countries that have signed the **Services Domestic Regulations** for about 90% of the trade in services.

There are four major areas of services negotiations:

- Market access
- Domestic regulation
- GATS rules: emergency safeguard measures, government procurement and subsidies
- Implementation of LDC (least developed countries) modalities (i.e., special treatment for least-developed countries under GATS).

GATS four modes of supplying Services:

The GATS distinguishes between four modes of supplying services:

- **Cross-border supply** cover service flows from the territory of one member into the territory of another member
  o Example: Banking or architectural services transmitted via telecommunications or mail.
- **Consumption abroad** refers to situations where a service consumer moves into another member's territory to obtain a service
- **Commercial presence** implies that a service supplier of one member establishes a territorial presence in another member's territory to provide a service
  o Example: Domestic subsidiaries of foreign insurance companies or hotel chain.
- **Presence of natural persons** consists of persons of one member entering the territory of

another member to supply a service.

o Example: Accountants, doctors or teachers.

WORLD SOIL DAY - SOIL SALINIZATION: A THREAT TO OUR GLOBAL PANTRY

Recently, World Soil Day was celebrated on **December 5** to raise awareness of the importance of soil to the sustenance of life on earth.

- **Aim:** To halt soil salinization, boost soil productivity and raise awareness regarding the challenges faced in soil management and solving the soil salinization problem.
- **The theme for World Soil Day 2021:**
  o Halt soil salinization, enhance soil production

Soil salinization

- Soil salinization is a process by which there is a **build-up of salt concentration** in soil to such a level that impacts agricultural production, environmental health, and economics, and quality of life.
- Soil salinization involves a combination of processes like **evaporation, salt precipitation and dissolution, salt transport, and ion exchange,** etc.
- **Impact of Soil Salinization:**
  o Significant decrease in agricultural productivity, water quality, soil biodiversity, and soil erosion.
  o Decreases ability to act as a buffer and filter against pollutants.
  o Causes degradation of soil structure and functions of global ecological systems such as the

hydrological, nutrient, and biogeochemical cycles etc.
  o Reduces both the ability of crops to take up water and the availability of micronutrients.
  o Concentration of ions that are toxic to plants and may degrade the soil structure.

Global Initiative to prevent soil salinization:

  o **Global Soil Partnership:**
  ▪ Launched by **Food and Agriculture Organization** of the United Nations in 2012.
  ▪ **Aim:** To promote Sustainable Soil Management (SSM) and improve soil governance.

Indian government initiatives

  o The government of India has fixed a target of **restoring 26 million ha of degraded lands**, including salt-affected soils, by the **year 2030** to ensure food security for the people.
  o The ICAR-Central Soil Salinity Research Institute and many State Agricultural Universities are **engaged in studying salt-affected soils** and developing reclamation technologies and strategies.
  o **Soil health card scheme** evaluates soil quality. This helps to find and improve soil sanity and its level in soil.
  o **PM Krishi sinchai yojana** aims to provide micro irrigation facility to farmers, helps to

improve irrigation infrastructure and salinity of soil.

WHAT ARE THE MINSK AGREEMENTS ON THE UKRAINE CONFLICT?

Ukraine and the Russian-backed separatists agreed a 12-point ceasefire deal in the capital of Belarus.

Minsk agreements?
- Minsk agreements are agreements between **Ukraine and Russia** to resolve the conflict in eastern Ukraine.
- It includes:
- The **Minsk Protocol (later known as Minsk-1)** with the Minsk Memorandum of September 2014.
- The Package of Measures for the Implementation of the **Minsk Agreements (Minsk-2).**

Minsk 1:
- The Minsk Protocol was **an agreement to halt the war in the eastern Ukrainian region of Donbas.**
- Ukraine and the Russian-backed separatists **agreed a 12-point ceasefire deal** in the capital of Belarus in September 2014.
- Its provisions included **prisoner exchanges, deliveries of humanitarian aid and the withdrawal of heavy weapons.**
- The Minsk 1 agreement **failed to stop fighting.**
- But it significantly **reduced fighting** in the conflict zone for months until it collapsed in December 2014 – January 2015.
- **Reasons of failure of Minsk 1**:

- It did not satisfy either of the sides.
- It contained little concrete details.
- It did not touch upon the wider political questions such as regarding elections.
- It did not provide a timeframe or sequence for the implementation of measures.

Minsk II
- The Minsk-2 was intended to **revive Minsk-1.**
- **A 13-point agreement in February 2015 was signed in Minsk by:**
- Representatives of Russia and Ukraine
- Organisation for Security and Cooperation in Europe
- Leaders of two pro-Russian separatist regions
- The deal set out a **series of military and political steps** that remain unimplemented.
- A major blockage has been Russia's insistence that it is not a party to the conflict and therefore is not bound by its terms.

Genesis of this Agreements?
- The Minsk Agreements were first **negotiated between Vladimir Putin and Petro Poroshenko**.
- Then in the **Normandy Format**, between representatives of Ukraine, Russia, Germany, and France.

- Later the **Trilateral Contact Group** (Ukraine, Russia, and the OSCE), drafted and signed them.
  o The **OSCE** has a comprehensive approach to security that encompasses politico-military, economic and environmental, and human aspects.
  o The **Trilateral Contact Group** is a group of representatives from Ukraine, the Russian Federation, and the Organization for Security and Co-operation in Europe.
  o It was formed as means to facilitate a diplomatic resolution to the war in the Donbass region of Ukraine.

Parties to the agreements:
- There are only **two** parties to the Agreements, **Ukraine and Russia**.
- The **ceasefire is monitored by two bodies**, the OSCE Special Monitoring Mission (SMM) and the Joint Centre for Control and Coordination (JCCC).
- France, Germany, and the OSCE oversee the negotiations.

Why did the parties sign the agreement?
- The basic intention of Ukraine is to de-**occupy the uncontrolled territories and regain full control of them.**
  o Ukraine entered the peace talks after a military defeat and under the threat of a hidden or open Russian intervention.
- Russia's participation in the Agreement can be explained by the desire **to at least partially lift the economic sanctions** which the EU, USA, and other countries introduced after the annexation of Crimea in March 2014.

  o Russia aimed to **preserve its political influence over Ukraine**.

Disagreements:
- The main disagreements between Ukraine and Russia concern the sequence of events in which the Minsk Agreements have to be fulfilled.
  o Russia started **insisting Ukraine fulfill the political part** of the agreements before security measures are implemented.
- The agreements **did not contain any clear sequence of events** and hence the warfare continued amid the negotiations.
- **Minsk-2 limited the Ukrainian side in diplomatic maneuvers.**
- **Ukraine did adopt some political provisions** required by the Minsk Agreements, partly because of western pressure.
- In case of exchange of prisoners, **more than 100 remain imprisoned** in occupied Donbas, being accused of false crimes and used for propaganda purposes.

Legal status of the agreements?
- The Minsk Agreements are **null and void in Ukrainian legislature.**
- However, Ukraine has **no other peace agreements with Russia** and considers the accords as legal and obligatory.

Consequences of Minsk Agreement:
- The Minsk agreements **haven't brought peace to the Donbas.**
- However, the **Trilateral Contact Group regularly agrees on ceasefires** and the number of hostilities decreases for some time as they come into force.

HOW ARE OUR RIVERS MOVING OVER TIME? GLOBAL DATABASE DOCUMENTS 40 YEARS OF CHANGE

Recently a new study has examined 48 river delta systems across the world in order to understand the changing courses in future.

Highlights:

The researchers identified **four aspects** that determine the **movement and migration of river delta systems:**

- The **interplay** between the effects of rivers, tides, and waves
- Amount of sediment that the channel carries
- **Frequency and magnitude** of floods that occur
- The average size of the channel.

Impact of High Tides:

- **High tides increase** the **input of the saline seawater** in the delta and interact with the river discharge.
- Increases in the sediment flux causes greater changes in the delta channel and thereby cause it to migrate more.
- **All deltas** exhibiting large migration rates are dominated by river action rather than tides.
- **During high tides**, there is increased input of seawater in the delta and the sediment is pushed back into the delta, acting as a stabilizing force.
- However, there are deltas that have a **low migration rate** but are dominated by river discharge.

Reasons for this anomaly

- The reason is the **sediment** being transported by the river.
- **Sediment flux** is a key driver for channel migration, the course of the water naturally changes when sediment gets deposited at the mouth of the delta.
- **Biome classification**; river deltas in frigid zones of the Earth have permafrost for a high migration rate.
- Example: The Godavari River, India, and the Yellow and Yangtze River deltas in China.
- Deltas with **low flood frequency**, low sediment flux, and low river forcing are: Vistula, Poland; Ebro, Spain; Rhine, Germany and Tone, Japan.
- **The Ganges River delta** is an example of a combination of migration-enhancing and migration-dampening factors.
- The river has large levels of sediment flux, high flood frequency, but experiences fifty percent tidal force acting as a stabilizer.

River Delta?

- **A river delta** is a wetland area created when a river empties into another body of water, such as another river, lake or ocean.
- These areas tend to fluctuate with tides and precipitation rates and periods of flooding.

Formation of a River Delta:

- A river delta is formed when **sediment** in that river flows into another body of water.
- Over time, this sediment builds up, decreasing the gradient of the river bed and the floor of the river channel becomes closer to the floodplain.
- This makes the river channel unstable and **prone to flooding**.

Types of River Delta:

Arcuate Delta

- Such deltas are formed when the **river water is as dense as** the **sea water**.
- The arcuate or semi-circular shape is given to such deltas by sea waves and oceanic currents.
- **Example:** The Nile Delta.

Bird-Foot Delta

- **Bird-foot deltas** resembles the shape of foot of a bird
- They are formed due to deposition of finer materials in the river water which is lighter than the sea water.
- The rivers with high velocity carry suspended finer load to greater distances inside the oceanic water.
- **Example**: Mississippi Delta

Estuarine Delta

- The deltas formed due to **filling of estuaries** of rivers are called estuarine deltas.
- Those mouths of the rivers are called estuaries which are submerged under marine water and oceanic currents remove the sediments brought by the rivers.

- **Example:** The deltas of Narmada and Tapi.

Truncated Delta

- **Sea waves and ocean currents** modify and destroy deltas deposited by the river through their erosional work.
- Thus, eroded and dissected deltas are called truncated deltas.

Blocked Delta

- **Blocked deltas** are those whose seaward growth is blocked by sea waves through their erosional activities.

Abandoned Delta

- When the rivers shift their mouths in the seas and oceans, new deltas are formed such deltas are called abandoned deltas.
- **Example:** The western part of the Ganga delta which is drained by the Hoogli River.

Significance of River Delta:

- **River deltas provide** food, ports and transportation for many countries.
- River deltas support **fish nurseries, fisheries, crustaceans, forests and crops** such as tea and rice.
- **Ecosystems** like wetlands and mangrove forests depend on a stable river delta.
- Animals like birds, insects and sometimes even large predators rely on the ecosystem of a delta.
- The deltas work to absorb storm and **flood runoff** as well as to

clean water traveling through them.

- **Changes in the environment** and climate can alter river deltas.
- o When channels are dug into rivers, or wetlands are developed, greater amounts of erosion occur.

- Some river deltas experience **overdevelopment** by people or restriction by water management such as dams.
- This causes ecosystems to undergo drastic change in relatively short periods of time.

CUMBRE VIEJA VOLCANO AND CANARY BLACK BEE

Canary Black Honeybees survived for Weeks Under Volcano Ash After Canary Islands Eruption.

- Cumbre Vieja is a **volcano t**hat is located on **La Palma.**
- o **La Palma** is one of the **westernmost islands** in the **Canary Islands archipelago.**
- Cumbre Vieja is the **result of a hotspot** underneath the Earth's crust, and is **not** formed at a plate boundary.
- o Here, a **mantle plume upwells** against the oceanic crust of the African Plate, and magma has broken through the crust resulting in the formation of volcanoes.
- Cumbre Vieja is a **fissure volcano**.

- o A fissure vent, also known as a volcanic fissure, is a linear volcanic vent through which lava erupts, usually without any explosive activity.
- The Canary Black Bee has been officially declared as a **native breed.**
- o It is found all over the **Canary Archipelago (Spain) throughout the year**.
- o It has also been introduced in other countries in order to be commercially exploited.
- o It is known for its **characteristic dark colour**.
- o It lives in hives made out of **hexagonal cells** built by the worker bees from **beeswax.**

THE STATE OF THE GLOBAL EDUCATION CRISIS: A PATH TO RECOVERY

Recently, a report titled 'The State of the Global Education Crisis: A Path to Recovery report' was jointly published by World Bank, UNESCO, and UNICEF.

Key Findings of the Report:

- **This generation** of students risks **losing** $17 trillion in lifetime earnings in present value, or about **14 percent** of

today's **global Gross Domestic Product**.

- In low- and middle-income countries, **70 percent** of children will be pushed to **live in Learning Poverty**, given the long school closures and the ineffectiveness of remote learning.
- **Children** from **low-income households**, children with **disabilities**,

and **girls** were **less likely** to **access remote learning** than their peers.

- Learning losses were greater for students of **lower socioeconomic status** in countries like Ghana, Mexico, and Pakistan.
- To date, **less than 3 percent** of governments' stimulus packages have been allocated to education.

Suggestive Measures:

The countries should:

- **Invest** in the **enabling environment** to unlock the potential of digital learning opportunities for all students.
- **Reinforce the role** of **parents, families**, and communities in children's learning.
- **Ensure teachers** have **support and access** to high-quality professional development opportunities.
- **Increase** the **share** of education in the national **budget allocation** of stimulus packages.
- Initiate a **phase-wise repopulation** of the classrooms, with staggered and rotational rosters.
- Put in place **Learning Recovery Programs** with the objective of assuring that students of this generation attain at least the same competencies of the previous generation.
  - Programs must cover three key lines of action to recover learning:
    - Consolidating the curriculum
    - Extending instructional time
    - Improving the efficiency of learning.

Steps Taken by India post pandemic:

- The National Council of Educational Research and Training (NCERT) has focused on **digitizing textbooks** and offering QR codes to students for easy accessibility.
- Several private-sector initiatives, with support from state governments, aim to **improve literacy rates** among schoolchildren and adults.
  - This would be done primarily through **training teachers**, supporting technology and infrastructure development and promoting the benefits of reading to all.
- States such as Delhi and Andhra Pradesh implemented initiatives such as, **child care institutions** for kids who are in distress and need immediate attention.
- The Government has taken various steps to provide online education amidst COVID-19 pandemic.
  - These include **PRAGYATA Guidelines** on Digital Education and **Internet access under BHARAT NET scheme.**
- The Centre conducted the **National Achievement Survey (NAS) 2021** across the country.
  - The survey, which assesses the competencies developed by the students at the grade levels of 3rd, 5th, 8th and 10th, is conducted after every three years.

WORLD MALARIA REPORT 2021

World health Organisation has unveiled World Malaria Report 2021 recently.

Highlights:
- Only **58 % of countries** completed their planned campaigns to distribute insecticide-treated mosquito nets (ITNs) in 2020.
- In 2020, of the 65 countries, only 37 countries reported **partial disruptions** to malaria diagnosis and treatment services.
- 15 countries reported partial disruptions and 6 countries reported severe disruptions by 2021.

Global burden of Malaria:
- The **malaria burden** is 627 thousand deaths in 2020.
- 7.8 % of **deaths among children** under-five years of age recognized.
- There was a 27 % reduction in case incidence of malaria from 2000 to 2020.

Malaria Cases in African region:
- Between 2019 and 2020, **estimated malaria cases** increased from 213 million to 228 million, and deaths from 534 000 to 602000.
- The region accounted for about 95% of cases and 96% of **deaths globally**; 80% of all deaths are among children aged under 5.

Data on South-East Asia Region:

- **South-East Asia Region** had nine malaria endemic countries in 2020, accounting for 5 million cases and contributing to 2% of the burden of malaria cases globally.
- In 2020, **India accounted** for 83% of all malaria cases; more than a third of all cases in the region.
- Over the past 20 years, malaria cases have reduced by 78% from 22.9 million in 2000 to 5 million in 2020.

Suggestions:
- By **adopting more targeted**, data-driven approach countries can maximize available resources while ensuring efficiency and equity in their malaria responses.
  - Improving the process requires more and better data, and urgent and substantive investments in surveillance systems.
- **Investment** is needed to accelerate R&D.
  - It will bring new diagnostics approaches, antimalarial medicines and vaccines needed to speed the pace of progress against malaria.
- There is a need for better and **stronger healthcare system**.
  - The control and elimination of malaria depends on universal healthcare, inclusive of malaria prevention, diagnosis and treatment.

- **Annual investments** will need to more than triple by 2030 to reach global malaria targets.

WHO Global Technical Strategy for Malaria 2016–2030

The strategy, adopted by Member States in 2015, aims to:

- Reduce malaria case incidence by at least 90%;
- Reduce malaria mortality rates by at least 90%;
- Eliminate malaria in at least 35 countries;
- Prevent a resurgence of malaria in all countries that are malaria-free.

What is malaria?

- Malaria is an **acute febrile illness** caused by Plasmodium parasites spread through the bites of infected female Anopheles mosquitoes.
- There are 5 parasite species that cause malaria in humans:
  o Plasmodium falciparum
  o Plasmodium malariae
  o Plasmodium vivax
  o Plasmodium ovale
  o Plasmodium knowlesi

- **P. falciparum** is the deadliest malaria parasite and the most prevalent on the African continent.

Symptoms:

- Fever, chills, headache, vomiting, diarrhea, muscle or joint pain etc.

Causes:

- Malaria is caused by a **single-celled parasite** of the genus plasmodium.
- The parasite is transmitted to humans most commonly through mosquito bites.

Mosquito transmission cycle

- **Uninfected mosquito**: A mosquito becomes infected by feeding on a person who has malaria.
- **Transmission of parasite**: Mosquito bites can transmit malaria parasites in to the body.
- **In the liver**: Once the parasites enter the body they travel in to the liver and can lie dormant for long as a year.
- **Into the bloodstream:** When the parasites mature, they infect red blood cells reducing the immunity of a person.

WHAT IS NASA's NEW COMMUNICATIONS SYSTEM LCRD, AND WHY IS IT IMPORTANT?

Recently, NASA launched new Laser Communications Relay Demonstration (LCRD) in Florida.

Laser Communications Relay Demonstration (LCRD):

- It is a NASA mission that will **test laser communication in space for extremely long distances**.
- **Aim-** To increase the bandwidth more than radio frequency systems.
- It has **two optical terminals**-

o To receive data from a user spacecraft
o To transmit data to ground stations

Advantages-

- It will **send and receive data at a rate of 1.2 gigabits per second** from geosynchronous orbit to Earth using the infrared lasers.
o **Geosynchronous orbit**- It is a high Earth orbit that allows satellites to match Earth's rotation.
- Laser communications systems are **smaller and lighter.**
o Less weight will lead to less expensive launch.
- It uses **less power** than radio frequency systems.
o It will lead to less drain on the spacecraft's batteries.
- It has **shorter wavelength** than radio waves.
o It will help the transmission of more data in a short time.

GLOBAL HEALTH SECURITY INDEX, 2021

Global Health Security Index is launched by Nuclear Threat Initiative (NTI) and the Johns Hopkins Center for Health Security.

Key Findings:

- Countries are **unprepared for future pandemics and epidemics**.
- The world's overall performance on the GHS Index score slipped to **38.9 (out of 100).**
o India's GHS Index score- **42 out of 100**
- No country scored **above 75.9.**
- **65% countries** had not published and implemented national public health emergency response plan.
- **73% countries** did not have the ability to provide approval vaccines and antiviral drugs.
- **155 out of 195 countries** have not allocated national funds within the last three years.
- **70% of countries** show insufficient health capacity in clinics, hospitals, and community health centers.
- **Political and security risks** have increased.

Global Health Security Index

- It is the **first comprehensive assessment** and benchmarking of health security.
- **Aim:** to spur measurable changes in national health security.
- It measured the **capacities of 195 countries** to prepare for **epidemics and pandemics**.
- It has assessed countries across **six categories, 37 indicators and 171 questions**.

Categories:

- Prevention of the emergence or release of pathogens.
- Early detection & reporting epidemics of potential international concern.
- Rapid response to and mitigation of the spread of an epidemic.

- Sufficient & robust health system to treat the sick & protect health workers.
- Commitments to improving national capacity, financing plans to address gaps, and adherence to global norms.

- Overall risk environment and country vulnerability to biological threats.
- **Four of the six GHS Index categories** have an average score below **40 out of 100.**

CHAMPIONS OF THE EARTH AWARD

UN Environment Programme (UNEP) has announced Champions of the Earth awards.

Champions of the Earth awards
- It is the **highest environmental honour** of United Nations Environment Programme (UNEP).
- It is a successor to UNEP's **Global 500 Roll of Honour**.
- It recognizes leaders from **government, civil society**

and the private sector whose actions have a transformative impact on the environment.
- **Theme of 2021**- UN Decade on Ecosystem Restoration

Categories:
- Inspiration and Action
- Policy Leadership
- Entrepreneurial Vision
- Science and Innovation.

NEW ZEALAND TO BAN CIGARETTE SALES FOR FUTURE GENERATIONS

New Zealand plans to ban young people from ever buying cigarettes in their lifetime.
- **People aged 14** will never be allowed to purchase cigarettes

- 11.6% of people aged over 15 smokes a proportion that rises to 29% among adults.
- It will **curb the number of retailers** authorised to sell tobacco and cut nicotine levels in all products.

NICARAGUA CUTS DIPLOMATIC TIES WITH TAIWAN TO ALIGN WITH BEIJING

- Recently, Nicaragua has become the latest country to cut diplomatic ties with Taiwan in favour of China.
- It is the largest country in the **Central American isthmus**.

- **Capital:** Managua
- It is bordered by Honduras to the northwest, the **Caribbean** to the **east**, **Costa Rica** to the **south**, and the **Pacific Ocean** to the **southwest**.

CHINESE PROJECT AT BALOCHISTAN PORT: LOCAL PROTESTS AND GLOBAL CONCERNS

Protests continues in Gwadar, Balochistan against mega development plans of the port city as part of the China-Pakistan Economic Corridor.

Balochistan:

- Balochistan is an **arid desert and mountainous geographic region** in South and Western Asia.
- The region is administratively **divided among three countries**, Pakistan, Afghanistan, and Iran. It comprises of:
  - **Pakistani province** of Balochistan
  - **Iranian province** of Sistan and Baluchestan
  - **Southern areas of Afghanistan,** including Nimruz, Helmand and Kandahar provinces.
- It is the **largest of the four provinces of Pakistan.**
- Most of the inhabitants are **Baloch** and the other communities include **Pashtuns and Brahuis.**

Genesis of Insurgency in Balochistan:

- History of insurgency in Balochistan can be traced to the **issue of Kashmir, and is active since 1948.**
- The British offered the Kingdom of Balochistan, **either to join India, join Pakistan or remain independent.**
- The king of **Balochistan chose to remain independent** until the Pakistan government took control of the region in 1948.

- **Pakistani government generate tons of revenue from the region** in the form of taxes.
  - But **Balochistan remains as economically backward province** in Pakistan in spite of being resource-rich region.
- **Gross human rights violation** has been inflicted on the people of **Balochistan**.
  - The human rights violations in the region done by the **Pakistan military** and **terror groups**.
  - **Shias in the region have been facing discrimination from the Sunnis** of Pakistan.
  - **Hindus and the other minority group** are also facing discrimination by Pakistan.

Reasons for recent uprising:

- **Balochistan** is among the **least developed** even though the most resource-rich of Pakistan's four provinces.
- The mega development plans endanger the present livelihood of the people living in the region.
- The protest, led by a Jamat-e-Islami (JI), a traditional ally of Pakistan's military establishment has made **19 demands.**
- Some of their demands were **clean drinking water, uninterrupted access to the sea for fishing, and a ban on deep-sea trawling.**
- Other most important demand was that **more people from Gwadar should be employed by the Chinese company** developing the port**.**

Gwadar Port:

- **Gwadar,** a **small port town on the coastline of the Arabian Sea** in Pakistan's southwestern Balochistan province.
- Gwadar is just 400 km from the Hormuz Strait, through which 40 per cent of Chinese imported oil flows.

Strategic Importance of the port to China:

- The port development at Gwadar is the single most strategically important project of the **China-Pakistan Economic Corridor (CPEC).**
- It would provide the Chinese an **alternative to the sea** route for its oil imports from the middle east.
- o It allows Chinese trade to bypass the Malacca straits chokepoint, **reducing the shipping costs and number of transits.**
- It **improves connectivity to the restive Xinjiang Uyghur Autonomous Region**, thereby increasing the region's potential to attract public and private investment.
- It establishes **direct transport links to the Indian Ocean** via the CPEC.
- It helps **stabilise western China**, a region where Beijing feels vulnerable to Islamic agitation.
- It would **diversify political risk of access,** in case another host country limited Chinese activity.
- It could be utilized for **Joint exercises** in the future.

China Pakistan Economic Corridor (CPEC)

- The China Pakistan Economic Corridor (CPEC) is a **collection of infrastructure projects meant to deepen economic ties between China and Pakistan.**
- It is intended to rapidly **upgrade Pakistan's required infrastructure** and s**trengthen its econom**y by the construction of modern transportation networks, numerous energy projects, and special economic zones.
- The project is a part of **Silk Road Economic Belt** and the 21st **Maritime Silk Road projects.**
- o It seeks to **deepen Mainland China's economic cooperation with a number of Asian and European countries.**
- It will connect China's largest **province Xinjiang with Pakistan's Gwadar port in Balochistan.**
- It was launched in 2015 and **passes through Pakistan-occupied Kashmir and Balochistan.**

Concerns for India

- The Gwadar port's proximity to India raises suspicions that the investment is intended to serve **military objectives.**
- o Gwadar could **support the logistics base in Djibouti** (Chinese military base).
- o Empty warehouses in the adjacent free zone could also be converted to military use.

- Gwadar which gives China strategic access to the Arabian Sea and the Indian Ocean, has dual purposes:
  o The port can **be used by PLAN (the Chinese Navy).**

  o It is intended to **expand Chinese presence in the Indian Ocean Region.**
- **Pakistan being a close military ally of China** is of great concern for India.
  o India has trust issues with both the countries.

NEW CALEDONIA VOTES TO STAY IN FRANCE; SEPARATISTS BOYCOTT

Voters in the South Pacific archipelago of New Caledonia decide whether to break away from France, a referendum that is important for French geopolitical ambitions and is being closely watched amid growing Chinese influence in the region

- **Location:** Pacific Ocean between Australia and Fiji.

- It is an overseas **collectivity of France.**
- It is one of the **northernmost parts** of an almost entirely submerged continent called **Zealandia**.
- It located **in the subregion of Melanesia**, making the **continental island group unique in the southwest Pacific**

SAUDI ARABIA'S BAN ON THE TABLIGHI AND DA'WAH GROUP

Recently, the government of Saudi Arabia has banned the **Tablighi and Da'wah** group, also known as **Al Ahbab**.
Highlights:

- Saudi Arabia issued a **decree banning the Tablighi Jamaat** and labelled it as a **gate of terrorism.**
- The decision has drawn criticism from the traditionalist movement's **ideological parent institution**, **Darul Uloom Deoband**, Uttar Pradesh.
  o Darul Uloom Deoband is an **Islamic seminary.**
  o It was founded by freedom fighter and Islamic scholar **Muhammad Qasim Nanautvi** and his colleagues.

Ban by other countries:

- In 2013, **Kazakhstan** banned the Tablighi Jamaat and designated it as extremist.
- The movement is also prohibited in countries including **Iran, Russia, Tajikistan, Turkmenistan and Uzbekistan.**

Tablighi Jamaat:

- Tablighi Jamaat is a transnational **Sunni Islamic missionary movement**.
- It is the **largest** Islamic missionary movement today.
  o It can be traced back to the **Deobandi tradition**, which originated from the Darul Uloom madrasa in Deoband.
- It focuses on **exhorting Muslims** and **encouraging** fellow

members to return **to practising their religion** as per the Islamic prophet Muhammad.

o It focuses particularly in matters of **ritual, dress, and personal behaviour.**

• It was launched in **Mewat in 1927** by the Islamic scholar and teacher **Maulana Muhammad Ilyas.**

o He coined the slogan "Oh Muslims! Become Muslims".

• Tablighi Jamaat tends to blur the boundaries of gender roles and both genders share a common behavioural model and their commitment to tabligh.

Six Principles:

The principles along with its objectives are:

Kalimah:

o It is an article of **faith** in which the Tabligh accepts that there **is no God but Allah** and that **Prophet Muhammad is his messenger.**

Namaz (Performing prescribed prayers):

o Achieve certainty so that one can get **spiritual elevation**, piety and a life free from the ills of the material world.

Ilm with Zikr (Knowledge and remembrance of Allah):

o One has to achieve **enough wisdom** to be able to differentiate between what is permissible-impermissible, purity-impurity, legitimacy-illegitimacy in all aspects of his/her life.

Ikram al-Muslim (Honouring Muslims):

o **Treat** fellow Muslims with **honour and deference.**

Sahih Niyyah (Sincerity of Intention):

o Reforming one's life in supplication to God by performing every human action for the sake of GOD and toward the goal of self-transformation.

Dawah & Tabligh (Inviting and Preaching):

o The sparing of time to live a life based on faith and learning its virtues, following in the **footsteps of Muhammad.**

Structure:

• There is **no defined structure**.

• Originally, it used to be headed by the **Ameer** (**now abolished**).

o He who would preside over the **shura** (council), the core of the organisation, and deal with important matters including international congregations known as **Aalmi Ijtama.**

• After the death of third Ameer, the post was abolished, and **Aalmi Shura** (**international advisory council)** was appointed.

NASA JUST REVEALED 4 NEW MISSIONS TO STUDY EARTH IN 2022

Recently, NASA plans to launch four Earth science missions which will help scientists to learn more about **climatic conditions and systems**.

• The four NASA science missions include **TROPICS, EMIT, NOAA's JPSS-2 and SWOT**.

TROPICS (Time-Resolved Observations of Precipitation structure and storm Intensity with a Constellation of Smallsats)

- NASA will use six satellites in this mission to observe tropical cyclones.
- These satellites will travel in pairs and in three different orbits providing microwave observations of a **storm's precipitation, temperature, and humidity** as quickly as every 50 minutes.

EMIT (Earth Surface Mineral Dust Source Investigation)

- NASA will use satellites to learn where dust originates and how it affects the planet.
- NASA plans to use an imaging spectrometer that measures visible and infrared light reflecting from surfaces below This mission will take place for one year and it will be installed on the ISS.

JPSS (Joint Polar Satellite System):

- The National Oceanic and Atmospheric Administration and NASA's **JPSS** satellites that currently orbit the Earth provide data that help in forecasting extreme storms.
- These satellites also provide information about floods, wildfires, volcanoes, smog, dust storms, and sea ice.

SWOT (Surface Water and Ocean Topography):

- **Aim**: To collect data from the Earth's surface water bodies like the oceans, lakes and rivers, and how much climate change affects these freshwater bodies.
- It will also provide data on the ocean's ability to absorb excess heat and greenhouse gases like carbon dioxide.

WHAT DOES SOUTH KOREA'S END OF KOREAN WAR COMMENT REALLY MEAN

Recently, the South Korea's President announced a formal end to the Korean War.

Korean War:

History:

- The Korean peninsula was ruled by the **Joseon Dynasty** from 1392 to 1897.
- By signing the **treaty of Shimonoseki, Japan** formed the Korean Empire after **defeating China** in the **Sino- Japanese** war of 1895.
  - Korea was effectively under the rule of the Japanese during the

World War II and after the fall of Japan, Korean War started.

Causes:

- The present-day Korean conflict is born primarily from the seeds sown during **Cold War – between USSR and USA.**
- Korea was occupied by the United States and the Soviet Union at the end of World War II.
- The United States proposed temporarily dividing the country along the **38th Parallel** as a way to maintain its influence on the

peninsula, which bordered Russia.

- In 1948, the **American-backed**, anti-communist **southern** administration declared itself **the Republic of Korea.**
- Soon after, the Soviet-backed, **communist northern administration**, based in Pyongyang, declared itself the **Democratic People's Republic of Korea**.

Who were the combatants?

- The war pitted **South Korea and the United States**, fighting under the auspices of the United Nations, **against North Korea and China.**
- The Soviet Union supported North Korea at the beginning of the war, giving it arms, tanks and strategic advice.
  - But **China** soon emerged as its **most important ally**, sending soldiers to fight in Korea as a way to keep the conflict away from its border.

How did it end?

- Technically, the Korean War **did not end.**
- The fighting stopped when North Korea, China and the United States reached **an armistice in 1953**.
- But **South Korea did not agree to the armistice**, and **no formal peace treaty** was ever signed.
  - Since 1953 there has been an uneasy coexistence between North and South Korea.

A US NAVY WARSHIP BLASTED A FLOATING TARGET WITH A LASER IN THE MIDDLE EAST

The U.S. Navy has tested a laser weapon system against a floating target in the Gulf of Aden.

Laser Weapons:

- Laser term stands for **Light Amplification by the Stimulated Emission of Radiation**.
- It is very intense **beam of light or infrared radiation.**
- Laser weapon are **a weapon that uses a high-power laser beam** rather than a missile to destroy a target.
- **Aim-** to achieve a military advantage during armed conflict.
- **Features-**
  - Laser weapons are **large and heavy.**
  - It requires **enormous amounts of power**.
  - The advertised **cost per shot is low**.
  - It is also called a **directed energy weapon.**

Pros of Laser Weapons:

- The transmission at the **speed of light** allows laser-based weapons to engage distant targets immediately after detection.
- The directed laser energy **provides less collateral damage**.

- It is **low-profile and covert operations** capabilities.
- Laser weapons can disable a vehicle from miles away **without killing anyone.**
- It has speed which also **helps with accuracy**.
- It has a near-perfectly **straight trajectory.**

Cons of Laser weapons:
- **Power consumption** is too high.
- Large systems will need **large-sized generators**, which will limit the mobility of the artillery systems.
- **High accuracy** only when firing direct fire, which dramatically reduces the effectiveness of the application on land.
- It can cause **permanent blindness** or diminish vision.

Protocol on Blinding Laser Weapons: Protocol IV of the 1980 Convention on Certain Conventional Weapons
- **Issued by**- the United Nations in 1995

- **Article 1:** It is prohibited to **employ laser weapons** as it causes permanent blindness to unenhanced vision, that is to the naked eye or to the eye with corrective eyesight devices.
  - **The High Contracting Parties** shall not transfer such weapons to any State or non-State entity.
- **Article 2:** The High Contracting Parties shall take all **feasible precautions** to avoid the incidence of permanent blindness to unenhanced vision.
  - Precautions shall include **training of their armed forces**.
- **Article 3:** Blinding as an incidental or collateral effect of the legitimate **military employment** of laser systems is not covered by the prohibition of this Protocol.
- **Article 4:** For the purpose of this protocol "**permanent blindness**" means **irreversible and un correctable loss of vision** which is seriously disabling with no prospect of recovery.

RUSSIA DRAFTS PACT TO LIMIT U.S., NATO ROLE IN EX-SOVIET NATIONS

Recently, Russia has published security proposals to the NATO and the United States.

Highlights of demands:
- **Ukraine and neighbouring nations** should not be allowed to join NATO.
- It calls for **no new military bases** to be established in ex-Soviet countries.

- **A ban on the deployment of U.S. and Russian warships** and aircraft to areas from where they can strike each other's territory.
- NATO and Russia should work to "**prevent incidents**" in the Baltics and the Black Sea region.
- **Telephone hotline** should be established.

North Atlantic Treaty Organization (NATO):

- It is an **intergovernmental military alliance** between European countries (28), North American countries (2), and Eurasian country.
- It is also called the **North Atlantic Alliance.**
- **Formation- 1949**
- **Headquarters**- Belgium
- **Aim**- to guarantee the freedom and security of its members through political and military means.
- **Objective-** To maintain the target defence spending of at least 2% of their GDP by 2024.
- It is a **system of defence** in which the member states agree to the mutual defence in response to an attack by a non-member external party.

History:

- The **Treaty of Dunkirk** was signed by France and the United Kingdom as a Treaty of Alliance and Mutual Assistance in the attack by Germany or the Soviet Union in the aftermath of World War II.
  - It is also referred as the **Brussels Treaty Organization** (BTO).
  - It was **created to provide collective security** against the Soviet Union.
- After the World War II, the relations between United States and USSR led to Cold War.
- USSR wanted to **expand its territory** with the help of communism and it led to the formation of NATO.

- As a result, **North Atlantic Treaty** was signed in 1949.
  - It was a result of the talks for the military alliance.
  - It included **United States, Canada, Portugal, Italy, Norway, Denmark and Iceland**.

Structure

- All **agencies and organizations** of NATO are integrated into the civilian administrative or military executive roles.
- **The North Atlantic Council (NAC)**
  - It is the body which has effective **governance authority** and **powers of decision** in NATO.
  - It consists of **member states** that are permanent representatives or representatives at higher level.
  - The meetings are shared by the **Security General**.
  - There is **no voting** or decision by majority.
- **The Military Committee (MC)**
  - It is the **body of NATO that** is composed of member states' **Chiefs of Defence** (CHOD)
  - It **advises the** North Atlantic Council (**NAC**) on military policy and strategy.
  - The MC is led by **chairman**, who directs NATO's military operations.
- **Allied Command Operations (ACO)**
  - It is the NATO command which is **responsible for** NATO **operations** worldwide.
- **Allied Command Transformation (ACT)**

o It is **responsible for transformation** and training of NATO forces.

ISLAMIC COUNTRIES ARE PLEDGING TO LAUNCH A HUMANITARIAN TRUST FUND FOR AFGHANISTAN

Organization of Islamic Cooperation
- It is the **second-largest organization** after the United Nations.
- **Founded in:** 1969
- **Member:** 57 member states
- **Headquarters:** Jeddah, Kingdom of Saudi Arabia
- The organization is **the collective voice of the Muslim world**.
- **Aim:** To safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony.
- The OIC system consists of:

Islamic Summit:
- The largest meeting, attended by the kings and the heads of state and government of the member states, convenes every three years.
- It takes policy decisions and guides on all issues about the realization of the objectives as provided for in the **Charter**.

Islamic Conference of Foreign Ministers:
- They meet once a year to examine a progress report on the implementation of its decisions taken within the framework of the defined policy

Secretary-General:

- The Secretary-General is elected by the **Council of Foreign Ministers** for five years.
- Secretary-General is elected from among nationals of the Member States under the principles of:
- o Equitable geographical distribution.
- o Rotation and equal opportunity for all Member States.
- o Consideration to competence, integrity, and experience.

Permanent Secretariat:
- The Permanent Secretariat is the executive organ of the Organisation, entrusted with the implementation of the decisions of the two preceding bodies.
- It is located in **Jeddah, Saudi Arabia**.

Responsibilities of OIC:
- To ensure Islamic solidarity among the Member States.
- Cooperation in the **political, economic, social, cultural, and struggle** of **all Muslim people** to safeguard their dignity, independence, and national rights.
- It shall Safeguard the Holy Places like **Mecca and Medina.**
- Support the struggle of the Palestinian people and assist them in recovering their rights

and liberating their occupied territories.

- **Eliminate racial discrimination** and all forms of colonialism.

GABRIEL BORIC, THE FORMER STUDENT LEADER WHO IS SET TO BE CHILE'S YOUNGEST PRESIDENT

A former student leader is set to become Chile's youngest president.

- Chile is situated along the western seaboard of **South America**.
- **Capital:** Santiago
- It extends approximately 2,700 miles from its boundary with Peru, at latitude 17°30′ S, to the
-

tip of South America at **Cape Horn**, latitude 56° S, a point only about 400 miles north of Antarctica.

- It is bounded on the north by **Peru and Bolivia**, on its long eastern border by Argentina, and on the west by the **Pacific Ocean**.

PERFECTLY PRESERVED, 'EXTREMELY RARE' DINOSAUR EMBRYO IN EGG FOUND IN CHINA

Recently, a preserved Dinosaur Embryo, believe to be **66 million** years old, was found in china.

- The fossil was discovered in Ganzhou, southern China and belonged to a toothless theropod dinosaur or **oviraptorosaur.**
- Oviraptorosaurs, which means **egg thief lizards** were feathered dinosaurs that lived in

what is now Asia and North America during the **Late cretaceous period**.

- They had variable beak shapes and diets.
- It size ranged from modern turkeys at the lower end to massive **Gigantoraptors**, that were eight meters (26 feet) long.

EFFECTS OF COVID-19 PANDEMIC ON LIFE EXPECTANCY AND PREMATURE MORTALITY IN 2020: TIME SERIES ANALYSIS IN 37 COUNTRIES

A report on the data of life expectancy in 2020 was recently published in a British Medical Journal.

Highlights of report

- Life expectancy in 2020 reduced **in 29 of the 37 countries surveyed.**

- Life expectancy remained unchanged for Denmark, Iceland and South Korea.
- New Zealand, Taiwan and Norway recorded increases in life expectancy.
- Russia recorded the largest drop in life expectancy.

Life expectancy

- It is an indication of **how long on average people can expect to survive** if the age specific mortality rates of that year remain constant for the remainder of their life.
- As per Economic Survey 2020-21, **Life expectancy at birth** improved from 69.4 years in 2018 to 69.7 years in 2019.
- India's life expectancy is less than the world's average lifespan of 72.81 years.
- Life expectancy in India **dropped by two years** due to COVID-19. For men and women, now it is 67.5 years and 69.8 years respectively in 2020.

HUNGER AND HOW IT IS IMPACTING THE WORLD

Recently, an economic expert commented on the three forms of hunger and how it is impacting the world.

What are three forms of hunger?

- **Under Nutrition:**
  - Insufficient intake of basic foods requirement, causing **undernourishme nt**.
  - Insufficient Macronutrients.
- **Malnutrition:**
  - Insufficient intake of essential quality vitamins and minerals.
  - Micronutrient deficiencies.
- **Over Nutrition:**
  - Intake of excess food causes overnutrition, resulting in Obesity.

Reason:

- **Poverty** is the leading economic factor behind it. Poverty causes other co-related problems like **'Food Deserts'** and **'Poverty Trap'.**

  - **Food Deserts** are the areas where people have limited access to a variety of healthful foods.
  - Poor people often live in aggregated poor neighborhoods where merchants have weak incentives to offer higher-cost nutritious products. This creates 'food deserts.
  - **The poverty trap or Poverty cycle** makes a poor to remain poor for generations.
  - It is a self-enforcing mechanism, where due to the unaffordability of good food and quality standard of leaving, a poor could not escape poverty.

Solutions:

- Increasing income of people by economic growth and development.
- Social sector schemes by the government distribute quality food.
- Reducing chemical fertilizers used in agriculture.
- **De-agrarianizing** food production and doing vertical farming for nutritious foods.

o When people abandon agriculture, it is referred to as **de-agrarianizing.**

o Vertical farming is a method of Off-farm agriculture that focuses on growing crops in vertically stacked layers.

US WAIVES IN-PERSON INTERVIEWS FOR RANGE OF VISAS, INCLUDING H-1B, FOR 2022

The US has announced that it will waive the in-person interview requirement for a range of visa applicants during the entire year in 2022.

H-1B Visa

- It is a **non-immigrant visa** under the **Immigration** and **Nationality Act, section 101(a)(15)(H).**
- It allows U.S. employers to temporarily employ foreign workers in specialty occupations.
- **Eligibility-** It requires the application of specialized knowledge and a bachelor's degree or the equivalent of work experience.
- **Duration-** three years, extendable to six years.

o The individual can perpetually extend their H-1B visa by filing for an EB-1, EB-2, or EB-3 before the end of the fifth year.

- Applicants are selected for adjudication **via lottery.**

LATEST CHILD MORTALITY ESTIMATES REVEAL WORLD REMAINS OFF TRACK TO MEETING SUSTAINABLE DEVELOPMENT GOALS

Recently UN IGME released a report on child mortality.

Highlight of the report:

- **Sub-Saharan Africa and Southern** Asia continue to face the highest risk of child mortality.
- More than 50 countries will not meet the under-five mortality target by 2030.
- In low- and middle-income countries, **huge data gaps remain** – two thirds (97 out of 135 countries) have had no reliable mortality data in the past 3 years.
- **More than 5 million children died** before the age of 5 in 2020 alone, along with 2.2 million children and youth aged 5 to 24.

United Nations Inter-Agency Group for Child Mortality Estimation (UN IGME):

- It was formed in 2004 to:
o Share **data on child mortality**
o Improve methods for **child mortality estimation**
o **Report on progress** towards child survival goals
o **Enhance country capacity** to produce timely and properly assessed estimates of child mortality.
- It is **led by** the **United Nations Children's Fund** (UNICEF).

o It also includes the World Health Organization (WHO), the World Bank Group and the United Nations Population Division as full members.

Sustainable Development Goals (SDG):

SDG Target 3.2:
New-born and child mortality: By **2030**, **end preventable deaths of new-borns** and children under **5 years of age**, with all countries aiming to **reduce neonatal mortality and under-5 mortality.**

POVERTY KEY FACTOR IN DETERMINING INSTITUTIONAL DELIVERY

A journal entitled Global Health Action analyses data on State-level maternal mortality ratio (2016 to 2018), as well as the National Family Health Survey-4 (2015-2016).

- It explores socio-demographic factors as well as barriers in low coverage of institutional deliveries.

Findings of the study:

- **Poverty, education and exposure to a community health worker** are more important than age of marriage in **averting the risk of maternal mortality** due to childbirth-related complications.
- o **Poverty** is responsible more than twice as much as age at marriage in determining whether a woman will seek institutional delivery.
- o **Education** is 1.5 times more important than age at marriage.
- o **Interaction with a community health worker** and **awareness campaigns** also had a greater impact than age at marriage.
- India has a **maternal mortality rate of 113 per 100,000** and the rate is high in nine States at 161 deaths per 100,000.
- o 9 **low-performing States (LPS) with high burden of maternal mortality** are— Assam, Bihar,

Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand.

- These states contribute 62% of maternal deaths, 71% of infant deaths, 72% of under-five deaths, and 61% of births in the country.
- They also account for **12% of global maternal deaths.**
- The influence of educational attainment is strongest in Assam and Chhattisgarh.

Barriers in assessing the facilities:

- Lack of transportation, High cost of services, trust issues and facility closures.
- Lack of proper technical, human and institutional labour services.

Recommendations:

- **Need of State-specific interventions:**
- o There is need to increase the number of public health facilities and also to improve associated quality of care.
- **Improved technical and skilled resources:**
- o Inadequate clinical training and insufficient skilled human resources affected the quality of available maternity services. Thus,

there is need for improved technical and skilled resources.

GOLAN HEIGHTS

Recently, Israel approves plan to double settlers in occupied Golan Heights.

- The Golan Heights refers to the border region captured from **Syria** by Israel during the **Six Day War of 1967.**
- It includes the western two-thirds of the geological Golan Heights and the Israeli occupied part of **Mount Hermon**.
- **Internationally recognized** as Syrian territory occupied by Israel.

WHAT IS CHINA'S 'ARTIFICIAL SUN' EXPERIMENTAL FUSION REACTOR THAT HAS SET A RECORD?

Recently, China has experimented to develop an artificial Sun experimental device under the Experimental Advanced Superconducting Tokamak.

- During an experiment in ten seconds, the temperature of this **artificial Sun** can reach are **16 crore degrees Celsius**, which made it hotter than the real sun.

Experimental Advanced Superconducting Tokamak (EAST)

- EAST is an **advanced nuclear fusion** experimental research device.
- It is located at the Institute of **Plasma Physics of the Chinese Academy of Sciences** (ASIPP) in **Hefei, China**.
- **Aim:** To replicate the process of nuclear fusion, which is the same reaction that powers the sun.
- The EAST is one of three major domestic tokamaks that are presently being operated across China.
  o Apart from the EAST, China is currently operating the **HL-2A** reactor as well as **J-TEXT**.
- The artificial Sun experiment is being developed through a reactor, with the help of nuclear fusion.

What is nuclear fusion?

- Nuclear fusion is a reaction in which **two or more atomic nuclei are combined** to form one or more different atomic nuclei and subatomic particles (neutrons or protons).
- It occurs **when two positively charged nuclei merge.**
- To create a fusion reaction on earth requires **heating gasses to more than 100 million degrees** Celsius and holding them in place with lasers or powerful magnets.
- Fusion is also the process that powers **active or main sequence**

stars and other **high-magnitude stars**, where large amounts of energy are released.

- A nuclear fusion process that produces nuclei lighter than **iron-56 or nickel-62** will generally release energy.

Working of EAST:
- The EAST Tokamak device is designed to **replicate the nuclear**

fusion process carried out by the sun and stars.

- Due to nuclear fusion, **tremendous heat and pressure are applied to hydrogen atoms so that they fuse.**
- The nuclei of deuterium and tritium both found in hydrogen are made to fuse to create a helium nucleus, a neutron along with a whole lot of energy.

ISRAELI AIRSTRIKE SETS PORT OF LATAKIA ABLAZE, SAYS SYRIAN MEDIA

Recently, an Israeli airstrike hit Syria's Latakia port.
- Latakia is a seaport located on the Mediterranean sea in the city of Latakia.

- Syria's ally, Russia, operates a naval base in the **port of Tartus**, 85 kilometers to the south of Latakia port.

NASA's JAMES WEBB SPACE TELESCOPE LAUNCHED FROM FRENCH GUIANA

Recently, the James Webb Space Telescope (JWST) was launched into space by the Ariane 5 rocket from European Space Agency's spaceport in French Guiana, South America.

James Webb Space Telescope (JWST)
- It is **jointly developed by the USA, Canadian, and European Space Agency**.
- **Aim**: JSWT is aimed to study the universe and space observations.
- It is the **largest and most powerful telescope ever.**
- It was launched in space **to replace the Hubble space telescope.**

Hubble space telescope

- Hubble telescope was **launched in 1990 (by ESA and NASA)** for space observation.
- Its work was universe observation.
- It is still working in the **low earth orbit of the earth**.
- Some **major discoveries made with help of Hubble:**
  o **Found two moons of Pluto**, Nix, and Hydra.
  o Helped to determine the **rate of the universe's expansion**
  o Helped in **making a 3-D map of dark matter**.

Comparison between Hubble and JSWT
- Unlike Hubble, **it will not orbit the earth**.

- JSWT will study the universe in the infrared. But the Hubble telescope worked on optical and ultraviolet wavelengths.

- JWST's mirror is much larger than Hubble's. So, the JSWT can look farther in space than Hubble.
- Hubble is in a much closer orbit around Earth. The JSWT will be much away from the earth.

WOMEN LESS LIKELY TO RECEIVE COVID-19 RELIEF FROM GOVERNMENT: UN WOMEN REPORT

Recently, UN Women unveiled its report on women receiving pandemic-related cash relief from governments or non-profits.

Report:
- The report compiled and analysed the results of **Rapid Gender Assessment surveys** (RGA)
- It included 58 countries across all regions.
- It focused on five key areas:
  - Participation in the workforce
  - Unpaid care and domestic work
  - Emotional and physical well-being
  - Access to goods and services
  - Relief and social protection measures.

Highlights of the Report:
Socio-Economic Impact
- **Women and girls** disproportionately suffered the **socio-economic impacts** of (COVID-19), through lost jobs reduced work hours, increased intensity of care and domestic work and strains on their **physical and mental health**.
- 29 per cent of **working mothers** living with children lost their jobs compared to only 20 per cent of working men living with children.
- **Young women living with children** were hard-hit, with 56 per cent seeing reduced paid work hours versus only 44 per cent of young men living with children.

Cash Relief:
- **Single women living with children** were particularly left behind, being less than half as likely as single men living with children to receive cash relief (12 % of women vs 25 % of men).
- **Women without children** were also less likely to receive cash relief (8% of women vs 17% of men).
- **Younger women** (aged 18-24) were also less likely to receive cash relief (9% vs 21 % of men), unemployment insurance (5% vs 18% men) or support from non-profits (6 % vs 7% of men).
- **Women aged 60 years** and older were most likely to report receiving cash relief (12%),

unemployment insurance (17%) and support from non-profits (16%).

- In addition to limited relief, **unemployed women** were half as likely as men to report that they are covered by **unemployment insurance** (7% of women vs 14% of men) in 19 countries.

International organisations and non-profits

- They played a key role in providing **relief measures** to mitigate the impacts of COVID-19.
- Women were slightly less likely than men receiving **support from non-profits** (9% vs 10% respectively).
- **Gendered differences** in non-profits' support was substantial in Philippines (6% women vs 28% men), in Mexico (7% women vs 33% men) and in Serbia (51% women vs 69% men).

Government cash relief

- **Government cash relief** was not associated with losing one's job in most countries.
- In 25 out of 34 countries, **loss of jobs had no impact on women** receiving cash relief from government.
- **95 percent women in Asia** and 89 per cent of women in sub-Saharan Africa earn income through informal labour, insecurity and insufficient social protection.

UN Women:

- UN Women is the **United Nations entity** dedicated to gender equality and the empowerment of women.
- **Aim**: To accelerate progress on meeting their needs worldwide.
- They also coordinate and **promote the UN system's work** in advancing gender equality, deliberations and agreements of **the 2030 Agenda**.
- The entity works to position **gender equality** as fundamental to the **Sustainable Development Goals.**

It merges important work of four previously distinct parts of the UN system:

- Division for the Advancement of Women (DAW)
- International Research and Training Institute for the Advancement of Women (INSTRAW)
- Office of the Special Adviser on Gender Issues and Advancement of Women (OSAGI)
- United Nations Development Fund for Women (UNIFEM)

4 Major Priorities:

- Women lead, participate in and benefit equally from **governance systems**.
- Women have income security, decent work and **economic autonomy**.
- All women and girls live a life free from **all forms of violence**.
- Women contributes in **building sustainable peace and resilience**, and benefit equally

from the prevention of natural disasters and humanitarian action.

Functions:

- To support **inter-governmental bodies** in the formulation of policies, global standards and norms.

- To help **Member States** implement these standards, and to forge effective partnerships with civil society.
- To lead and coordinate the UN system's work on **gender equality** and promote accountability.

UNSC RESOLUTION 2231

- It was **a resolution** endorsing the **Joint Comprehensive Plan of Action on the nuclear program of Iran.**
  - **Joint Comprehensive Plan of Action (JCPOA)** s known as the Iran nuclear deal or Iran deal.
  - It is an agreement on the **Iranian nuclear program**.
  - **Aim-** to promote the development of normal economic and trade contacts and cooperation with Iran.
- **Concluded**- 2015 by China, France, Germany, the Russian

Federation, the United Kingdom, the United States, European Union and Iran.

- It sets out an inspection process and schedule while also preparing for the **removal of United Nations sanctions against Iran.**
- UN Member States are obligated **under Article 25** of the Charter of the United Nations to accept and carry out the Security Council's decisions.

NITI AAYOG ORGANISES KNOWLEDGE SHARING WORKSHOP ON NATURAL FARMING

A national workshop on Natural Farming was organized by Agriculture vertical, NITI Aayog involving Krishi Vigyan Kendras across India.

Natural Farming:

- Natural Farming is a **chemical-free** traditional farming method.
- It is an ecological farming approach established by **Masanobu Fukuoka**, a Japanese farmer and philosopher.
- It is considered as **agroecology** based diversified farming system **which integrates crops, trees and livestock** with functional biodiversity.
- Natural farming is a system where the laws of nature are applied to agricultural practices.
- This method works along with the natural biodiversity of each farmed area, encouraging the complexity of living organisms, both plants, and animals that shape each particular ecosystem to thrive along with food plants.
- It is largely based on **on-farm biomass recycling** with major stress on **biomass mulching**, use of on-farm cow dung-urine formulations; **periodic soil aeration** and **exclusion of all synthetic chemical inputs.**

Advantages:

- **Increase in production**
- In several cases, higher yields per harvest were reported.
- **Livestock sustainability**
- The **integration of livestock** in the farming system plays an important role in Natural farming and helps in restoring the ecosystem.
- Eco friendly bio-inputs, such as Jivamrit and Beejamrit, are prepared from cow dung and urine, and other natural products.

- **Saving of water**
- By working with diverse crops that help each other and cover the soil to prevent unnecessary water loss through evaporation, Natural Farming optimizes the amount of 'crop per drop
- **Improvement in soil health and farmland ecosystem**
- The most immediate impact of Natural Farming is on the biology of soil—on microbes and other living organisms such as earthworms.
- **Cost- effective farming practices with scope for raising employment and rural development**
- Natural farming generates employment on account of natural farming input enterprises, value addition, marketing in local areas, etc
- **Reduce dependency**
- According to a report, natural farming will reduce dependency on purchased inputs and will help to ease smallholder farmers from credits burden.

Natural farming and organic farming:
Similarities:

- Natural and organic both are **chemical free** and more or less **poison free** farming methods.
- Both systems discourage farmers from using any chemical fertilizers, pesticides on plants and in all agricultural practices.
- Both farming methods encourage farmers to use **local breeds of seeds**, and **native varieties** of vegetables, grains, pulses and other crops.

- Organic and natural farming methods **promote nonchemical**
- **and homemade pest control methods.**

Key differences:

Organic Farming	Natural Farming
Organic fertilizers and manures like compost, vermicompost, cow dung manure, etc. are used.	**No external fertilizers** are added to soil or give to plants whatsoever.
It requires basic agro practices like **plowing, tilting, mixing of manures, weeding**, etc. to be performed.	There is **no plowing**, no tilting of soil and no fertilizers, and no weeding is done
It is **expensive** due to the requirement of bulk manures, and it has an ecological impact on surrounding environments	It is an extremely **low-cost** farming method, completely moulding with local biodiversity.

Paramparagat Krishi Vikas Yojana:**Schemes in India to promote organic/natural farming:**

- It is a sub-component of **Soil Health Management scheme** under **National Mission of Sustainable Agriculture.**
- It promotes **cluster based organic farming** with PGS (Participatory Guarantee System) certification.
- Cluster formation, training, certification and marketing are supported under the scheme.

Bharatiya Prakritik Krishi Paddhati Programme (BPKP):

- In India, Natural farming is promoted as Bharatiya Prakritik Krishi Paddhati Programme (BPKP) under centrally sponsored scheme- Paramparagat Krishi Vikas Yojana (PKVY).

Aim:

- To **promote traditional indigenous practices** which reduces externally purchased inputs.

Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)

- The scheme promotes **third party certified organic farming of niche crops** of north east region through Farmer Producer Organisations (FPOs) with focus on exports.
- Farmers are given **assistance** of **Rs 25,000 per hectare** for three years for organic inputs including organic manure and bio-fertilisers among other inputs.
- Support for formation of FPOs, capacity building, post-harvest infrastructure up to Rs 2 crore are also provided in the scheme.

Capital Investment Subsidy Scheme (CISS) under Soil Health Management Scheme:

- Under this scheme, **100 percent assistance** is provided to state government, government agencies **for setting up of mechanised fruit and vegetable market**, waste and agro waste compost production unit.

National Mission on Oilseeds and Oil Palm (NMOOP)

- Under the Mission, financial assistance at 50 percent subsidy to the tune of Rs. 300 per hectare is being provided for different components including bio-fertilisers and supply of Rhizobium culture.

National Food Security Mission (NFSM)

- Under NFSM, financial assistance is provided for promotion of bio-fertiliser (Rhizobium/PSB) at 50 percent of the cost limited to Rs 300 per hectare.

COAL STOCKING NORMS FOR THERMAL PLANTS REVISED: GOVT TO LOK SABHA

Recently, the Union ministry has approved the new coal stocking norms for thermal power plants across the country, which will give more flexibility to them.

New norms proposed by the Central Electricity Authority

- Allow **lower fuel stocks during the periods of low demand** and **mandate larger inventories during high-demand seasons.**
- Mandates the coal stock of **17 days at pit head stations** and **26 days at non-pit head stations** to be maintained by power plants from February to June every year.
  -
    - **Non-pit head plants:** power plants where the coal mine is more than 1,500 km away.
  - The new methodology implies that power plants which have lower utilisation rates will need to stock more coal than they did earlier.
  - **Need:** To avoid repeat of the recent coal crisis when a significant capacity of generating station had to be shut down due to low coal stocks.

- **Penalty for power plants** for keeping **lower** than prescribed **fuel stocks.**
- Daily coal requirement at the power plant at any given day will be **calculated based on 85% plant load factor (PLF).**

Central Electricity Authority (CEA)

- It is a **statutory organisation** constituted under **Electricity Supply Act 1948,** which has been superseded by section 70(1) of the Electricity Act 2003.
- **Aim:** To ensure reliable 24×7 power supply of adequate quality to all consumers in the country.
- It **advises the government on policy matters and formulates plans for the development of electricity systems.**

Functions of CEA:

- It prescribes the standards on matters such as **construction of electrical plants, electric lines and connectivity to the grid, installation and operation of meters** and safety and grid standards
- It is responsible for **concurrence of hydro power development**

schemes of central, state and private sectors.

- It helps in **promoting the integrated operations of the regional power grids** and the evolution of a national grid.
- It **advises central government, state governments and regulatory commissions** on all

technical matters relating to **generation, transmission and distribution of electricity.**

- Its responsibility also includes **reliable data collection/ management/dissemination of the power sector.**

'PAIKA BIDROHA NOT 1ST WAR OF INDEPENDENCE'

Recently, the Culture Ministry had received a reference from the Odisha Chief Minister that the Paika rebellion should be declared the first war of Independence.

Paika rebellion

- Paika rebellion is also called the **Paika Bidroha**.
- It was an armed rebellion **against Company rule** in India in 1817.

Historical Background:

- o The Paikas were the **traditional militia of Odisha.**
- o The Paikas were organised into three ranks **distinguished by their occupation and the weapons** they wielded.

Origin:

- The origins of the Paika Rebellion lay in several social, economic and political causes.
- Odisha had four ports for trading, with the networks in the region involving millions of traders
- o But East India Company, to protect their monopolies has closed these ports which alienates large swathes of the local population.
- The Paikas were also subjected to extortion by the Company administration and its servants.

- The spark was lighted by the arrival of a body of Khonds from Gumsur intothe Khurda territory in March 1817.

Leaders and participants:

- The Paika Rebellion was led by **Bakshi Jagabandhu.**
- o The former Bakshi or commander of the forces of the Raja of Khurda.
- **Raja Mukunda Deva**, the last King of Khurda was another leader of the Paika rebels.
- o **Effects of Bidroh:**
- **The rebels involved were awarded sentences of death, long-term imprisonment.**
- o A commission was appointed by the British officials to enquire into the rebellion and the guilties were brutally punished.

Odisha's administrative changes

- o Odias was employed by the government and entrusted with important tasks.
- This enables the indigenous people to develop a relationship with the British authorities through these employees.

Salt price reduction

- o The price of salt was reduced and more salt was made readily available to the populace.

- **Reduced revenue burden on local zamindars**
  - The extortionist land revenue policy of the Company caused

resentment among zamindars and peasants alike.

SEEVELI - PERMISSION TO PARADE 11 ELEPHANTS AT THRIPUNITHURA TEMPLE FEST KICKS UP A ROW

- **Seeveli** is a **temple procession** of deity held on the temple premises in the morning and in the late evening.
- It is the most popular **daily ritual** in Kerela.
- This ritual includes **colourful procession of elephants**, wearing **gold-plated caparison, bells, necklaces**, etc.
  - The elephant that carries the **Uttchavar idol** is normally

flanked by other decorated elephants, forming a small pageant.
  - Procession in the front is always accompanied by music - mostly percussion instruments such as the **panchavadyam** (five instruments out of which three are percussion, one is wind, and the other a pair of cymbals) and **nadaswaram** (a wind instrument).

GOVT MAKES GOLD HALLMARKING MANDATORY: WHAT IT MEANS

Recently, The Government of India has made **hallmarking of gold jewellery mandatory** in the country.

Bureau of Indian Standards

- **Parent agency:** Ministry of Consumer Affairs, Food, and Public Distribution
- It is the **National Standards Body of India** under the Department of Consumer affairs.
- **Headquarters:** Delhi
- It is established by the Bureau of Indian Standards Act, 2016 which came into effect on 12 October 2017.
- **Ex-officio President of the BIS:** The Minister in charge of the Ministry or Department having administrative control of the BIS.
- **Members:** 25 members drawn from Central or State Governments, industry, scientific and research

institutions, and consumer organizations.

- **Aim:**
  - It is responsible for the harmonious development of the activities of standardization.
  - It examines marking and quality certification of goods and for matters connected therewith or incidental thereto.

The activities of BIS can be broadly grouped under the following heads:

- **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, Mechanical Engineering,

Management & Systems, Metallurgical Engineering etc.

- **International activities**
- BIS is the National Enquiry Point for **World Trade Organisation – Technical Barriers to Trade (WTO-TBT) Matters.**
- **Product Certification**
- 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.
- **Hallmarking**

- Hallmarking of Gold Jewellery was started by BIS in April 2000 to provide third party assurance to consumers on the purity of gold jewellery or its fineness.
- **Laboratory services**
- To cater to the needs of testing for certification activity, BIS has established eight laboratories in the country to discharge the work related to testing of products for conformity assessment.
- **Training services** - National Institute of Training for Standardisation
- **Consumer Affairs and Publicity**

MAHAPARINIRVAN DIWAS WAS CELEBRATED BY PAYING TRIBUTE TO DR. BR AMBEDKAR

Recently, India observed December 6 as **Mahaparinirvan Divas** to mark the death anniversary of Dr. Bhimrao Ramji Ambedkar.

B.R. Ambedkar

- He was an Indian jurist, economist, and social reformer who fought economic and social discrimination against the untouchables (now Dalits) in India's Hindu society.
- **Born on:** 14 April 1891 in Mhow, Madhya Pradesh.
- In 1955, Ambedkar converted to **Buddhism**, together with about 200,000 fellow Dalits, at a ceremony in Nagpur.
- The credit of giving place to "**Ashok Chakra**" in the Indian Tricolour also goes to Dr. Babasaheb Ambedkar. Although the National flag was designed by **Pingali Venkayya**.
- **Died on:** 6th December 1956 in Delhi
- **Academic Achievement:**

- He **was the first Indian** to get a **Doctorate (Ph.D.) degree in Economics from abroad**.
- He is the **only Indian whose statue is attached to Karl Marx** in the London Museum.
- He was a master in 64 subjects.
- He knew 9 languages like Hindi, Pali, Sanskrit, English, French, German, Marathi, Persian, and Gujarati.
- He studied at universities in the US, Britain, and Germany. After obtaining a degree in economics and political science from Bombay University.
- **Political Contribution:**
- In 1936, Ambedkar wrote his magnum opus 'Annihilation of Caste', a fiery critique of the caste system.
- As a law minister, he took a leading part in framing the Constitution. He also played a critical role in forming the Reserve Bank of India.

o He became the chairman of the committee for drafting the constitution

PRESIDENT's STANDARD

- President's standard to be awarded to 22nd Missile Vessel Squadron
- The President's Standard is the **highest honour** bestowed by the **Supreme Commander to** a **military unit** in recognition of the service rendered to the nation.
- It is the same honour as the **President's Colours**, awarded to a **relatively smaller military formation** or unit.

FUNERAL OF 14 CIVILIANS HELD AS PROTESTS CONTINUE IN NAGALAND

Recently, the para commandos killed six coal miners in Nagaland, believing they were targeting insurgents.

Armed Forces Special Powers Act (AFSPA):

- Armed Forces Special Powers Act (AFSPA), 1958 is an **act of the Parliament of India** that **grants special powers** to the Indian Armed Forces **to maintain public order in "disturbed areas"**
- o The disturbed areas include Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.
- The Act came into force in the context of **increasing violence in the North-eastern States** decades ago.

Disturbed area?

- A disturbed area is one which **is declared by notification under Section 3 of the AFSPA**.
- o As per **Section 3,** it can be invoked in places where "the use of armed forces in aid of the civil power is necessary".
- The **Central Government, or the Governor of the Stat**e or administrator of the Union Territory **can declare the whole or part of the State or Union Territory as a disturbed area**.
- o A suitable notification would have to be made in the Official Gazette.
- According to the **Disturbed Areas (Special Courts) Act, 1976** once declared 'disturbed', the area has to maintain status quo for a minimum of 3 months.

Provisions:

- AFSPA gives armed forces the **authority to use force or even open fire** after giving due warning if they feel a person is in contravention of the law.
- The Act further provides that if "reasonable suspicion exists", the armed forces can also arrest a person without warrant; enter or search premises without permission.
- The '**special powers**' under **Section 4** provide that:
- o Power to **use force, including opening fire**, even to the extent of causing death

- o Power to **destroy structures** used as hide-outs, training camps or as a place from which attacks are or likely to be launched etc;
- o Power to **arrest without warrant** and to use force for the purpose;
- o Power to **enter and search premises** without warrant to make arrest or recovery of hostages, arms and ammunition and stolen property etc.
- **Section 6** of the Act establishes that **no legal proceeding can be brought against any member of the armed forces acting under the AFSPA**, without the permission of the Central Government.

Rights of persons arrested under this Act:

- Any person arrested and taken into custody shall be handed over to the officer in charge of the nearest police station with the least possible delay, along with a report of the circumstances occasioning the arrest.

Criticism of the Act

- It makes **no distinction between a peaceful gathering** of five or more people and a berserk mob.
- It states that, "no prosecution can be initiated against an officer without the previous sanction of the Central government".
- o The logic behind the inclusion of this section is **to protect the officers from frivolous and misguided allegations.**
- The decision of the government to declare **a particular area**

'**disturbed' cannot be challenged in a court of law.**

- o Disturbed areas share a common experience of widespread human rights abuses during the imposition of the AFSPA.
- The **right to life is violated by section 4(a) of the AFSPA.**
- o Section 4(a) grants the armed forces power to shoot to kill in law enforcement situations without regard to international human rights law restrictions on the use of lethal force.
- The **right to liberty and security of person is violated by section 4(c) of the AFSPA**.
- o It fails to protect against arbitrary arrest by allowing soldiers to arrest anyone merely on suspicion that a "cognizable offence
- The **right to remedy is violated by section 6** of the AFSPA, which provides officers who abuse their powers under the AFSPA with immunity from legal accountability.
- The act **violates human rights**; hence it subsequently also violates the Universal Declaration of Human Rights (UDHR).
- It is said to have **failed in containing terrorism and restore normalcy** in disturbed areas, as the number of armed groups has gone up after the act was established

Need of the act

- AFSPA is required as it ensures **national security** through **counter-insurgency and counter-terrorist operations.**

- The **army cannot operate without the AFSPA**.
  o The army is trained to deal with the enemy, where notions like the use of 'minimum force' cannot be applied.
  o The army, while dealing with an adversary, can ill-afford to ask questions first and satisfy itself about the intentions, mala fide or otherwise, of a perceived enemy before shooting.
- It **keeps terrorism under check** by extracting information from apprehended terrorists.
  o extracting information from arrested terrorists often requires the use of third-degree methods
- **Terrorism would never have been rooted out in Punjab or Mizoram without the AFSPA**
  o There was a **rapid economic growth observed** from 1999 to 2015, once the army, along with the local governing authority and police had stabilized the social militancy eruptions.
- The **military law is prompt and strict in meting out punishment** to the guilty.
  o If any violation happens, it would be in the interest of the armed forces to take strict disciplinary action against the offenders as prescribed by the civil and military laws.
- Thus, **AFSPA is an organic framework governing the state**

and **livelihood of the people** when it comes to the North-eastern states.
  o A central authority is necessary in places where cultural differences and inter-tribal tensions exists.
  o The local governmental administration proved ineffective in these areas.

Dos and Don'ts by the Supreme Court

- The list of Dos and Don'ts drafted under the directions of the Supreme Court gives an outline of the protocol to be followed by the armed force personnel when deployed in a "disturbed area" under the Armed Forces Special Powers Act.
  o These **instructions are treated as binding instructions** which are required to be followed by the members of the armed forces

It talks about:

- Line of action before the operation, during the operation, after the operations.
- How to go about the due process of the civil courts if in case any legal complexities arise from the encounter.
- Acts and conducts to be steered clear of throughout the duration of deployment.
- Line of action as well as the code of conduct to be followed when providing aid to any civil authority

NAVY DAY

- PM greets Indian Navy on Navy Day.
- Navy Day in India is celebrated on **4 December** every year.

- **Aim:** To recognize the achievements and role of the Indian Navy to the country.

- On 4th December 1971, during, the Indian Navy undertook **Operation Trident.**
o It was an **offensive operation** launched **by the Indian Navy on** Pakistan's port city of **Karachi** during the Indo-Pakistani War of 1971.

o The operation saw the **first use of anti-ship missiles** in combat in the region.
- The Maratha Emperor, **Chhatrapati Shivaji Maharaj** is considered as "**Father of the Indian Navy**".

RRII 429
- Rubber Board has taken measures to **promote high yielding Indian clones RRII 429** in the North-East to boost productivity of rubber in the region.
o The region accounts for 18% of the total production of 7.15 lakh tonnes rubber in the country.

- **RRII 429** has superior performance compared to the currently cultivated RRIM 600.
- It has **vigorous growth** and attains capability nearly one year ahead of RRIM 600.
- The yield is 20-30 per cent higher.

ARMED FORCES FLAG DAY: HONOURING THE MEN IN UNIFORM
Armed Forces Flag Day is celebrated on 7th December every year in India.
- **Aim:** To collect the funds from people for the betterment of the Armed Forces Staff by selling Indian flags, batches, stickers etc.

History:
- A committee was set up on August 28, 1949, under the **Defence Ministry**. It decided to observe a Flag Day annually on December 7.
- The day is observed mainly to distribute flags to people and collect funds from them.
- The funds collected are used for the **welfare of serving personnel**, ex-servicemen and to rehabilitate battle casualties.

Significance:
Armed Forces Flag Day Fund:
- The government established the Armed Forces Flag Day Fund (AFFDF) to **aid in the welfare**

and rehabilitation of ex-servicemen (ESM).
- The fund collection is managed by the **Kendriya Sainik Board** (KSB), which is part of the Ministry of Defence.
o KSB at the Centre, the Rajya/Zila Sainik Boards are responsible for policy formulation and implementation of welfare schemes for Ex-Servicemen, **widows** and their dependents residing in their respective States/UTs/Districts.
- The **fund collection** is organised both by **official and non-official means** through voluntary organisations.
- There are 32 Rajya Sainik Boards and 392 Zila Sainik Boards in the country.

Management of ADDF:

- The management of ADDF rests with the managing committee whose chairman is the **Defence Minister**.
- **Other members**: three Service Chiefs, Defence Secretary, Ex-Servicemen Welfare / MoD and other senior Central Govt officials.

Role of Indian Army in Nation Building:

Ensuring a Secure Environment

- It is the **secure environment** provided by the army that ensures the path to prosperity and development for the country as a whole.
- The organisation is combating the scourge of **violence and terrorism** unleashed by secessionist elements, aided and abetted by adversarial powers.
- It ensures a safe environment for **internal progress** and prosperity.

Humanitarian Assistance

- The army occupies centre stage in **humanitarian assistance** and disaster relief.
- It is the army which is omnipresent during any **disaster relief efforts**.
- The **network of field hospitals**, its transportation assets, reconnaissance and communication resources with its nationwide reach has saved countless lives.

Infrastructure Development

- The Indian army is possibly the leading force for **inclusive development**.
- The **road and track infrastructure** in the remotest

areas has ensured outreach and connectivity with Indian citizens who inhabit these far-flung parts of the country.

- It has taken the lead in **building and running schools**, medical facilities and habitat enhancing infrastructure in distant border areas.
- It been playing a key role in **ecological sustenance** through the various territorial army units.

Boosting Domestic Manufacturing

- The army is a major stakeholder in the success of the **'Make in India'** pursuit.
- Manufacture of **military equipment** builds up a dual use ecosystem of items which in turn encourages entrepreneurship, generates employment
- **Make in India for defence equipment** will lead to an enhancement of defence exports, accrue forex earnings and contributing to the GDP.

Foreign Missions

- The army has leveraged its capacity being the largest contributor to worldwide **UN missions**.
- It provides support in terms of **capacity building** and capability development to various friendly foreign armies.

Trained Manpower

- Within the country the army has provided key support to the **central armed police forces** in terms of training, equipment etc.

- **Example**: The training and interaction to the youth of India through National Cadet Corps.

PRESIDENT OF INDIA VISITS RAIGAD FORT AND PAID TRIBUTES TO CHHATRAPATI SHIVAJI MAHARAJ

Recently, the President of India has visited the Raigad Fort to pay tribute to Chhatrapati Shivaji Maharaj.

Raigad fort

- **Raigad Fort** is a hill fort situated in Mahad, Raigad district of Maharashtra.
- It is one of the strongest fortresses on the **Deccan Plateau.**
- Many constructions and structures on Raigad were built by **Chhatrapati Shivaji Maharaj.**
- The fort was earlier called **Rairi**, and it was the seat of the **Maratha clan Shirke** in the 12th century.
- The fort was the location for an **armed campaign executed by the British East India Company** in 1765.
- The fort was **looted and subsequently destroyed by British forces**.

Chhatrapati Shivaji Maharaj

- **Born:** 19 February 1630
- **Reign:** 1674–1680 AD
- Shivaji was an Indian ruler and a member of the **Bhonsle Maratha clan**.
- He established the Maratha kingdom, with **Raigarh** as its capital.
- Shivaji was crowned as the **Chhatrapati** on **6 June 1674.**
- **Died:** 3 April 1680
- **Administration during Shivaji Regin:**

- o The administration style under the reign of Shiva ji was influenced by **Deccan administrative practices.**
- o Shivaji has appointed a group of eight ministers who were called '**Astapradhan'**. Their prime task was to assist Shivaji in the administrative helm of affairs.
- o These eight ministers can be classified as:
- **Peshwa:**
- o The minister of finance and general administration.
- **Senapati:**
- o The Maratha army chief and who were posted of honor.
- **The Majumdar**
- o The accountant or the minister of accounts for the Maratha Empire.
- **The Wakenavis**
- o The minister of intelligence, post, and internal affairs.
- **The Surnavis or chitnis**
- o Minister responsible to assist the king with his correspondence.
- **The Dabir**
- o The minister of foreign affairs and the master of ceremonies.
- **The Nayayadish and Punditrao**
- o The minister of justice and charitable grants.
- **Deshmukh**
- o The minister with the skills of an able general, a skillful tactician, and a shrewd diplomat.

- **Important Battles won by Shivaji:**
o **Conquest of Torana:**
- The fort of Torana was the first fort captured by Shivaji which led to the foundation of his warrior skills at the age of 16.
o **Conquest of Kondana fort**
- The battle of Kondana was fought between Tanaji Malusare, a commander of Maratha ruler Shivaji and Udaybhan Rathod, fort keeper under Jai Singh I.
o **Alliance with Qutub Shahi rulers Golconda:**
- Shivaji conquered the forts of Gingee and Vellore in Karnataka, under the influence of the alliance with Qutub Sahi
- **Achievements of Shiva Ji**
o **India's first-ever navy in the modern era** was built by Shivaji to protect the coast of Maharashtra.
▪ The Maratha Navy guarded the Jaigad, Sindhudurg, Vijaydurg, and other forts along the coast of Maharashtra.
o Shivaji, a devout Hindu, **never compromised on his religion**.
▪ But he was a secular king as he also believed in the peaceful co-existence of different religions. He never raided any religious place during his rule.
o Shivaji **revived ancient Hindu political ideas and judicial practices**. He also actively encouraged Marathi's language usage.
o He was **extremely caring towards the common people** and never allowed raids on households or religious places.
o His goal was always to **establish a free kingdom in the country** and motivated his troops to fight for India and not any king in particular.
o He **stood for the honour of women** and made sure none were taken, prisoners.

INDIA SUCCESSFULLY TEST-FIRES AIR VERSION OF BRAHMOS SUPERSONIC MISSILE

India successfully test-fired the air version of the BrahMos supersonic cruise missile from supersonic fighter aircraft Sukhoi 30 MK-I of the Integrated Test Range at Odisha.

Brahmos Missile
- It is the **world's fastest supersonic cruise missile** being developed by BrahMos Aerospace.
o **BrahMos Aerospace-** It is a joint venture between Defence Research and Development Organisation (DRDO) of India and NPO Mashinostroeyenia (NPOM) of Russia.
- **Aim-** Development, production and marketing of the supersonic cruise missile.
- It is named after- **the Brahmaputra River in India and the Moskva River in Russia**.

Features-
- It has a flight range of up to **290km**
- It can reach a maximum **speed of Mach 3.**

- The missile can be installed on **ships, submarines, aircraft and ground vehicles**.
- It operates on '**Fire and Forget**' principle.

o It is a type of missile guidance which does not require further guidance after launch.

DAMODAR MAUZO AND NILMANI PHOOKAN JR WIN 57TH AND 56TH JNANPITH AWARD

Assamese poet **Nilmani Phookan** and Konkani novelist **Damodar Mauzo** won the 56th and 57th Jnanpith Award.

Jnanpith Award:

- Jnanapith is the **highest literary award** in India.
- It was instituted in 1961.
- **It is awarded annually** for the best creative literary writing to writers in any of the 22 scheduled languages recognized in the Indian Constitution.
- The prize carries a cash award, a citation, and a **bronze replica of Vagdevi** (Saraswati).
- It is sponsored by the cultural organization **Bharatiya Jnanpith.**

LAYING OUT A PATH FOR INDIA'S NATIONAL SUICIDE PREVENTION STRATEGY

The Lancet has published a paper titled **'**The national suicide prevention strategy in India: Context and considerations for urgent action'.

Highlights:

- India reports the **highest number of suicide** deaths in the world.
- The **suicide rate among Indian girls and women** continues to be twice the global rate.
- o India's contribution to global suicide deaths has increased from 27·3% in 1990 to 36·5% in 2019 among women and girls.
- Suicide accounts for **most deaths in the 15–39 years** age group compared with other causes of death.
- **India is projected to fall short of the Sustainable Development Goal (SDG) 2030** target of reducing the **age-standardised suicide death rate (ASDR)** by one third.

The ratio of ASDR for men and boys to ASDR for women and girls in India was 1·3 in 2019.

Method of suicide:

- **Hanging** is the most common method of suicide, followed by pesticides poisoning, medicine overdose, and self-immolation.

Causes of suicide

- **Major:** socioeconomic circumstances, interpersonal problems, social and cultural conflicts, alcoholism, unemployment, and poor health
- **Other**: absenteeism in school or college, physical and sexual abuse, intergenerational conflicts, academic competition, fear of academic failure, and parental pressures
- COVID-19 pandemic also increases the cases of suicide.

Policy and system response for suicide prevention

- **The National Mental Health Policy of India,** aimed to reduce suicide deaths and suicide attempts through various means such as:
    - o suicide prevention programmes,
    - o restricting access to the means of suicide (pesticides in particular),
    - o framing guidelines for responsible media reporting,
    - o training community leaders.

UNION CABINET APPROVES FUNDING OF KEN-BETWA RIVERS INTERLINKING PROJECT

Recently, the Union Cabinet approved the funding and implementation of Ken-Betwa inter-linking of rivers project.

Ken-Betwa inter-linking of rivers project:

- It is the **first project** under the **National Perspective Plan** for interlinking of rivers.
- It envisages transferring water from the **Ken River to the Betwa river**, both **tributaries of** the **Yamuna.**
- It will be 221 km long, including a 2-km long tunnel.
- **States Concerned**: Uttar Pradesh and Madhya Pradesh
- **Daudhan Dam** will be built on **Ken River** for water conservation.

Significance of the Project:

- The project will be of immense benefit to the **water-starved** region of **Bundelkhand.**
- It is expected to provide:
- o Annual **irrigation** of 10.62 lakh hectares
- o **Supply drinking water** to about 62 lakh people
- o Generate 103 MW of **hydropower** and 27 MW of **solar power.**

Implementation:

- A Special Purpose Vehicle (SPV) called **Ken-Betwa Link Project Authority (KBLPA)** will be set up to implement the project.
- The Centre has set in motion the process of creation of **National Interlinking of Rivers Authority (NIRA).**
- o It is an independent **autonomous body** for planning, investigation, financing and implementation of the interlinking of river (ILR) projects in the country.
- The **NIRA** will have **powers to set up SPV** for individual link projects.

Benefits of River Linking:

- River Linking is a project of linking two or more rivers by creating a network of manually created reservoirs and canals, and providing land areas that otherwise does not have river water access.
- It offers many benefits like:

Irrigation

- By linking the rivers, vast amount of land areas which will not otherwise be irrigated and are unusable for agriculture become fertile.

Flood prevention

- During heavy rainy seasons some areas can experience heavy floods while other areas might be experiencing drought like situations.
- With network of rivers this problem can be avoided by **channeling excess water** to areas that are not experiencing a flood or are dry.

Generation of electricity

- With new canals built, feasibility of new dams to generate **hydroelectric power** becomes a possibility.

Transportation

- Newly created network of canals opens up **new routes and ways of water navigation**, which is generally more efficient and cheaper compared to road transport.

Issues and Concerns

Ecological issues

- One of the major concerns is that **rivers change their course** in 70–100 years and thus once they are linked, future change of course could create huge **practical problems** for the project.

Aqua life

- There would be a decrease in downstream flows resulting in **reduction of fresh water inflows** into the seas seriously jeopardizing aquatic life.

Deforestation

- Creation of canals would need large areas of land resulting in **large scale deforestation** in certain areas.

Areas getting submerged

- Possibility of new dams comes with the threat of large otherwise **habitable or reserved land** getting **submerged under water** or surface water.

Displacement of people

- As large strips of land might have to be converted to canals, a considerable population living in these areas must need to be rehabilitated to new areas.

National Perspective Plan for interlinking of rivers:

- It was prepared by the then **Ministry of Irrigation** (now **Ministry of Jal Shakti**) in August 1980.
- **Objectives:**
- **Water resources development** through inter basin transfer of water.
- **Transfer of water** from **water surplus basins to water-deficit basins**.
- Under the NPP, the National Water Development Agency (NWDA) has identified 30 links (**16 under Peninsular Component and 14 under Himalayan Component**) for preparation of Feasibility Reports (FRs).
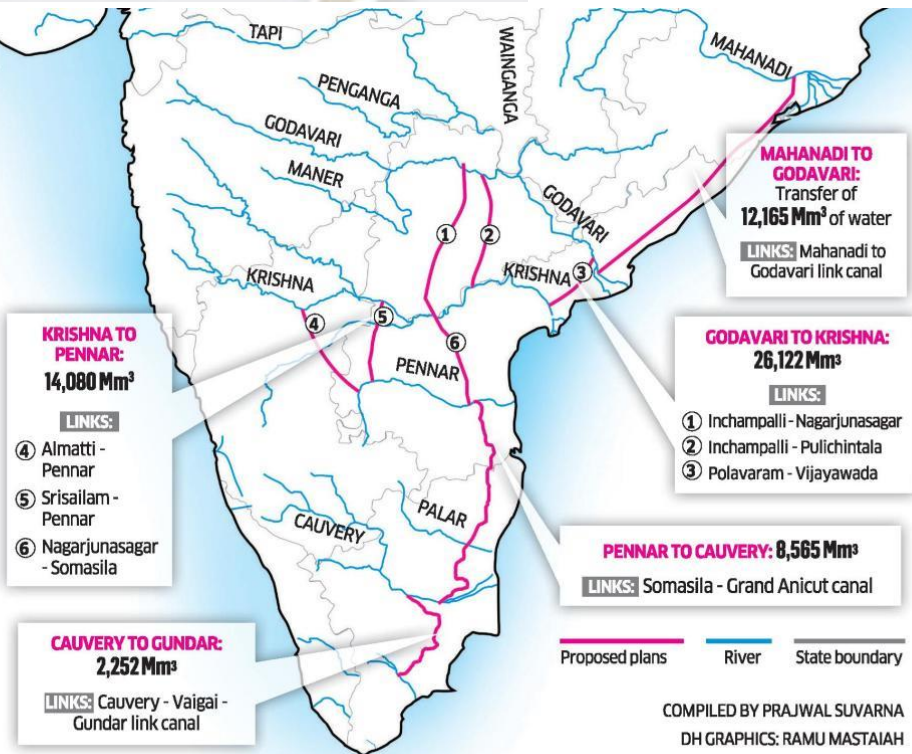
Tributaries of Yamuna:

- Ken and Betwa are the right bank tributaries of River Yamuna.

Left bank tributaries include:

- Tons
- Hindon
- Hanuman Ganga
- Sasur Khaderi

Right Bank Tributaries include:

- Betwa
- Sindh
- Ken
- Giri
- Baghain
- Chambal

GENERAL BIPIN RAWAT PASSES AWAY: HOW ROLE OF CDS CAME ABOUT AND HOW HIS DEMISE CREATES A VOID IN INDIA'S MILITARY STRUCTURE

After the death of the **Chief of defence staff** General Bipin Rawat in chopper crash, it created an unforeseen situation for the security establishment.

Current status:

- **No line of succession**: There is **no immediate line of succession** envisaged for the CDS.
- Although there is **an unofficial Vice Chief of Defence Staff**, who is a three-star officer.
- Now **Cabinet committee on security (CCS)** will decide who will take the responsibility of **CDS.**
  - **CCS** is the final **decision-making body** on senior appointments in the national security apparatus, defence policy and expenditure, and generally **all matters of India's national security.**
  - The CCS is **chaired by the Prime Minister of India.**

Chief of defence staff

- **CDS** is **the military head and chairman** of the Chiefs of Staff Committee of the Indian Armed Forces.
- He is the **senior-most and highest-ranking uniformed officer on active duty** in the Indian military.
- **The first Chief of Defence Staff** was Bipin Rawat.
- He is a **four-star officer** selected from among the serving officers of the Indian Armed Forces.
- A gazette notification issued by government set **65 as the maximum serving age for the CDS**.
- The creation of a CDS was suggested almost two decades ago by **the Kargil Review Committee (KRC).**
- **KRC** was headed by **K Subrahmanyam,** recommended the **appointment of a CDS** as a means to provide **single-point professional military advice** to the political leadership.

Functions of Chief of Defence Staff

- To head the **Department of Military Affairs in Ministry of Defence** and function as its Secretary.
- To act as the **Principal Military Advisor** to defence minister on all Tri-Service matters.
- To function as the **Permanent Chairman** of the Chiefs of Staff Committee.
- To **administer the Tri-Service organizations**/agencies/commands.
- To be **a member of Defence Acquisition Council** chaired by defence minister.
- To **function as the Military Advisor** to the Nuclear Command Authority.
- To **bring about jointness** in operation, logistics, transport, training, support services, communications, repairs and maintenance, etc of the three Services.
- To ensure **optimal utilisation of infrastructure** and rationalise it through jointness among the Services.
- To implement **Five-Year Defence Capital Acquisition Plan and Two-Year roll-on Annual Acquisition Plans**, as a follow up

of Integrated Capability Development Plan.

- To **assign inter-services prioritisation** to capital acquisition proposals based on the anticipated budget.
- To bring about reforms in the functioning of three Services to augment combat capabilities of the Armed Forces by reducing wasteful expenditure.

Role of CDS:

CDS is a dual hated role.

- The dual-hatted role refers to the two hats the CDS wears: one of the permanent Chairman of the Chiefs of Staff Committee and the other

of the head of the Department of Military Affairs (DMA).

- The former is a **military role** while the latter is a **role in the government**.

CDS is not responsible for the defence of country.

- As per the gazette notification issued by the government, the **Department of Defence — headed by the Defence Secretary** — will be responsible for the "defence of India and every part thereof.
- CDS **will not exercise any military command**, including over the three service chiefs

PM MODI PAYS TRIBUTE TO RAJAJI ON HIS BIRTH ANNIVERSARY

Prime Minister of India paid tribute to freedom fighter and scholar Chakravarti Rajagopalachari on his 143rd birth anniversary.

C. Rajagopalachari:

- Chakravarti Rajagopalachari, popularly known as Rajaji or C.R., is also known as **Mootharignar Rajaji.**
- He was an Indian statesman, writer, lawyer, and independence activist.
- He was born in 1878 in Tamil Nadu.

Pre-independence:

- **He was an ardent supporter of Gandhi.**
- o He participated in Gandhi's **Non-Cooperation Movement** and was also jailed.
- o He **opened his own ashram to promote Gandhi's principles** of Hindu-Muslim harmony and the abolition of untouchability.

- o He was also a **proponent of khadi.**
- o He became the editor of Gandhi's newspaper, **Young India.**
- o He was described by Gandhi as the "**keeper of my conscience**".
- He joined the **Indian National Congress**
- o He participated in the agitations against the Rowlatt Act, joining the Non-Cooperation movement, the Vaikom Satyagraha, and the Civil Disobedience movement.
- He carried out **Salt Satyagraha at Vedaranyam** in the Madras Presidency when Gandhi led Dandi March in 1930, to break the slat law
- He was **against Gandhi's Quit India Movement.**
- o He favoured talks with both Muhammad Ali Jinnah and the Muslim League and proposed what later came to be known as the C. R. formula.

- He was appointed Minister of Industry, Supply, Education and Finance in the Interim Government of India, in 1946
- He was **elected to the Constituent Assembly** from Madras in 1946.
  - He was a part of Advisory Committee and Sub-Committee on Minorities.

Post-Independence:

- Rajagopalachari was the **Governor of West Bengal from 1947 to 1948**.
  - He was the **last Governor-General of India,** as India soon became a Republic in 1950.
  - He was also the **first Indian-born governor-general,** as all previous holders of the post were British nationals
- He was the **Chief Minister of Madras state from 1952 to 1954.**
- He **founded the Swatantra Party**, which fought against the Congress in the 1962
  - He resigned from the Indian National Congress due to the **differences between Nehru and Rajagopalachari.**

Major Works:

- Rajagopalachari was an accomplished writer who made lasting contributions to Indian English literature
- He printed Gandhi's jail experience onto pamphlets in 1913.
- He is also credited with the **composition of the song Kurai Onrum Illai** set to Carnatic music.
- He published **Siraiyil Tavam** (Meditation in jail) in 1922
  - it is the day-to-day account of his first imprisonment by the colonial government from 21 December 1921 to 20 March 1922.
- He wrote an abridged retelling of the Mahabharata in English in 1951
- He translated the **Thirukkural**, books on the **Bhagavad Gita** and the **Upanishads** in **English** as well as **works on Socrates**, and **Marcus Aurelius** in **Tamil**

Contributions:

- He pioneered temperance and temple entry movements in India and advocated **Dalit upliftment.**
- He introduced the compulsory study of Hindi and was criticized for it.
- He was the **founder of the Salem Literary Society.**
- He vehemently opposed the use of nuclear weapons and was a proponent of world peace and disarmament.
- During his lifetime, he also acquired the nickname '**Mango of Salem**'

Recognitions:

- He was one of the first recipients **the Bharat Ratna.**
- He was awarded the **Sahitya Akademi Award** in 1958 for works in the Tamil language for his retelling of the Ramayana – **Chakravarti Thirumagan**

PM MODI PAYS TRIBUTES TO NINTH SIKH GURU TEG BAHADUR

Recently, Prime minister of India paid tribute to **Sri Guru Teg Bahadur** on his **martyrdom day**.

Guru Teg Bahadur Ji

- **Born:** 21 April 1621, Amritsar
- He was the **ninth of ten Gurus** who founded the Sikh religion and **the leader of Sikhs**.
- He was born as Tyaga Mal. The name Guru Tegh Bahadur was given to him by **Guru Hargobind**.
- He was taught by **Bhai Buddha** who trained him in archery and horsemanship and Bhai Gurdas who taught him old classics.
- He was considered a principled and fearless warrior.
- While at town of Bakala, he meditated at the place for about 26 years and 9 month. He spent most of his time meditating.

- He purchased Anandpur from the ruler of Bilaspur in 1665 and founded **Anandpur Sahib** near the ruins of ancient Makhowa. He called it **Chak Nanki** after the name of his mother.
- He contributed many hymns to the **Guru Granth Sahib** including the Saloks, or couplets.
- His works include **116 shabads, and 15 ragas.** He was a learned spiritual scholar and a poet whose 115 hymns are included in **Sri Guru Granth Sahib.**
- He is known to have travelled extensively to preach the teachings of Nanak.
- **Died:** 11 November 1675, Delhi, Mughal Empire.
- Guru Tegh Bahadur was **executed** in Delhi under the orders of the Mughal Emperor **Aurangzeb**.

MATHEMATICIAN NEENA GUPTA WINS 2021 RAMANUJAN PRIZE

- Neena Gupta, a mathematician at the Indian Statistical Institute, receives 2021 **Ramanujan Prize for Young Mathematicians** from Developing Countries.
  - She was given the award for her outstanding work in **affine algebraic geometry** and **commutative algebra**, informed the Ministry of Science and Technology.
- It was **first awarded in 2005.**

- It is administered by the **Abdus Salam International Centre for Theoretical Physics (ICTP) jointly with the Department of Science and Technology (DST)** Government of India **and** the **International Mathematical Union (IMU).**
- It is given **annually** to an eminent Mathematician who is less than **45 years of age.**

DELIMITATION IN JAMMU AND KASHMIR

Delimitation commission for J&K is meeting for redrawing the boundaries of Jammu and Kashmir.

Delimitation Commission for J&K

- In March 2020, six months after the reorganization of Jammu and Kashmir, the Delimitation Commission was constituted.

- The commission has five MPs from Jammu and Kashmir as associate members.
- Their recommendations are, however, **not binding on the commission.**

What is delimitation?

- Delimitation means the act or process of **fixing limits or boundaries of territorial constituencies** in a country or a province having a legislative body.
- This exercise is carried out by a Delimitation Commission, whose orders have the force of law and cannot be questioned before any court.

Constitutional provisions:

- **Article 82:** This provides the **Parliament with the authority to enact a Delimitation Act after every Census.**
- **Article 170:** This provides for the **States to get divided into territorial constituencies** as per the Delimitation Act after every Census.
- The Union government sets up a Delimitation Commission once the Act is in force.

Why delimitation

- **To ensure uniformity**
- between the different states,
- between the different constituencies in the same state.

Delimitation commission of India

- The Delimitation commission or Boundary commission of India is a commission **established by the Government of India under the provisions of the Delimitation Commission Act.**

- The main task of the commission is **redrawing the boundaries of the various assembly and Lok Sabha constituencies** based on a recent census.
- **The representation from each State is not changed** during this exercise.
- However, **the number of SC and ST seats in a state are changed** in accordance with the census.
- **Delimitation commissions have been set up four times in the past** — 1952, 1962, 1972 and 2002 — under Delimitation Commission Acts of 1952, 1962, 1972 and 2002.
- **Following the 84th amendment to the Constitution,** in 2002, Delimitation is to be done in 2026 if not postponed.
- **The base year will be 2021 population.** However, the population control policy will be kept in center of this.

Members:

The Delimitation Commission is appointed by the **President of India** in collaboration with the Election Commission of India.

It has three members:

- **Chairperson:** A serving or retired judge of the Supreme Court
- **Chief Election Commissioner or the Election Commissioner** nominated by the CEC
- **State Election Commissioner** as ex-officio members

Reason for skipping delimitation after 1981 and 1991 Censuses

- As per constitution, the ratio between the number of Lok Sabha seats in a state and the population of the state is, as far as practicable, the same for all states.
- Although unintended, this meant that **states that took little interest in population control could end up with more seats in Parliament**, while the southern states that promoted family

planning could end up with fewer seats.

o Amid these concerns, the Constitution was amended in 1976 to **suspend delimitation until 2001.**

Reason for suspending till 2026:

- 84th Amendment to the Constitution extended the freeze on the number of seats until 2026, by when the country was **projected to achieve a uniform population growth rate.**

DRDO TEST-FIRES TWO INDIA-MADE MISSILES

Recently, DRDO and Indian Air Force tested the indigenously designed and developed **SANT** (**Standoff Anti-tank Guided Missile**) and **PINAKA** system at Pokhran firing range.

Pinaka missile

- Pinaka is a multiple rocket launcher produced in India.
- **Designed By:** Armament Research and Development Establishment, Defence Research and Development Organisation (DRDO) for the Indian Army.
- The system has a **maximum range of 40 km for Mark-I and 60 km for the Mark-I enhanced version**.
- Pinaka saw service during the Kargil War, where it was successful in neutralizing enemy positions on the mountain tops.
- **Modes of operation:** The launcher can operate in 4 modes: Autonomous mode, Stand-alone mode, Remote mode and Manual mode
- **Variants:**
o **Mk-I:** the range is 37.5 km

o **Mk-I Enhanced:** the range is 45 km
o **Mk-II:** the range is 60 km
o **Guided Pinaka:** the range is 75 km
o **Mk-II ER:** the range is 90 km
o **Mk-III:** the range is 120 km

Nag missile

- **Type:** Anti-tank guided missile
- **Designed by:** Defence Research and Development Organisation
- **Manufacturer:** Bharat Dynamics Limited
- It is also known as "**Prospina**" for the land-attack version.
- It is an Indian third-generation, **all-weather, fire-and-forget, lock-on after launch, anti-tank guided missile** (ATGM).
- **NAG is having an Operational range:** 500 m to 20 km.
- Development of the Nag is part of the **Integrated Guided Missile Development Program.**
- **Variants:**

The Nag has five variants under development:

- **Land version:**
- o It is for a **mast-mounted system**.
- **Helicopter-launched Nag:**
- o It is fired from helicopters and is known as **Dhruvastra**.
- **Man-portable version:**
- o It is an air-launched version that will replace the current **imaging**

infra-red (IIR) to **millimetric-wave** (mmW) active radar homing seeker.
- **Nag Missile Carrier (NAMICA)**
- o The Nag Missile system fired from NAMICA can take out targets at ranges of 4 to 7 kilometres.

WHAT IS CHANGING AT THE ANCIENT KASHI VISHWANATH TEMPLE COMPLEX?

Prime Minister of India inaugurated the Kashi Vishwanath **Corridor connecting** the ancient **Kashi Vishwanath Temple** in Varanasi to the **ghats of the Ganga**.
Aim:

- To **decongest and also transform** the temple complex.
- To **boost tourism** in the region, including the Buddhist pilgrimage site of Sarnath.

CALCUTTA HIGH COURT SEEKS CENTRE'S RESPONSE IN PLEA SEEKING PRINTING OF NETAJI SUBHASH CHANDRA BOSE'S PICTURE ON INDIAN CURRENCY NOTES

Recently, a PIL was filed seeking Netaji's picture on currency notes.
Subhash Chandra Bose

- He was born on 23 January 1897 in **Cuttack** (today the state of Odisha in India).
- He passed the **Indian Civil Services examination** securing fourth position but resigned from the service in 1921.
- His political guru was **Chittaranjan Das**.
- He became mayor of **Calcutta** in 1923.
- He met Hitler under the pseudo name, **Orlando Mazzotta**.
- With the help of Hitler, the **'Freedom Army'(Mukti Sena)** was formed which consisted of all the prisoners of war of Indian origin captured by Germany and Italy.

- He came to be called **'Netaji'** by the people of Germany.
- He gave the famous slogan, **'Jai Hind'** from the Free India Centre, Germany.

Origin of the Indian National Army

- The idea of creating an army out of the **Indian prisoners of war** (POWs) was originally that of Mohan Singh, an Indian army officer.
- The INA got a boost with the outbreak of the **Quit India Movement** in India.
- The second phase began with the arrival of **Subhash Bose** in Singapore.
- On October 21, 1943, Subhash Bose formed the **Provisional Government** for Free India at Singapore

- o **H.C.Chatterjee** (Finance portfolio),
- o **M.A. Aiyar** (Broadcasting),
- o **Lakshmi Swaminathan** (Women Department).
- The famous slogan **"Give me blood, I will give you freedom"** was given in Malaya.
- On August 15, 1945 the surrender of Japan in the Second World War took place and with this the INA also surrendered.

Bose and Indian national congress

- **Gandhi and Bose** differed in idelogy
- o For Gandhi non-violent means to any end were non-negotiable

- o In Bose's thought, all means were acceptable in the service of **anti-colonial ends**.
- In 1938 Bose had become a leader of national stature and agreed to accept nomination as Congress President.
- He stood for unqualified **Swaraj** (self-governance), including the use of force against the British.

Ideology

- He believed that the **Bhagavad Gita** was a great source of inspiration for the struggle against the British.
- His preference was "a synthesis of what modern Europe calls **socialism and fascism**".

DRDO's SUPERSONIC MISSILE ASSISTED TORPEDO SYSTEM SUCCESSFULLY LAUNCHED

Supersonic missile assisted torpedo system gets successfully launched from Wheeler Island in Odisha recently

- It was developed by **Defence Research and Development Organisation (DRDO).**
- **Objective:** To **enhance anti-submarine warfare capability** far beyond the conventional range of the torpedo.

Features:

- It is a **canister-based missile system.**
- It consists of advanced technologies viz. **two stage solid propulsion**, **electro-mechanical actuators** and precision inertial navigation.

'DEKHO APNA DESH' - TOURISM MINISTRY HOLDS WEBINAR ON JYOTIRLINGAM TEMPLES OF MAHARASHTRA TO BOOST SECTOR

Tourism ministry holds webinar on Jyotirlingam temples of Maharashtra to boost sector.

- The prominent temples, in Maharashtra, rich in history and traditions include Triambakeshwar, Bhimashankar,

Grishneswar, Aundha Nagnath, and, Parali Vaijnath.

- **Triambakeshwar temple:** It is located in the **Southwest of Nashik**; it is also one of the four places where the famous Kumbh Mela is held every year.

- **Bhimashankar temple:** It is located in the **Sahyadri mountain ranges** of Maharashtra in **Pune.**
- **Grishneswar Jyotirlingam temple:** It is located in **Aurangabad** and dates back to the 11th to 12th century CE.

- **The Aundha Nagnath:** It is located in the **Hingoli district of Maharashtra.**
- Also, it is considered to be the first or '**Adhya**' linga **installed by the Pandavas.**
- **Parali Vaijnath:** It is also known as Vaidyanath was **renovated by Rani Ahilyabai Holkar.**

VICE PRESIDENT CALLS FOR PROACTIVE INITIATIVES FOR TRANSLATING LITERARY WORKS BETWEEN VARIOUS INDIAN LANGUAGES

Potti Sreeramulu Telugu University translates Amuktamalyada in different Indian languages

Amuktamalyada

- It is a **Telugu** epic poem **composed by Krishnadevaraya** in the early 16th century**.**
- **Amuktamalyada describes** the story of wedding of the Hindu Lord Ranganayaka an avatar of Lord Vishnu and Goda Devi also known as Andal.
- It narrates several episodes that are relevant in the context of the propagation of the Vaishnava theology.

Krishnadevraya

- He was the third ruler of **Tuluva dynasty** who ruled over **Vijayanagar from 1509-1529.**
- **He earned the titles** of 'Kannada Rajya Rama Ramana', 'Andhra Bhoja' and 'Mooru Rayara Ganda'.
- **Portuguese travellers Domingo Paes and Fernao Nuniz** visited the Vijayanagara Empire during his reign.
- **Literary work:** Jambavati Kalyana, Madalasa Charita, Rasamanjari and Satyavadu Parinaya.

2ND EDITION OF ANIMAL HUSBANDRY STARTUP GRAND CHALLENGE LAUNCHED

Recently, second edition of 'Animal Husbandry Startup Grand Challenge' was launched.

- The Animal Husbandry Start-up Grand Challenge was launched by **Invest India.**
- **Aim**: **To scout for innovative and commercially viable solutions** to address problems

faced by the animal husbandry and dairy sector.
- The six challenges faced by the diary sector are:
- Value added products
- Eliminate Milk adulteration
- Breed improvement and animal nutrition
- E-commerce solutions

o Product traceability

INNOVATIVE REMOTELY PILOTED AIRCRAFT SYSTEM (RPAS) INAUGURATED AT MCL OF COAL INDIA LTD

Recently, remote piloted aircraft system was launched at Mahanadi Coalfields Limited (MCL).

- It is an internet-based platform.

Features:

- The system consists of a **Ground Control Station (GCS),** an **RPAS**, and VIHANGAM portal.
- It has been deployed at two opencast mines of MCL namely **Bhubaneswari and Lingaraj** initially on trial basis.
- The system enables **real-time transmission of aerial video** of **mining activities** from mines to internet platform which can be accessed through VIHANGAM portal.

HIGH LEVELS OF URANIUM IN GROUNDWATER OF EASTERN KARNATAKA'S 57 VILLAGES

Recently, Uranium concentration in groundwater exceeded 30 µg/l, more than the WHO-prescribed limit, in 57 out of 73 villages of Karnataka has found high and unsafe levels of uranium concentration.

Uranium

- **Uranium** is a hard, dense, malleable, ductile, silver-white, radioactive metal.
- This metal has very high **density.**
- It can form solids solutions and **intermetallic compounds** with many of the metals.

Application

- **Depleted uranium** is used as shielding to protect tanks, and also in bullets and missiles.
- The main use of uranium in the civilian sector is to fuel commercial **nuclear power plants.**
- The isotope **uranium 238** is used to estimate the age of the earliest igneous rocks and for other types of radiometric dating.
- **Phosphate fertilizers** are made from material typically high in uranium, so they usually contain high amounts of it.

Causes

- Exposure to a certain amount of **uranium** from food, air, soil and water, as it is naturally present in all these components.
- **Uranium** in air exists as dust that will fall into surface water, on plants or on soils through settling or rainfall.
- o It will than sink to the sediment in water or to the lower soil layers.
- Impacts of Exposure to **uranium**
- o Normal functioning of the kidney, brain, liver, heart, and numerous other systems can be affected by **uranium exposure.**
- o It has caused **reproductive defects**, and other health problems in rodents, frogs and other animals.

INDIAN NAVY CONDUCTS GOA LIBERATION DIAMOND JUBILEE SEMINAR

A seminar was organized by Goa Naval Area to commemorate the Diamond Jubilee of the liberation of Goa.

Goa Liberation Movement:

- It was a movement which was fought **to end Portuguese colonial rule in Goa**, India.
- The movement built on the **small-scale revolts** and uprisings of the 19th century, and grew powerful during the period **1940-1961.**
- The movement was conducted both inside and outside Goa, and was turned into **nonviolent demonstrations, revolutionary methods and diplomatic efforts**.

Genesis:

- The Portuguese colonised India in **1510**.
- **Anti-colonial movement** emerged to abolish Portuguese monarchy.
- The **Goans resented the Portuguese rule** for their brutal policies and relentless government campaigns to convert Hindu Goans into Christianity.
- In 1930, Portugal passed the "**Acto Colonial**" (Colonial Act), which restricted political rallies and meetings within all Portuguese colonies.
- Despite 14 revolts, none of the uprisings were successful.
- **Ram Manohar Lohia** emerged as an important leader of the freedom movement.
- **A series of satyagrahas were held in Goa** and the Goan leadership believed that with the end of British colonial rule in India, an end to Portuguese colonial rule would logically follow.
- The failure of Goa to achieve independence and harsh repression by the Portuguese, led to a **temporary lull in the Goan independence movement**.
- In December 1947, independent India and Portugal established **diplomatic ties.**
- The Goa Liberation Army in 1950s utilised **revolutionary tactics** and direct-action strategies to challenge Portuguese colonialism.
- The **Goa Action Committee was formed** to coordinate the various anti-colonial groups.
- The **Portuguese responded to the Satyagrahas**, by sealing Goa's borders in an attempt to curb the growing illegal immigration from India.
- In 1961, India proclaimed that Goa should join India "**either with full peace or with full use of force**".
- Government of India ordered the Indian Armed Forces to take Goa by force and captured Goa with little resistance.

Goa

- It is a state on the **southwestern coast of India** within the Konkan region.
- **Panaji**- the capital of Goa.

Geographical Features:

- It is surrounded by **Maharashtra to the north**
- **Karnataka** to the **east and south,**
- **Arabian Sea** to **western coast.**

- It is separated from the **Deccan highlands** by the Western Ghats.
- It is India's **smallest state by area**.
- **Rivers-** Zuari, Mandovi, Terekhol, Chapora, Galgibag, Kumbarjua canal, Talpona and the Sal.
- Mormugao Harbour is considered one of the best natural harbours in South Asia.

- **Soil-** rich in ferric-aluminium oxides and reddish in colour.
- **Climate-** hot and humid, tropical monsoon climate
- **Vegetation-**
  - It is known for its coconut cultivation.
  - Rice is the main food crop.
- **Fauna-** Foxes, wild boar and migratory birds.

THE CHALCOLITHIC CULTURES OF CENTRAL INDIA ARE ADEQUATELY INVESTIGATED AND STUDIED: SHRI G. KISHAN REDDY

Recently, the Archaeological Survey of India has received proposals for excavations at the sites of Chalcolithic affiliations at the Sagar district.

Recent Excavation of Chalcolithic sites In India

Excavation at Eran:

- Eran (ancient Airikina) is situated on the left bank of the Bina (ancient Venva) river and surrounded by it on three sides.
- The recent **excavation** here has unearthed a variety of **antiquities**.
  - It includes a copper coin, an iron arrowhead, terracotta bead, stone beads along with copper coins, stone celt, beads of steatite, and jasper.
  - The site also found a carnelian, terracotta wheel, animal figurines, miniature pots, iron objects, stone querns, pestles, and a red slipped terracotta with inscription in Devnagari.
- The use of iron is evidenced by a few **metallic** objects at the site.
- This excavation at the site also revealed the remains of Chalcolithic culture with four major periods that are:
  - Period I: Chalcolithic (18th -7th BCE)

  - Period II: Early historic (7th – 2nd century BCE)
  - Period II B: 2nd century BCE – 1st century CE
  - Period III: 1st – 6th century CE
  - Period IV: late medieval (16th – 18th century CE).

Excavation at Tewar:

- Tewar (Tripuri) village is located near Jabalpur district on Jabalpur – Bhopal highway.
- This site has provided **antiquarian** remains in this excavation includes:
  - Remains of sculptures, hopscotch, terracotta balls, Iron nails, copper coins, terracotta beads, implements of Iron and terracotta figurine, in ceramics redware,
  - **Black ware, red slipped ware with shapes of handi, bowl, spouted pot, small pot, big jar**, etc., structural remains consist of brick wall and structure of sandstone columns.

What is Chalcolithic

- **Chalcolithic** is also known as **copper age (1800-800 BC)**.
- The **Copper Age** was originally defined as a transition between

the **Neolithic** and **the Bronze Age.**

- In this **Copper was probably the first metal used by humans.**
- It was a period in the development of human technology, preceding

the **Bronze Age** before it was discovered that adding tin to copper formed the **harder bronze**.

- It was the transition between the **Stone Age and the metal age.**

INDIA MARKS 50 YEARS OF 1971 VICTORY

Prime Minister paid tribute to the heroes of the 1971 India-Pakistan war on the occasion of the **50th anniversary of Vijay Diwas**.

Vijay Diwas

- **December 16** is celebrated as Vijay Diwas every year.
- **It is celebrated** to mark **Pakistan's surrender** and **India's decisive victory** in 1971 India Pakistan war.

India Pakistan war

- **Liberation War of Bangladesh** gave rise to the conflict after West Pakistan misbehaved with the people and undermined the election results in East Pakistan.
- **East Pakistan raised the call for secession** officially on March 26, 1971. India's then **PM Indira Gandhi** gave full support in the independence struggle.

- **Widespread genocide against Bengalis, mainly Hindus**, at the hands of the Pakistani military was reported.
- Pakistan had deployed its troops along the western front. **The Indian Army retaliated** and **successfully took over several thousand kilometres** of the Pakistani territory.
- **The Mukti Bahini guerrillas in East Pakistan** joined with the Indian forces to fight against Pakistani troops in the east.
- **It was a 13-day India-Pakistan war** which began on December 13th, 1971 sparked by the revolt in erstwhile East Pakistan against the Pakistan.

NAVY'S STEALTH WARSHIP BEGINS SEA TRIALS ON GOA LIBERATION DAY

Recently the sea trials of the Indian Navy's indigenously built stealth destroyer, Mormugao, began in the Arabian Sea.

- **INS Mormugao** is the second ship of the Visakhapatnam class **stealth** guided missile **destroyers** of the Indian Navy.
- It is being constructed at **Mazagon Dock Limited (MDL).**

- It is named after the port city of **Mormugao** in Goa.
- It was built under the project P-15B.

Project 15B

- It is class of **guided missile destroyers** that are an improved variant of the Kolkata-class destroyers.
- It will have:

- State of the art sensor package and weapons.
- Multiple fire zones.
- Battle damage control systems (BDCS).

- Distributional power systems for improved survivability.
- Reliability in emergent conditions.

FISHERMEN MOVE OUT AS OUTPUT OF FISH IN MP'S BARGI RESERVOIR FALLS

Why in News?

The continuous decrease in the output of fish in Madhya Pradesh's Bargi reservoir for the last seven years has created a livelihood crisis.

- The Bargi Dam is also known as the **Rani Avanti Bai Sagar Irrigation Project**.
- It was the first major reservoir to be built on the **Narmada River** in **Madhya Pradesh**.

- Two major irrigation projects, named **Bargi Diversion Project** and Rani Avantibai Lodhi Sagar Project, have been developed by the Bargi Dam administration
- It irrigates 4.37 lakh hectares of land and produces 105 megawatts of hydropower.
- The dam's **backwaters of the dam** have been changed into a lake.

'INORDINATE DELAY OF 170 YEARS': DELHI HC JUNKS WOMAN'S PLEA SEEKING POSSESSION OF RED FORT

Recently, the Delhi High Court dismissed a woman petition seeking directions to hand over the Red fort to her on the ground that she is **the legal heir** of the last Mughal emperor **Bahadur shah zafar**.

Red Fort

- **The Red Fort** or **Lal Qila** is a historic fort in Old Delhi.
- It had served as the main residence of the **Mughal Emperors**.
- **Emperor Shah Jahan** commissioned construction of the Red Fort in May 1638.
- Architect: **Ustad Ahmad Lahori**
- Architectural style: **Indo-Islamic, Mughal**
- It is made up of **red sandstone.**

Owner

- Mughal Empire (1638–1771)
- Maratha Empire (1771–1803)
- British India (1803–1947)
- Government of India
- The Red Fort was designated a **UNESCO World Heritage Site** in 2007 as part of the Red Fort Complex.

Historical Importance

- It became a symbol of the **1857 rebellion** against the British east India company in which the residents of shahjahanabad participated.
- In 1911 saw the visit of **King george V** and **Queen mary** for the Delhi durbar.

- **The INA trials**, also known as the Red Fort Trials was held in red fort.
- On 15 August 1947, the first Prime minister of India, **Jawaharlal nehru** raised the Indian national flag above the Lahore gate.

RUBBER RESEARCH INSTITUTE OF INDIA DEVELOPS NEW METHOD TO DRY SHEET RUBBER IN JUST A DAY

Recently, the Rubber Research Institute of India (RRII) has developed a method to dry sheet rubber in 24 hours in place of the traditional method that takes four to five days.

Highlights:
- The **quality of the sheets** processed under the new method are favourable then the traditionally processed ones.
- The processing involves **coagulation,** sheeting and drying.
- **Quick drying** is achieved by increasing the effective surface area through additional rolling.

Significance:
- The new method helps get Natural Rubber **Sheet (RSS-4)** ready within a day, which in turn aids small farmers to dispose of their produce faster.
- The conversion of raw latex into sheet rubber helps them store the produce and sell according to the market situation due to **price fluctuation.**

How is Rubber Made?
Origin
- Humans have been exploiting the durable and elastic nature of rubber for making products for over 1,000 years.
- Although early forms of rubber were made from natural sources as demand increased for this material, scientists developed artificial or synthetic rubber in laboratories that mimicked the natural material.

Types
1. Natural rubber
- Natural rubber is made by **extracting a liquid sap**, called latex, from certain types of trees.
- There are over 2,500 types of trees that produce this sap, majority of latex for rubber production stems from the **Hevea Brasiliensis tree**.
- These trees are commonly found in **Southeast Asia.**

Process:
- **Latex** is gathered from the trees by making a cut in the bark and collecting the runny sap in cups. This process is called **tapping.**
- In order to prevent the sap from solidifying, **ammonia** is added.
- Acid is then added to the mix to extract the rubber in a process called **coagulation**.
- The mixture is then passed through rollers to remove excess water.
- The **layers of rubber are hung over racks** in smokehouses or left to air dry.
- Later they will be folded into bales ready for processing.

2. Synthetic Rubber

- When natural rubber sources became scarce during World War-1, German scientists developed **artificial rubber**.
- Although these early forms of rubber were inferior in quality to natural rubber.
- **Synthetic rubber** is as strong and reliable as natural rubber.

Process:
- Synthetic rubber is made by **linking polymer molecules** together in a laboratory.

3. Processing Rubber
- Both **natural and synthetic rubber** need to undergo a series of processes to turn into a usable product.
- These stages can be adapted according to the intended use of the final product.

Process:
- Firstly, **chemicals are added to the rubber** to make it stable.

- A **carbon black filler** is added to the rubber mix to improve its strength and durability.
- The rubber is then carefully mixed and allowed to cool, before being shaped.
- It can be shaped by pushing it into rollers or by squeezing it through holes to make hollow tubes.

4. Vulcanisation
- In order to make rubber strong and durable, it goes through the process of **vulcanisation**.
- This is where the rubber is cooked to create extra bonds or cross-links between the molecules of the rubber, so they don't easily fall apart.
  - **Charles Goodyear** discovered this process.
- After vulcanisation, **imperfections are removed** from the rubber and it is then molded into the final product.

'CHILLAI KALAN' BEGINS IN JAMMU AND KASHMIR

Kashmir is in a deep freeze as the 40-day harshest spell of winter, locally called 'chillai kalan' started lately.

Chillai Kalan:
- Chillai-Kalan is the **40-day period of harsh winter** in Kashmir that begins **December 21 and ends on January 31.**
- Chillai Kalan is a Persian term meaning **"major cold".**
- It is divided into three parts called the Chilas**: - The Chillai Kalan, the Chillai Khurd, and the Challai Bache.**

- The Chillai Kalan is followed by a **20-day-long Chillai-Khurd (small cold),** which lasts till February 19.
- Chillai-Bachha (baby cold), is 10-day-long, from February 20 to March 2.
- During Chillai-Kalan, the weather in Kashmir valley remains dry and cold with **minimum temperatures below the freezing point.**

INDIAN ARMY INDUCTS ARMOURED ENGINEER RECONNAISSANCE VEHICLE

Recently, army gets indigenously built armored engineer reconnaissance vehicle.

- The vehicle has been designed by **Defence Research and Development Organisation (DRDO)** and manufactured by Ordnance factory Medak and Bharat electronics limited.
- It is designed to meet the **tactical** and **combat** **requirements** of military engineers for carrying out terrestrial and under water surveys in hostile terrains.
- It provides combat engineering support for **offensive** and **defensive** operations in plains, desert and riverine terrains.

GOVT's NEW PPP PORT GUIDELINES LINK TARIFFS TO MARKET-DETERMINED RATES

Union Minister announced tariff guidelines for the public private partnership (PPP) projects in major ports.

New guidelines:

- Provisions of the erstwhile **Tariff Authority for Major Ports (TAMP)** will be **abolished.**
- The **concessionaires** at major ports will be allowed to **set tariffs as per market dynamics.**
- The **royalty** payable for **trans-shipment cargo will now be 1.0 times** (from 1.5 times earlier) the normal container.
- The **concessionaire** has to pay only **40 per cent** of the **royalty** payable **for foreign cargo** (from 60 per cent earlier).

Types of Ports:

- Ports in India are classified as Major and Minor Ports **according to the jurisdiction.**
- **Major Ports** are owned and managed by the **Central Government** and **Minor ports** are owned and managed by the **State Governments.**

Major Ports:

- **Major Ports** are under the **Union list** of the Indian Constitution.
- They are administered under the **Indian Ports Act 1908** and the **Major Port Trust Act, 1963.**
- Each major port is governed by a **Board of Trustees appointed by the Government of India.**
  - o The Trusts operate on the basis of policy directives and orders from the Government of India.
  - o Their functions include planning, management and operations of ports.
- The tariffs for major ports are fixed by the Tariff Authority for Major Ports (TAMP).

Minor Ports:

- Minor operates are managed at the **State level** by the department in charge of ports or the **State Maritime Board**, if created, as is the case in Gujarat, Maharashtra and Tamil Nadu.
  - o The **functions** of the State maritime boards are **similar to those of port trusts**, and also include the authority to set tariffs.

o They also **focus on attracting private investment** by awarding concession contracts, providing

incentives, exclusivity rights and assuring land acquisition.

RAILWAYS' 98% OPERATING RATIO NOT A REFLECTION OF ITS TRUE FINANCIAL PERFORMANCE: CAG

Recently, a report on Railways' finances were tabled in Parliament by Comptroller and Auditor General of India (CAG).

Key findings of the report:

- Indian Railways has the **worst operating ratio** in the past 10 years and its **revenue surplus has decreased** by more than 66%.
  - o The operating ratio **deteriorated** from 97.29 % in 2018-19 to 98.36 % in 2019-20.
  - o Operating Ratio (OR) represents the ratio of **working expenses to traffic earnings**.
    - ▪ A higher ratio indicates poorer ability to generate surplus.

- It **could not achieve the revised estimate target** of the receipts.
  - o The total receipts decreased by 8.30% during 2019-20 as compared to the previous year.
- There was **heavy dependence on transportation of coal** which constituted around 49% of the total freight earnings during 2019-20.
- The Indian railways needs to **revisit the passenger and coaching tariffs.**
  - o This is done so as **to recover the cost of operations** and reduce losses in its core activities.

150TH BIRTH ANNIVERSARY OF SRI AUROBINDO: PM TO CHAIR 53 MEMBER PANEL, MANMOHAN, MAMATA, KHARGE, RAJNIKANTH INCLUDED

Prime Minister of India will chair a **high-level 53-member committee** that the government formed to mark the **150th birth anniversary** of **Indian philosopher Sri Aurobindo**.

Sri Aurobindo (15 August 1872 - 5 December 1950)

- **Sri Aurobindo** was an Indian social political and spiritual philosopher, yoga guru, poet, and Indian nationalist ideologue.
- When he was seven years old, Aurobindo was sent to England with his brothers for education.
  - o He studied under the W H Drewett in Manchester, where he learned L**atin, Greek, German, Italian,**

French, Arithmetic, and Geography.

- His father wanted him to participate in the administrative service competition and serve the government in a higher position.

Pre-Independence Contribution

- He joined the Indian movement for **independence from British colonial rule.**
  - o Until 1910, he was one of its influential leaders and then became a spiritual reformer, introducing his visions on human progress and spiritual evolution.
- From 1908 to 1909, he was imprisoned by the British government. There, he

studied **Indian philosophy** and **Vedas.**

Profession

- Aurobindo was also a journalist and his first philosophical magazine called **Arya** was published in 1914.
- He also published a weekly newspaper named **Vande Mataram**, which got him enormous fame.
- His work got him nominated for **the Nobel Prize in Literature in 1943** and was also nominated in **1950 for the Nobel Prize for Peace**.

WNC CONDUCTS EXERCISE PRASTHAN IN WESTERN OFFSHORE DEVELOPMENT AREA

Recently, Western Naval Command conducts a security exercise '**Prasthan**' in Offshore Development Area off the Mumbai coast.

Prasthan

- **Aim**: To assess **overall security architecture** to provide support during an emergent situation at Offshore Development Area (ODA) and for the Oil Operators to validate their Standard Operating Procedures.
- It is a **biannual** exercise.
- The exercise focused on contingencies such as terrorist intrusion, bomb explosion, major fire, oil spill, man overboard, casualty evacuation, loss of control of the vessel, and mass evacuation.

ATAL INNOVATION MISSION, NITI AAYOG LAUNCHES VERNACULAR INNOVATION PROGRAM (VIP) TO EMPOWER INNOVATORS, ENTREPRENEURS IN 22 MOTHER TONGUES

Recently, Atal Innovation Mission and NITI Aayog launches Vernacular Innovation Program (VIP).

- **Aim:** To enable innovators and entrepreneurs in India to have access to the innovation ecosystem in 22 scheduled languages by the Government of India.
- To build the capacity for the VIP, AIM will be training a **Vernacular Task Force (VTF)** in each of the 22 scheduled languages.
- Each task force comprises of vernacular language teachers, subject experts, technical writers, and the leadership of regional **Atal Incubation Centers (AICs).**
- This would assist India in building a strong local network of design experts and innovation practitioners.

FIFTH SIDDHA DAY CELEBRATED SUCCESSFULLY

Recently, the Fifth Siddha Day celebration on "**Strength of Siddha Medicine for Communicable Diseases**" was jointly organized by Central Council for Research in Siddha, National

Institute of Siddha and Directorate of Indian Medicine & Homeopathy.

Various system of medicine in India

Ayurveda

- Ayurveda' is generally understood as **Science of life** translating **Ayuh** (r)as life and **Veda** as science.
- It is an **ancient system** of life and also the oldest surviving medical system in the world.
- Dating back almost **5000 years**, it is also considered to be an ancient science of **healing** that enhances **longevity**.
- It has evolved from the quest to have a **happy life**, through a deep understanding of creation and its maintenance, perceived and conceived by the rishis or seers of **ancient India**.
- **The philosophy**: It teaches a series of conceptual systems characterized by balance and disorder, health and illness.
- Three principal early texts on Ayurveda: **Charaka Samhita, Sushruta Samhita** and **Bhela Samhita**.

Ayurvedic Body Types

- **Kapha:** It governs all structure and lubrication in the mind and body.
- **Pitta:** It controls digestion, metabolism, and energy production.
- **Vata:** It is known to govern all the movements of mind and body.

Siddha

- The Siddha system of medicine is mainly practised in the **Southern part of India**.

- It is one of the earliest traditional medicine systems in the world which treats not only the body but also the **mind** and the **soul.**
- The word Siddha has its origin in the Tamil word Siddhi which means an object to be attained or **perfection** or **heavenly bliss**.
- Siddhars were spiritual masters who possessed the **ashta (eight) siddhis** or unique powers.
- **Agastyar or Agasthya**, is believed to be the founding father of Siddha Medicine.
- **Eighteen Siddhars** are considered to be pillars of Siddha Medicine.
- Kayakarpam, Varmam, Vaasi (Pranayamam) and Muppu the **universal Salt** are the specialities of Siddha system of medicine.

Unani

- It is the **science** in which we learn various states of body in health and when not in health and the means by which health is likely to be lost and when lost, is likely to be restored.
- It practiced in **Middle East** and **South Asian countries.**
- It refers to a tradition of **Graeco Arabic medicine**, which is based on the teachings of Greek physician **Hippocrates** and Roman physician **Galen**.
- It provides promotive, preventive, curative and rehabilitative healthcare.
- It offers **treatment** of diseases related to all the systems and organs of the human body like chronic ailments, diseases of

skin, liver, Musculo skeletal and reproductive systems.

- Unani physicians give prime importance to **diet** and the state of **digestion** in a person, in both health and disease.

Sowa – Rigpa

- It is commonly known as **Amchi system** of medicine is one of the oldest, living and well documented medical tradition of the world.
- It has been popularly practiced in Tibet, Mongolia, Bhutan, some parts of China, Nepal, Himalayan regions of India and few parts of former Soviet Union.
- It is based on the principles of **Jung-wa-nga and Ngepa-Sum.**

Basic theory of Sowa-Rigpa:

- The body in disease as the locus of treatment
- Antidote
- The method of treatment through antidote
- Medicine that cures the disease

- Materia Medica, Pharmacy & Pharmacology

Homeopathy

- It is also known as homeopathic medicine, is a medical system that was developed in **Germany** more than 200 years ago.

It's based on two unconventional theories:

- **Like cures like:** The notion that a disease can be cured by a substance that produces similar symptoms in healthy people.
- **Law of minimum dose**: The notion that the lower the dose of the medication, the greater its effectiveness.
- It's **products** come from plants, belladonna, minerals, animals.
- It uses a different **diagnostic system** for assigning treatments to individuals and recognizes clinical patterns of **signs and symptoms** that are different from those of conventional medicine.

PM LAUNCHES UNIFIED LOGO & PORTAL FOR DAIRY ITEMS

Recently, the Prime Minister launched a Portal and Logo dedicated to the Conformity Assessment Scheme of milk products, in Varanasi.

Need of the scheme:

- **National Dairy Development Board** (NDDB) and **Bureau of Indian Standards** (BIS) have been involved in **certification of Process and Products** respectively.
  - NDDB has been awarding **Quality Mark** to the dairy plants of cooperatives.
  - BIS has a **product certification scheme for manufacturers**,

including dairy product processors allowing licensees to use ISI Mark on their products.

- However, there was **no unification of product and process certification**- making it difficult to dairy plants to avail end to end certification.
- Further the **consumer awareness was also lacking** towards quality of milk and products.
- Milk and milk products are perishable nature and has short shelf-life, increasing the difficulty for conformity assessment.

Conformity Assessment Scheme of milk products:

- With the initiative of the Department of Animal Husbandry & Dairy, **Conformity Assessment Scheme** was unveiled by BIS with the help of NDDB.
- It is a **first of its kind certification scheme for milk and milk product.**
- It has brought **'Product–Food Safety Management System–Process'** certification under one umbrella with a unified logo featuring the earlier respective logos BIS-ISI mark & NDDB-Quality Mark and Kamdhenu Cow.
- **Government of India** has notified various products for compulsory compliance to Indian Standards through **Quality Control Orders** (QCOs);
  o **These are:** Public interest, protection of human, animal or plant health, safety of the environment, prevention of unfair trade practices, national security etc.

Significance:

The Conformity Assessment Scheme will:

- Simplify the **certification process.**
- Create an instantly **recognizable logo for public** to be reassured about dairy product quality.
- Increase the sales of milk and milk products in organized sector and in turn **enhancing income of farmers.**
- Develop a **quality culture** in the dairy sector.

TWO FROM KARNATAKA SELECTED FOR PM-YUVA MENTORSHIP SCHEME

Recently, National Book Trust has announced the results of the All-India Contest organized on the Theme '**National Movement of India'** under the PM-YUVA Mentorship Scheme.

PM-YUVA Mentorship scheme

- It is a **Scholarship-cum-Mentorship Scheme** for the young authors of India.
- **Aim:** Making reading and authorship a preferred profession for youngsters.

- Under this, **75 Authors were to be selected below the age of 30 years,** who project India and its culture & literature globally.
- **Implementation agency:** National Book Trust (NBT).
- Under the scheme, the selected writers will receive an **Rs. 50,000 scholarship** each month for six months.

PRESIDENT KOVIND UNVEILS P N PANICKER'S STATUE IN THIRUVANANTHAPURAM

President of India unveiled a statue of late P.N. Panicker at Poojappura in Thiruvananthapuram, Kerala.

P.N.Panicker

- Panicker was **born in a Nair family** on 1909 March 1 **at Neelampeeror.**
- In 1926, he started the **Sanadanadharmam**

Library as a teacher in his hometown.
- He led the formation of **Thiruvithaamkoor Granthasala Sangham** (Travancore Library Association) in 1945 with 47 rural libraries.
  o Later, it became Kerala Granthasala Sangham (KGS).
- He spread an important message - "**Vayichu Valaruka**" **which means "Read and Grow".**

- Libraries created by the movement of Panicker later became a nerve centre of all social and cultural activities.
- He founded the **Kerala Association for Non-Formal Education and Development** (KANFED) in 1977.
  o KANFED was **instrumental** in starting the **Kerala State Literacy Mission**, which led Kerala to its universal literacy movement.

NITI AAYOG RELEASES FOURTH EDITION OF STATE HEALTH INDEX

Recently, NITI Aayog released the fourth edition of the State Health Index for 2019–20.
- The report has been **developed by NITI Aayog**, with technical **assistance from the World Bank**, and in close **consultation with** the **Ministry of Health and Family Welfare** (MoHFW).

State Health Index:
- It **ranks states and Union Territories** on their year-on-year incremental **performance in health** outcomes as well as their overall status.
- It is a weighted composite index based on **24 indicators** grouped under the **domains of:**
  o Health Outcomes
  o Governance and Information
  o Key Inputs/Processes
- Each domain has been assigned weights based on its importance with higher score for outcome indicators.

- To ensure **comparison among similar entities**, the ranking is **categorized as:**
  o Larger States
  o Smaller States
  o Union Territories
- The index is being compiled and published **since 2017.**

Key Findings of the Report:
- Among the **larger states**:
  o **Kerala** has emerged as the **best state** in terms of overall health performance among larger states while **Uttar Pradesh is the worst.**
  o **Uttar Pradesh, Assam and Telangana** are the **top** three ranking states in terms of **annual incremental performance.**
- Among **smaller states**:
  o **Mizoram** emerged as the **best** performer in **overall performance.**
  o **Mizoram and Meghalaya** registered the **maximum** annual **increment al progress.**
- Among **UTs**, **Delhi,** followed by Jammu and Kashmir, showed

the **best incremental performance.**

KISAN DIWAS 2021: CELEBRATING THE BIRTHDAY OF CHAUDHARY CHARAN SINGH

23 December is celebrated as the birth anniversary of Chaudhary Charan Singh Ji is as 'Farmer's Day' all over India.

Chaudhary Charan Singh (1902 - 1987)

- Chaudhary Charan Singh served as the **5th Prime Minister of India.**
- He was born in 1902 at Noorpur in Meerut district of Uttar Pradesh.
- He shifted to **Meerut** in 1929 and later joined the Congress.

Political Career:

- He was first elected to the **U.P. Legislative Assembly** in **1937** from **Chhapra uli**, and represented the constituency in **1946, 1952, 1962, and 1967**.
- He became Parliamentary Secretary in **Pandit Govind Ballabh Pant**'s Government in 1946.
- Charan Singh's ancestor was a prominent leader of the Indian Rebellion of 1857.

Contributions

- He followed Mahatma Gandhi in a **non-violent struggle for independence** from the British Government.
- He opposed Jawaharlal Nehru on his **Soviet-style economic reforms.**

- As Chief Minister, he was instrumental in bringing about the **Land Holding Act 1960**.
- o The act was aimed at lowering the ceiling on land holdings to make it uniform throughout the State.
- He was the **chief architect of land reforms in U.P.**
- He took a leading part in formulation and finalisation of the **Dept. Redemption Bill 1939,** which brought great relief to rural debtors.
- He was given the sobriquet **'Champion of India's Peasants'** for his work towards the upliftment of farmers and the development of agriculture throughout the country.

Works

- He was the author of several books and **pamphlets** that includes:
  - o Abolition of Zamindari
  - o Co-operative Farming X-rayed
  - o India's Poverty and its Solution
  - o Peasant Proprietorship or Land to the Workers
  - o Prevention of Division of Holdings Below a Certain Minimum

1839 STRUGGLE BY TAI KHAMTI IS INDIA'S FIRST WAR OF INDEPENDENCE: ARUNACHAL DEPUTY CM

Recently, the Arunachal Pradesh Deputy CM urged the Centre to recognize the Tai Khamti-British war as India's first for independence.

History of Tai Khamti/ Tai Khamti Mutiny of 1839

- The Khamti migrated to Assam in the second half of the **18th century.**
- They belong to the **Shans (Tai) race,** with their original home to the west of China.
- Their first settlement was on the **Tengapani** river south of **Sadiya** with the sanction of the ruling Ahom authorities.
- Their chief, **Khamti Gohain** soon arrogated to himself the title and office in 1794.
- The **Khamti were so sturdy and powerful** that the Ahoms and the British acknowledged the Khamti Gohain.
- The Khamtis rebelled in **1839** against the British as the Sadiya-khowa Gohain was deprived of his office:
  - o Tai Khamtis **resisted colonization by the British,** by **suppressing** the British garrison at Sadiya.
  - o Col. Adam White and 80 other soldiers were killed in the resultant conflict.

Tai Khamti People:

- The word 'Khampti' means 'a land full of gold'.
- The Tai Khamti people live in areas straddling **Arunachal Pradesh and Assam.**
- They inhabit the district of **Namsai.**

Religion:

- o They are followers of **Theravada Buddhism.**
- o The community, as a matter of fact, is greatly orthodox and all its socio-cultural activities are religious.

Language:

- o The Tai-Khamti have their own script for their language, known as **'Lik Tai',** which originated from the Shan (Tai) script of Myanmar.
- o Their mother tongue is known as **Khamt**i language.
- o It is a **Tai language**, closely related to Thai and Lao.

Occupation:

- o The Tai Khampti people are settled **agriculturists**.
- o They use the plough (Thai) drawn by a single animal, either an ox or a buffalo.
- o They practice **both jhum and settled agriculture** and produce food grains, vegetables and cash crops.

Culture:

- o The Khampti have a very rich culture, equipped with magnificent arts and craft.
- o **Armoury** is a part of the life, representing the aura of their skill as warriors.
- o Their weapons include poisoned bamboo spikes (panjis), bow and arrows, spear, sword and shields.
- o The Khampti also have **firearms,** resembling ancient flint muskets and horse pistols.

Performing Arts:

- o It marks the celebration of Buddhist festivals such as Khamsang, **Sangken**, Potwah, Poi

Lu kyong, Poi Lu Kyong kammathan etc.
- o **Sangken** is the main festival of the Khamti.
- o In Arunachal Pradesh, Khampti dance is also known as **ka pung**
- o The Khamptis are famous for their cockfight dance called **Ka-Fi fai.**

Key fact

Other wars fought between the people of Arunachal Pradesh and British are:
- **Anglo-Abor wars** from 1858 to 1911: The Abors or Adis, inhabit central Arunachal Pradesh.
- **Wancho-British war** in Tirap district's Ninu in 1875: Wanchos live in the southern part of Arunachal Pradesh.

NADASWARAM

- Nadaswaram is a South Indian wind instrument, and is said to be one of the loudest non-brass acoustic instruments in the world.
- The nadaswaram is a **wind instrument**.
- It is also known as **Nayana**.
- It is made of **wood and metal.**
- Used in religious ceremonies, this instrument is found in **Tamil Nadu.**

- It has a unique place in the annals of the history of Carnatic music.
- All double-reed aerophones like **nadaswaram, shahanai, mukhveena, nafiri, sundari**, etc, have the same mechanism for producing the sound.
- All of them have the same basic structure and technique of playing. The differences among them lie mostly in their sizes and certain minor details.

KAAVI ART

Recently, Prime Minister praise a goan artist for his effort to revive the century old kaavi art form.

- It is a form of painting on the inner and outer walls of the sacred spaces.
- It covers the ancient history of India in itself.
- Actually, 'Kaava' means red soil. In ancient times, red clay was used in this art.
- During the Portuguese rule in Goa, people who migrated from there introduced the people of

other states to this wonderful painting form.
- It is a form of **murals** found in **Konkan region** especially in temples of Goa, parts of coastal Maharashtra and Karnataka.
- It can also be seen in **old houses,** small shrines.
- Only Indian **red pigment** color is used in this painting.
- **Technique:** On the wet walls.
- **Themes**: Kavi artist selects sequences from the Ramayana, the Mahabharata, and the Bhagavata Purana.

INC SESSION – IMPORTANCE

Introduction

- The Indian National Congress was founded at Bombay in December 1885.
- The early leadership – Dadabhai Naoroji, Pherozeshah Mehta, Badruddin Tyabji, W.C. Bonnerji, Surendranath Banerji, Romesh Chandra Dutt, S. Subramania Iyer, among others – was largely from Bombay and Calcutta.
- A retired British official, **A.O. Hume**, also played a part in bringing Indians from the various regions together.
- Formation of Indian National Congress was an effort in the direction of **promoting the process of nation building.**
- In an effort to reach all regions, it was decided to rotate the Congress session among different parts of the country.
- The President belonged to a region other than where the Congress session was being held.

Sessions

- **First Session:** held at Bombay in 1885. **President:** W.C. Bannerjee
  - Formation of Indian National Congress.
- **Second Session:** held at Calcutta in 1886. **President:** Dadabhai Naoroji
- **Third Session:** held at Madras in 1887. **President:** Syed Badruddin Tyabji, first muslim President.
- **Fourth Session:** held at Allahabad in 1888. **President:** George Yule, first English President.
- **1896:** Calcutta. **President:** Rahimtullah Sayani
  - National Song 'Vande Mataram' sung for the first time by Rabindranath Tagore.
- **1899:** Lucknow. **President:** Romesh Chandra Dutt.
  - Demand for permanent fixation of Land revenue
- **1901:** Calcutta. **President:** Dinshaw E.Wacha
  - First time Gandhiji appeared on the Congress platform
- **1905:** Benaras. **President: Gopal Krishan Gokhale**
  - Formal proclamation of **Swadeshi movement** against government
- **1906:** Calcutta. **President:** Dadabhai Naoroji
  - Adopted four resolutions on: Swaraj (Self Government), Boycott Movement, Swadeshi & National Education
- **1907:** Surat. **President:** Rash Bihari Ghosh
  - Split in Congress- Moderates & Extremist
  - Adjournment of Session
- **1910:** Allahabad. **President:** Sir William Wedderburn
  - M.A Jinnah decried the separate electorate system introduced by act of 1909
- **1911:** Calcutta. **President:** B.N. Dhar

- o First time recital of Jan-Gan-Man in Congress session
- ▪ **1915:** Bombay. **President:** Sir S.P. Sinha
- o Constitution of the Congress was altered to admit the delegates from the extremist section
- ▪ **1916:** Lucknow. **President:** A.C. Majumdar
- o Unity between two factions-Moderates and Extremists of Congress
- o Lucknow Pact signed between Congress and Muslim League to build political consensus
- ▪ **1917:** Calcutta. **President:** Annie Besant, First Woman President of Congress
- ▪ **1918 (Special session):** Bombay. **President:** Syed Hasan Imam
- o The session was convened to deliberate the contentious **Montagu–Chelmsford Reforms** Scheme
- ▪ **1919:** Amritsar. **President:** Motilal Nehru
- o Congress extended support to Khilafat Movement
- ▪ **1920 (Special Session):** Calcutta. **President:** Lala Lajpat Rai
- o Mahatma Gandhi moved the Non-cooperation resolution
- ▪ **1920:** Nagpur. **President:** C. Vijayaraghavachariar
- o Reconstitution of Working committees of Congress on Linguistic basis
- o MA Jinnah left the Indian National Congress

- ▪ **1922:** Gaya. **President:** C.R. Das
- o CR Das and other leaders broke away from INC
- o Formation of Swaraj Party
- ▪ **1924:** Belgaum. **President:** M.K. Gandhi
- o Only Session presided over by Mahatma Gandhi
- ▪ **1925:** Kanpur. **President:** Sarojini Naidu, First Indian Woman President
- ▪ **1927:** Madras. **President:** Dr. M.A. Ansari
- o Passed a resolution against the use of Indian troops in China, Iran and Mesopotamia.
- o Passed a resolution against boycott of Simon Commission
- o Adoption of resolution on Purna Swaraj
- ▪ **1928:** Calcutta. **President:** Motilal Nehru
- o Formation of All India Youth Congress
- ▪ **1929:** Lahore. **President:** Jawahar Lal Nehru
- o Passed the resolution on 'Poorna Swaraj.'
- o **Civil Disobedience movement** for complete independence to be launched
- o **26 January** to be observed as 'Independence Day'.
- ▪ **1931:** Karachi. **President:** Vallabhbhai Patel
- o Resolutions on Fundamental Rights and National Economic Programme
- o Endorsement of Gandhi-Irwin pact
- o Gandhi nominated to represent INC in the **Second Round**

Table Conference to be held in London

- **1934:** Bombay. **President:** Rajendra Prasad
  o Amendment in the Constitution of Congress
- **1936:** Lucknow. **President:** Jawahar Lal Nehru
  o Push towards socialist ideas by Jawahar Lal Nehru
- **1937:** Faizpur. **President:** Jawahar Lal Nehru
  o First Session to be held in a village
- **1938:** Haripura. **President: Subhas Chandra Bose**
  o National Planning Committee set up under Jawahar Lal Nehru.
- **1939:** Tripuri. **President:** Rajendra Prasad
  o Subhas Chandra Bose was re-elected but had to resign
  o Rajendra Prasad was appointed in his place
  o Subhash Chandra Bose formed **Forward Bloc**
- **1940:** Ramgarh. **President:** Abul Kalam Azad

o Civil Disobedience movement to be launched at appropriate time and circumstances.
- **1941–45:** This Period is marked by events i.e. **Quit India movement**, RIN Mutiny & INA trials.
  o Phase of constitutional negotiations such as Cripps Mission, Wavell Plan and Cabinet Mission.
  o On account of these events during this phase **no congress session was held.**
- **1946:** Meerut. **President:** J.B Kripalani
  o Last session before independence
  o J.B Kriplani was the president of INC at independence.

Calcutta session of the Indian National Congress recently **completed 100 years**.

- **President**: **Bishan Narayan Dar**
- National anthem '**Jana Gana Mana'** was sung for the first on December 27, 1911.
  o The national anthem is also titled "**the morning song of India**".

THE BELAGAVI BORDER DISPUTE BETWEEN MAHARASHTRA AND KARNATAKA

Inter-state dispute between Karnataka and Maharashtra has fuelled again following a series of recent minor incidents.

Reorganization of States:
Timeline:
1947:

- India consisted of 571 disjointed princely states that were merged together to form 27 states.

- The grouping of states at the time was done on the basis of **political and historical considerations** rather than on linguistic or cultural divisions
- This was a **temporary arrangement.**

1948:
Dhar Commission

- The Commission preferred reorganisation of states on the **basis of administrative convenience** including historical and geographical considerations instead of on linguistic lines.

JVP Commission:
- The JVP Committee comprising **Jawaharlal Nehru, Vallabh bhai Patel and Pattabhi Sitaramayya** was formed to study the issue.
- The Committee **rejected** the idea of reorganisation of states on a **linguistic basis** but said that the issue could be looked at afresh in the light of public demand.

1953: First linguistic state of Andhra for Telugu-speaking people was born from the state of Madras.

1955: Fazl Ali Committee report:
- The committee recommended that the whole country be divided into **16 states and three centrally administered areas.**
- **The government**, while not agreeing with the recommendations entirely, **divided the country** into **14 states and 6 union territories** under the State Reorganisation Act that was passed in November 1956.

1960: The state of **Bombay was bifurcated** to create the states of Gujarat and Maharashtra following violence and agitation.

1963: The state of **Nagaland** was created for the sake of the Nagas and total number of states stood at 16.

1966: Shah Commission:
Following the recommendations of the report:

- The state of **Haryana** got the Punjabi-speaking areas.
- The **hilly areas** went to **Himachal Pradesh.**
- Chandigarh, which was made a Union Territory, would serve as the common capital of Punjab and Haryana.

1975: Sikkim was incorporated into the Union of India.

1987: Mizoram, Arunachal Pradesh and Goa acquired the status of states.

2000: Jharkhand, Chhattisgarh and Uttarakhand were separated from Bihar, Madhya Pradesh and Uttar Pradesh respectively.

2014: Telangana was carved out from Andhra Pradesh as a separate state.

2019: The state of **Jammu and Kashmir** was bifurcated into two Union Territory of Jammu-Kashmir and Ladakh.

Belagavi Issue:
History:
- At the time of Independence, the region of **Belagav**i (the Belgaum) was **part of the Bombay presidency.**
- The region was, **however**, **integrated with the state of Mysore** (now Karnataka) during reorganisation of states on linguistic lines.

Claims:
- **Pro-Marathi groups** claim that **Belagavi is a largely Marathi-speaking region** with many parts being exclusively Marathi speaking and that the region should be a part of Maharashtra instead of Karnataka.

- They claim that nearly **45 percent of the district is Marathi speaking.**
- While **pro-Kannada groups argue** that the **Marathi population is only around 35 per cent** which is on par with the Kannada-speaking population of the region.

DEFENCE MINISTER DEDICATES STRATEGICALLY IMPORTANT 24 BRIDGES & THREE ROADS BUILT BY 'BRO'

Recently, the Defence minister inaugurated 24 bridges and three roads, built by the **Border Roads Organisation** (BRO) in four states and two Union Territories.

Highlights:

- The **India's first indigenous Class 70 140-feet double-lane modular bridge was inaugurated** at the height of 11,000 feet at Flag Hill Dokala, **Sikkim**.
- **Chisumle-Demchok road** at **Umling La Pass** is located at the height of **19,000 feet** in Ladakh. It is the world's highest motorable road.

Significance of strong infrastructure in borders areas of India

- Border roads are a Crucial connectivity network in the border area to **provide better transport mobility in difficult terrains**. Moreover, they provide access to the **north and north-eastern borders.**
- Therefore, a **strong infrastructure** in border areas is essential in today's "uncertain times" as it strengthens strategic capabilities.
- The infrastructure plays a crucial role in **strengthening security as well as promoting the economic development** of the respective states through **improved connectivity.**
- Strengthened border infrastructure serves **multiple purposes** of stepping up India's Act East engagement and aiding the Indian military to undertake rapid deployment on the Sino-Indian border.

RARE BLACK ROCK ART DEPICTIONS FOUND IN KURNOOL VILLAGE

Recently, a rare black stick-like drawings of human beings have been found in two caves at Paibogula village in Kurnool district, Karnataka.

Highlights:

- The paintings were discovered from three caves: Yedoorlagayi, Siddhulagayi, and Gurralapadah.
- It is assumed that the painting dates back to the **Megalithic Period** (1500 to 500 BC) and **early Historical period** (500 BC to 600 AD).
- These sites have rock art in **black, red, and white pigments**, along with cupules or cup marks of varying sizes.
- These **cupules were made on gneissic granite,** a very hard and erosion-resistant rock type.

DRDO HANDS OVER TECHNOLOGY TO MANUFACTURE EXTREME COLD WEATHER CLOTHING SYSTEM TO FIVE INDUSTRY PARTNERS

Recently, DRDO hands over technology of extreme cold weather clothing system ECWCS.

- It will help **Indian Army** for its sustained operations in glacier and Himalayan peaks.

- **Three layered** ECWCS designed to provide thermal insulation between +15° to -50° Celsius.
- It with improved **thermal insulation** and physiological comfort based on the insulation.

PLEA SEEKS GI TAG FOR ARUNACHAL APATANI TEXTILE PRODUCT

Recently, an application seeking Geographical Indication (GI) tag for the Arunachal Pradesh Apatani textile product has been filed.

- The Apatani weave comes from the Apatani tribe of **Arunachal Pradesh.**

- The woven fabric of this tribe is known for its **geometric** and **zigzag patterns** and also for its angular designs.
- **Technique:** Different leaves and plant resources for organic dying the cotton yarns.

GOVT IMPOSES STOCK HOLDING LIMITS ON SOYMEAL TILL JUNE 2022 TO TAME PRICES

Centre imposes stock limits on soya meal till June 2022 to check price rise.

- Soya meal is used as a **raw material in the poultry feed** industry.
- It is produced from the **residue left after oil extraction.**

Essential Commodities Act:

- It was enacted in **1955.**

- **Objective:** To regulate the production, supply, and distribution of a whole host of commodities that the government declares essential.
- The government can also **fix the minimum support price (MSP)** of any packaged product that it declares an "**essential commodity**".

ATAL INNOVATION RANKINGS 2021: IIT-MADRAS TOPS AGAIN AS MOST INNOVATIVE EDUCATIONAL INSTITUTE

Recently, the **Atal Ranking of Institutions on Innovation Achievements** (ARIIA) 2021 was released by the Union Minister of State for Education.

Atal Ranking of Institutions on Innovation Achievements (ARIIA)

- Atal Ranking of Institutions on Innovation Achievements (ARIIA)

is an initiative of the **Ministry of Education (MoE), Govt. of India.**

- **Aim:** To systematically rank all major higher educational institutions and universities in India on indicators related to "Innovation and Entrepreneurship Development" amongst students and faculties.

Key pillars of ARIIA

- Budget & Funding Support.
- Infrastructure & Facilities.
- Awareness, Promotions & support for Idea Generation & Innovation.
- Promotion & Support for Entrepreneurship Development.
- Innovative Learning Methods & Courses.
- Intellectual Property Generation, Technology Transfer & Commercialization.
- Innovation in Governance of the Institution.

Key Categories of Atal Ranking of Institutions on Innovation Achievements are:

- **Institute of National Importance, Central Universities & CFTIs**
- **In government and government-aided universities**
- **Govt. and Govt. Aided College/Institutes**

Institute of National Importance

- The Institute of National Importance is a status that may be conferred on a **premier public higher education institution in India by an act of Parliament of India.**
- It **serves as a pivotal player in developing highly skilled personnel** within the specified region of the country/state.

Benefits of Institute of National Importance

- These institutions are **largely funded and supervised**, if not governed, by the Government of India, mostly through the **Ministry of Education**.
- Such institutes are academically autonomous and are **not under any state or central university.**
- These institutions also **enjoy certain tax-related advantages.**
- The institutes **receive scholarships schemes** provided by the government of India that only apply to the institutes of National Importance.
- It becomes **easier to obtain 'Research and Development Grants (R & D Grants)** if the proposal is from such an institution.

INDIAN ARMY DEDICATES SANKALP SMARAK IN A&N IN NETAJI'S MEMORY

Recently, the Sankalp Smarak, at Andaman Nicobar Island, was dedicated to the nation in the memory of Netaji Subhash Chandra Bose.

Sankalp Smarak:

- **Sankalp Smarak** will serve as the symbol of values enshrined by Netaji himself, **"Nishtha, Kartavya aur Balidan"** or "Commitment, Duty and Sacrifice" for all Indian armed forces.

- It is made in memory of the return of Netaji Subhash Chandra Bose on Indian soil at Port Blair Aerodrome on 29 Dec 1943.

Netaji's arrival at Port Blair:

- Netaji had **escaped British surveillance from Kolkata** on 16 Jan 1941 and **came back** on Indian soil **after nearly three years**, **at Port Blair** Aerodrome on 29 Dec 1943.

- This historic visit also marked a **declaration of Andaman and Nicobar Islands as the "first liberated territory of India".**
- On 29 Dec 1943, a national flag was hoisted for the first time on Indian soil, at Port Blair.

Netaji Subhash Chandra Bose (1897-1845):

Early life:

- At an early age, he was **strongly influenced by Swami Vivekananda's** teachings.
- He **passed but the Indian Civil Service competitive** examination **in 1920.**
  o After getting deeply **disturbed by the Jallianwalla Bagh massacre,** he left the job in and came back too india in 1921.
- After returning to India, he was **influenced by the thoughts of Mahatma Gandhi** and **joined the Indian National Congress.**
- In 1943, the **title 'Netaji'** was **given to Subhas Chandra Bose by German and Indian officials at the Special Bureau of India in Berlin**.

His contribution:

- He **participated in** Gandhiji's **non-cooperation movement of the 1920s.**
- **On Gandhiji's instructions**, he **started working under Deshbandhu Chittaranjan Das**.
  o **Deshbandhu Chittaranjan Das** is acknowledged as the political Guru of Netaji Subhash Chandra Bose.
- In 1928, the **Motilal Nehru Committee, appointed by the Congress**, demanded **Domination Status**.
  o But the **Subhash Chandra Bose along with Jawaharlal Nehru opposed it** and **demanded complete independence**.
  o In the same year, he announced the **formation of the Independence League**.
- Subhas was jailed during **Civil Disobedience Movement, 1930**.
  o Later, He was released in 1931 after the **Gandhi-Irwin pact**.
  o When the trio of **Bhagat Singh**, **rajguru, Sukhdev** were **hanged**, he was unhappy. He **protested** against Gandhi **for the Gandhi-Irwin pact.**
  o He also opposed the **suspension of the Civil Disobedience Movement by Gandhiji**.
- Later, Subhas was soon **arrested again** under the infamous **Bengal Regulation**.
  o But after a year, he was released on medical grounds and **sent to Europe by Britishers.**
  o **His entry was a ban in India.** But he defied and came to India. **Again he was caught and jailed.**
  o In the **General Elections of 1937**, **Congress came to power** in seven states and then he was released.
- He got elected **as President of Congress** at the **Haripura Session in 1938**.
  o During his presidency, he **talked about Economic planning** and **set up a National planning Committee**.

- o **In 1939,** he was **re-elected, as President of Congress**.
- He **defeated Dr. Pattabhi Sitaramayya who had been backed by Mahatma Gandhi** and the **Congress Working Committee**.
- o Later due to differences, **he resigned from the post of President of the congress** and formed the **Forward Bloc.**
- During **World War II** (1941) Subhas was interned in his Calcutta home.
- o However, he **escaped** in the disguise of a Maulavi **and reached Germany** under an Italian diplomatic **passport with the Italian name of Orlando Mazzota.**
- o **In 1943, at Berlin,** he formed the first **Indian National Army (INA)** with the '**prisoners of war'** who were Indian soldiers serving in the British Army.
- o He also **founded** an Indian Radio Station **called Azad Hind**

Radio in Berlin. From this radio, he used to broadcast and support Indian freedom.

- From then, he was also being **called as 'Netaji'**.
- From Berlin, Subhas **went to Japan at the invitation of Ras Bihari Bose**.
- o Here, the INA was enlarged with the addition of more soldiers and civilians.
- o Here, the **INA declared war against the British** with the support of Japanese forces. **Then, Netaji was the Chief Commander of the INA**.
- o By **1944, INA won areas of Imphal of Manipur**. But later, due to Japanese surrender in WW-II, INA came on backfoot.
- After the Japanese surrender, **he felt the need for Russian help**.
- o So, **he left for Russia in a Japanese aircraft** which **unfortunately met with an accident. Subhas passed away** in that accident.

ADDED BY BRITISH FOR STABILITY, SAND INSIDE KONARK SUN TEMPLE MAY BE CLEARED

The Archaeological Survey of India is working on a preliminary roadmap to safely remove sand from the interiors of Odisha's Sun Temple, which was filled up by the British to prevent it from collapsing.

Konark sun temple

- The name Konark is made of two Sanskrit words: Kona meaning **corner** and arka meaning **sun**.

- It is a **13th-century CE Sun temple** at Konark, on the coastline of **Odisha.**
- It was built by **King Narasimha Deva I** in 1244 to worship Surya, the Sun God.
- **Architecture:** Its architecture has all the defining elements of the **Kalinga architecture**.
- o It includes Shikhara (crown), Jagmohana (audience hall), Natmandir (dance hall) and Vimana (tower).

o The architecture of the Konark Surya Mandir is so accurate that the day's **first light** fell on the image of Surya in the sanctum sanctorum of the temple.
- Dedicated to the **Hindu Sun God Surya,** the temple complex has a 100-foot-high chariot with immense 24 wheels and 7 horses, all carved from stone
- This temple was called the "**Black Pagoda**" in European sailor accounts as early as 1676 because it looked like a great tiered tower which appeared black.
- It is declared a **UNESCO** world heritage site in 1984.

NATIONAL CONSUMER DISPUTES REDRESSAL COMMISSION

Recently, the Ministry of Consumer Affairs, Food, and Public Distribution revised the complaint jurisdiction limits of the National Consumer Disputes Redressal Commission (NCDRC), State Commissions, and the district commission.

Background:
- The Consumer Protection Act, 2019, provides for **a three-tier quasi-judicial mechanism for redressal of consumer disputes.** They are district commissions, state commissions, and national commissions (NCDRC).
- Provisions in the 2019 amendment of Consumer Protection Act of 1986 had provided that:

New limits:
- Up to ₹ 50 lakh for district commissions
- ₹ 50 lakh to ₹ 2 crores for state commissions
- ₹ 2 crores or more for the national commission

National Consumer Disputes Redressal Commission (NCDRC)
- It is a **quasi-judicial commission**, set up in 1988 **under the Consumer Protection Act of 1986**.
- **Head office**: New Delhi.
- **Composition**: President and 4 members.
- **Headed by** a sitting or retired judge of the Supreme Court of India.
- **Members:** either former High Court Judges or Secretaries to the Government of India.

ODISHA KENDU LEAF WORKERS STAGE PROTEST AGAINST GST

Recently, kendu leaf pluckers, binders and workers staged a demonstration demanding the abolition of Goods and Services Tax (GST) on kendu leaves.

The reason for protest:
- The **double taxation** has hit the profits of kendu leaf organisation:
- A GST of **18 percent is imposed on kendu leaves** which is against the Forest Rights Act-2006 and PESA Act-1996.
- A GST of **28 percent is imposed on bidi** which is a finished product made of kendu leaf.

Kendu Leaf:
- Kendu leaf is an important non-wood forest product.
- It is called **green gold of Odisha.**

- They are the leaves of tree species **Diospyros melanoxyion** known by different names such as tendu, abnus, kendu, kari, tembru etc in various regionsof India.
- **Distribution of Tree**:
o It generally grows in **dry mixed deciduous forests**.
o The species is abundant in Madhya Pradesh, Orissa, Maharashtra, Andhra Pradesh, Bihar, Rajasthan, Uttar Pradesh, Gujarat, Tamil Nadu, and West Bengal.
- **Production:** Madhya Pradesh, Chhattisgarh, Odisha, Andhra Pradesh, Jharkhand, Gujarat and Maharashtra.
o Only **state government or its authorised agents** can procure these leaves from the collectors or growers.
- **Tree pruning or bush cutting** is an important operation in the tendu leaf production process.

Uses:

- **Used for wrapping Bidis** due to wide availability and ease with which it can be rolled.
o The leaves have agreeable flavour, flexibility, resistance to decay and capacity to retain fires.
- It provides **employment** to the bidi rolling rural population during off season for collection of bidi leaves.
- Tendu leaf is an important **non-timber forest product (NTFP).**
o The ash of the off-cuts of leaves is used in **tooth powder.**

PESA Act 1996

- **The Panchayat (Extension of the Scheduled Areas) Act, or PESA**, was enacted by the Centre in 1996**.**
- **Aim:** To ensure **self-governance** through gram sabhas to the areas listed under the **fifth schedule.**
o The **fifth schedule** deals with the administration of the districts dominated by the Adivasi communities.
o These states include Jharkhand, Chhattisgarh, Odisha, Andhra Pradesh, Gujarat, Himachal Pradesh, Madhya Pradesh, Maharashtra, Rajasthan and Telangana.
- The Act recognises the **right of tribal communities**, residents of the scheduled areas, to govern themselves through their own systems of self-government.
- It also acknowledges their **traditional rights over natural resources.**

Provisions:

Power of Gram Sabha

They are given the power to:

- Approve **development plans** and controlling all social sectors including the processes and personnel who implement policies.
- Decide about **land acquisition**, resettlement and rehabilitation of displaced persons
- **Maintain a safety net** over their rights and surroundings against external or internal conflicts.
- Take **decisions over their customs** and traditionally managed resources, and also on

the minerals being excavated from their areas.

- **Management of resources** over jal, jangal, zameen (water, forest and land)
- **Exercising control** over minor forest produce, mines and minerals, markets and human resources.

Power of the Governor

- The Governor enjoys extra-ordinary power as the **sole protector of the legislation** in the Scheduled Areas.
- He or She can **take action to amend the existing laws** of the State or the Centre which are in conflict with the provisions of the PESA.

Limitation on the State:

- The preamble of Section 4 of PESA Act **prohibits the legislature of a State** in making any law under that Part which is inconsistent with any of the features laid down in the central Act.

Issues related to PESA:
Poor Implementation of the Act

- PESA remains disempowered as 40% of the states under its purview have not been able to

frame their rules for its implementation.

- Some states have not amended their laws to include PESA Act.

Ambiguity in the provision:

- Certain provisions in the State Panchayat Acts are **not defined clearly.**
- Certain subject laws and rules regarding money lending, forest and minor forest produce, mining and excise, **needs to be reframed.**

Gaps between the central legislation and provisioning at the State level:

- **Continuance of existing state laws** regarding money lending, forest, excise etc.
- **Incomplete transfer of ownership** of minor forest produces and planning and management of minor water bodies to Gram Panchayats and Gram Sabha.
- **Adequate actions have not been taken** on preventing alienation of tribal lands recognized in PESA.
- The **transfer of fund and functionaries** to the lower-level government has not taken place after devolving statutory powers to the Gram Sabha and Panchayats.

MOD NOTIFIES POSITIVE INDIGENISATION LIST OF SUB-SYSTEMS/ASSEMBLIES/ SUB-ASSEMBLIES/COMPONENTS TO ACHIEVE SELF-RELIANCE IN DEFENCE & MINIMISE IMPORTS BY DPSUs

Recently, positive indigenisation list of sub-systems, assemblies, sub-assemblies, components has been notified to minimise imports by **Defence Public Sector Undertakings** (DPSUs) by defence ministry.
Positive indigenisation list

- **Aim:** to boost indigenisation in defence manufacturing and to ensure foreign exchange savings of ₹3,000 crore a year.
- **Objective-**
- To make India a hub for developing and manufacturing military

hardware by reducing dependency on imported hardware.

- o To produce weapons and platforms that can be used by the Indian military and exported to other countries.
- It is the **third list issued** by defence ministry.
  - o **First list** has announced that India will stop importing 101 weapons and military platforms such as transport aircraft, light combat helicopters and sonar systems by 2024.
  - o **Second list** has restricted the import of 108 more weapons such as airborne early warning systems, tank engines, radars and next-generation corvettes.
- The list contains **2,500 imported items** which have already been indigenised.
- Once the restrictions take effect, these items can be **procured only from Indian industries**.
- **Benefit**- the foreign direct investment (FDI) limit under the automatic route in the defence sector was hiked from 49% to 74% in 2020.

Initiatives taken by Indian govt. for indigenization of defense:

Defence Acquisition Procedure (DAP) 2020

- o **Key features of DAP 2020**
  - ▪ Buy {**Indian-IDDM (Indigenously Designed, Developed and Manufactured**)}
  - ▪ This category has been accorded on priority for procurement of capital equipment.
  - ▪ The '**Make' Procedure** of capital procurement has been simplified.

- ▪ There is a provision for funding up **to 70% of development cost** by the Government to Indian industry under Make-I category.
- ▪ Procedure for '**Make-II' category** (Industry funded) has been introduced.
- ▪ 58 projects relating to Army, Navy & Air Force, have been accorded 'Approval in Principle'.
- The Government has enhanced FDI in Defence Sector up **to 74%** through the Automatic Route and up to 100% by Government Route.

SRIJAN portal

- o **Launched-** 2020
- o **Aim-** to provide development support to MSMEs/Start-ups/Industry for import substitution.
- **Policy for indigenisation of components and spares used in Defence Platforms.**
- o **Launched-** 2019
- o Objective- to create an industry ecosystem which is able to indigenize the imported components (including alloys & special materials) and sub-assemblies for defence equipment and platform manufactured in India.
- Government has established two **Defence Industrial Corridors** in Uttar Pradesh and Tamil Nadu.

Inter-Governmental Agreement (IGA)-

- o **Signed**- 2019
- o **Objective**- to enhance the "After Sales Support" and operational availability of Russian origin

equipment currently in service in Indian Armed Forces.

Innovations for Defence Excellence (iDEX)

- o **Launched-** 2018
- o **Aim-** creation of an ecosystem to foster innovation and technology development in Defence and Aerospace

Defence Investor Cell (DIC)

- o **Created-** 2018
- o **Aim-** to provide all necessary information including addressing

queries related to investment opportunities, procedures and regulatory requirements.

Strategic Partnership (SP)' Model

- o **Launched-** 2017
- o Partnership with global Original Equipment Manufacturers (**OEMs**).
- o **Aim-** to seek technology transfers to set up domestic manufacturing infrastructure and supply chains.

SAHITYA AKADEMI ANNOUNCES WINNERS OF YUVA PURASKAR, BAL SAHITYA PURASKAR 2021

Recently, the Sahitya Akademi has announced its prestigious Sahitya Akademi Awards, Yuva Puraskar and Bal Sahitya Puraskar 2021 in various languages.

Sahitya Akademi Award

- It is a **literary honour** in India given by **Sahitya Akademi.**
- It is the **second-highest literary honour** next to a Jnanpith award.
- It is conferred on **24 writers** in **24 languages** annually for the most outstanding books of literary merit.
- o Among 24 language, 22 languages are given in **Eighth Schedule and other two are English and Rajasthani language.**
- Each Award carries a **plaque, shawl, citation and a Cheque for Rs. One Lakh.**

Criteria for the award:

- The author must be of **Indian nationality**.
- The Award will be considered only if there is **minimum of three books** in the final stage of selection.
- The book should **not be a translation** work or abridgment.

Sahitya Akademi

- Established in **1954**
- o It was registered as a society **in 1956,** under the **Societies Registration Act, 1860.**
- **Headquarter:** New Delhi.
- **Aim-** To recognise and promote excellence in Indian writing and also acknowledge new trends.

POLITICAL ISSUES, HUMAN RIGHTS & GOVERNANCE

RAJYA SABHA PASSES DAM SAFETY BILL, WHICH TOOK 34 YEARS TO DRAFT. HERE'S WHY IT IS IMPORTANT

Recently, the Rajya Sabha passed the Dam Safety Bill.

DAM Safety Bill

- **Aim:** To allow for the surveillance, inspection, operation and maintenance of specified dams in India via a regulatory body.

Importance of Bill:

o The Bill seeks to address various issues concerning dam safety:

▪ It includes regular **inspection of dams, emergency action plans, adequate repair and maintenance funds**, and instrumentation and the safety manuals.

Features of the Bill:

o The bill proposes the setting up of the following regulatory bodies:

National Committee on Dam Safety,

▪ Chaired by the Central Water Commissioner (CWC).

▪ Other members of the NCDS:

▪ will be nominated by the Centre

▪ will include up to 10 representatives of the Centre, 7 state government representatives, and 3 experts on dam safety.

▪ **State Committee on Dam Safety**

▪ **State Dam Safety Organisation**

▪ **National Dam Safety Authority**

▪ The four above mentioned bodies will ensure dam safety policies, surveillance, inspection, operation, maintenance and safe functioning of all specified dams.

▪ In some cases, the **NDSA will possess cross jurisdiction.**

▪ For example, if a dam owned by one state is situated in another or crosses multiple states, or if a dam is owned by a central public sector undertaking.

▪ The dams that come under the scope of the Bill have to be **more than 15 metres in height** with specified design considerations.

Application of the Bill

o The Bill applies to all specified dams in the country, which are:

▪ Dams having height more than 15 metres

▪ **Height between 10 metres to 15 metres** with additional conditions like: Reservoir capacity of at least **one million cubic meters**.

▪ Length of the top of the dam at **least 500 metres**.

- **Claim by Opposition parties:**

o As per law, **Entry 17 of the State List allows states to make laws** on

issues of water supply, irrigation and canals, drainage, water storage and water power.

o Under **Entry 56 of the Union List**, the Centre's control of rivers and water is limited only to laws it can make on the regulation of inter-state rivers and river valleys.

o As per the Bill, in the public interest, Union government can regulate on a uniform dam safety procedure for all specified dams.

▪ However, given Entry 17, it is **unclear how Parliament would have the jurisdiction to frame a law for dams on rivers where the river and its valley are entirely within a state**.

EVENT TO MARK 100 YRS OF PAC

2021 marks the centennial year celebration of the Public Accounts Committee (PAC) of Parliament.

Public Accounts Committee

- This committee was set up first in **1921** under the provisions of **the Government of India Act of 1919.**
- At present, it consists of **22** members (**15** from the **Lok Sabha** and **7** from the **Rajya Sabha**).

Members:

- The members are **elected** by the Parliament every year from amongst its members according to the principle of proportional representation by means of the single transferable vote.
  o This allows all parties to get due representation in it.
- A **minister cannot be elected** as a member of the committee.
- The **chairman** of the committee is appointed from **amongst its members** by the Speaker.
- The **term of office** of the members is **one year.**
- The **chairman** of the committee is selected invariably **from the Opposition**.

Functions:

- **To examine** the **annual audit reports of the Comptroller and Auditor General of India (CAG)**, which are laid before the Parliament by the President.
- To examine the **appropriation accounts** and the finance accounts of the Union government and any other accounts laid before the Lok Sabha.
  o The appropriation accounts compare the actual expenditure with the expenditure sanctioned by the Parliament through the Appropriation Act, while the finance accounts show the annual receipts and disbursements of the Union Government.
- To **scrutinize the appropriation accounts** and the audit report of CAG on it.
- To examine the accounts of state corporations, trading concerns and manufacturing projects and the audit report of CAG on them (except those public undertakings which are allotted to the Committee on Public Undertakings)

- To **consider the report of the CAG** relating to the audit of any receipt or to examine the accounts of stores and stocks.
- To examine the **money spent on any service** during a financial year in excess of the amount granted by the Lok Sabha for that purpose.

Shortcomings:

- It **does not concern** itself with the **questions of policy in broader sense**.
- It conducts only a **post-mortem examination** of accounts (showing the expenditure already incurred).
- It **cannot intervene** in the matters of **day-to-day administration**.
- Its **recommendations are advisory** and **not binding** on the ministries.
- It **does not** have the **power of disallowance** of expenditures by the departments.
- It **cannot issue order** as it is **not** an executive body.

Importance of Parliamentary Committees:

Provides Expertise:

- Parliament deliberates on complex matters and therefore need technical expertise to understand such matters better.
- **Committees**, with proper **technical expertise**, can help with this by providing a forum where members can engage with domain experts and government officials.

Build Consensus Across Political Parties:

- Committees have closed door meetings, allowing them to **freely question** and discuss issues and arrive at a consensus.

Examine Policy Issues:

- Committees also examine policy issues in their respective ministries, and **make suggestions to the government.**
  o The Committees have immensely contributed to strengthen the laws passed by Parliament.

OPPOSITION MPs STALL BILL TO AMEND CONSTITUTION'S PREAMBLE IN RAJYA SABHA

Recently, Opposition MPs stalled the introduction of a private member's bill by MP of a ruling party in Rajya Sabha to amend the Preamble of the Constitution.

- The Bill seeks to change the words in the Preamble **"EQUALITY of status and of opportunity"** to **"EQUALITY of status and of opportunity to be born, to be fed, to be educated, to get a job and to be treated with dignity**".

- The Bill also proposed adding "**access to information technology**" and "**happiness**" as objectives.

Amendment of the Constitution of India

- Amending the Constitution of India is the process of making changes to the nation's fundamental law or supreme law.
  o The procedure of amendment in the constitution is laid down

in **Article 368** of the Constitution of India.

o This procedure **ensures the sanctity of the Constitution of India** and **keeps a check on the arbitrary power** of the Parliament of India.

Can the preamble be amended?

- The Preamble can be subjected to Constitutional Amendments exercised under article 368, however, the **basic structure** cannot be altered. Due to this, it is considered the heart and soul of the Constitution.

In the Berubari Case (1960)

▪ The amenability & the significance of the constitution came into force.

▪ A question was raised relating to **the powers of the Parliament to cede Indian territory to a foreign country**, as an **interpretation of Article 3.**

▪ **Judgment:**

o The Supreme Court had held that the power of Parliament to diminish the area of a state as guaranteed in article 3 of the Constitution.

▪ It does not cover the cession of the Indian territory to a foreign country.

▪ **Indian territory** can be ceded to a foreign country only using the amendment of the Constitution under Article 368.

▪ Thus the 9th Constitutional Amendment Act, 1960 was enacted to transfer the **Berubari Union to Bangladesh**.

- **The case highlighted:**

o The Preamble **is not a part of the Indian Constitution**.

o It is not a source of the several powers conferred on government under the provisions of the Constitution.

o Such powers embrace those expressly granted in the body of the Constitution and such as may be implied from those granted.

o The Preamble did not indicate the assumptions that the first part of the Preamble postulates a very serious limitation on one of the very important attributes of sovereignty.

In the Keshavananda Bharati case

- Supreme Court of India outlined the basic structure doctrine of the Indian Constitution.

The case highlighted:

o That the Preamble to the Constitution of India is a part of the Constitution.

o The Preamble is not a source of power nor a source of limitations.

o The Preamble has a significant role to play in the interpretation of statutes, also in the interpretation of provisions of the Constitution.

- **Judgment:**

o The Court settled in favor of the view that Parliament has the power to amend **the fundamental rights.**

o The expression "**amendment**" of this Constitution in article 368 means any addition or change in any of the provisions of the Constitution.

o It should be within the broad **contours** of the Preamble and the Constitution to carry out

the objectives in the Preamble and the **Directive Principles**.
o The true position is that every provision of **the Constitution can be amended** provided the basic **foundation and structure of the Constitution remain the same**.

What is a Private bill?
• It is a parliamentary bill that is introduced in the Parliament by a **private member** (Not a minister).

o It involves the private interests of a particular individual, corporation, or local unit.
o Private bills deal with **immigration and granting citizenship or permanent residency**.
o Private bills may also be introduced for individuals who have claims against the government, veterans' benefits claims, claims for military decorations, or taxation problems.

Difference between Public Bill and Private Bill

S.NO	Public Bill	Private Bill
1	It is introduced in the Parliament by a minister.	It is introduced by any member of Parliament other than a minister.
2	It reflects the policies of the government (ruling party).	It reflects the stand of the opposition party on public matter.
3	It has a greater chance to be approved by the Parliament	It has a lesser chance to be approved by the Parliament.
4	Its rejection by the House amounts to the expression of want of parliamentary confidence in the government and may lead to its resignation.	Its rejection by the House has no implication on the parliamentary confidence in the government or its resignation.
5	Its introduction in the House requires seven days' notice	Its introduction in the House requires one month's notice.
6	It is drafted by the concerned department in consultation with the law department.	Its drafting is the responsibility of the member concerned.

WHAT IS 'GREATER TIPRALAND' AND WHY ARE TRIBAL OUTFITS IN TRIPURA PUSHING FOR IT

Several tribal outfits in Tripura have joined hands to **push their demand for a separate state** for indigenous communities in the region recently.

Greater Tipraland?
• **Greater Tipraland** is an extension of the ruling Indigenous Peoples Front of Tripura's (IPFT) demand of Tipraland.
• **Aim:** To form a separate state for **tribals** of Tripura.

What is the demand?
• The demand is said to involve each tribe residing in the indigenous

area or village outside the **Tripura Tribal Areas Autonomous District Council**.

- It also seeks to include **'Tiprasa'** of the Tripuris that are spread across Mizoram and Assam, Bandarban, Chittagong, Khagrachari too.
- They want the Central Government to carve out the separate state under **Article 2 and 3** of the Constitution.

Genesis:

- **The Indigenous People's Regional Alliance** (TIPRA) emerged as the single-largest tribal political party of Tripura.
- The party in 2021 announced merger with two tribal political parties: Tipraland State Party and Indigenous People's Front of Tripura.
- TIPRA was rechristened as **Tipraha Indigenous People's Regional Alliance**.
- The demand of Tipraland was first put forward by them in 2009.

Causes:

- Tripura was a kingdom ruled by the **Manikya dynasty** from the late 13th century until the signing of the Instrument of Accession with the Indian government on October 15, 1949.
- The demand mainly came from the **anxiety of the indigenous communities in connection with the change in the demographics** of the state, which has reduced them to a **minority.**
- The demand stems from the anxiety of the **indigenous communities** in connection with

the change in the demographics of the state, which has reduced them to a minority.

- o It happened due to the displacement of Bengalis from **East Pakistan** between 1947 and 1971.
- o From 63.77 % in 1881, the population of the tribals in Tripura was down to 31.80 % by 2011.
- **In the intervening decades, Ethnic conflict** and insurgency gripped the state, which shares 860-km long boundary with Bangladesh.
- Indigenous people have not only been reduced to a minority, but have also been dislodged from land reserved for them by the penultimate king of the Manikya dynasty Bir Bikram Kishore Debbarman.

Provision under Constitution:

Article-2

- **It says**: Parliament may by law admit into the Union, or establish new States on such terms and conditions as it thinks fit.
- However, **Parliament cannot establish** a new union territory by passing a law, that can only be done through a constitutional amendment.
- States like **Sikkim** became a part of the country under Article 2.

Article-3

- Parliament may by law:
- o **Form a new State** by separation of territory from any State or by uniting two or more States or parts of States or by

uniting any territory to a part of any State.

- o Increase the area of any State
- o **Diminish the area** of any State
- o Alter the boundaries of any State
- o Alter the name of any State
- Provided that no bill for the purpose shall be introduced in either House of Parliament except on the **recommendation of the President** and unless, where the proposal contained in the bill affects the area, boundaries or name of any of the States.

HOW MPs' QUESTIONS ARE ALLOWED, DISALLOWED

Recently, a question by Rajya Sabha MP listed for a reply, has been removed from the list of finally admitted questions.

Starred, Unstarred and other categories of questions?

- Elected members of both the houses enjoy the **right to seek information** from various ministries and departments in the form of questions.
- In addition to the ministers, the questions can also be asked to the private members.

Type of Questions:

- **Starred Question**:
- o A starred question is one in which the member desires an **oral answer** from the minister.
- o Such a question is distinguished with an **asterisk.**
- o The **answer can also be followed by supplementary questions** from members.
- **Unstarred Question:**
- o In unstarred questions, the member seeks **a written answer**, which is deemed to be laid on the table of the House by the concerned minister.
- o No supplementary questions can be asked.
- **Short Notice Question**:

- o These are on an **urgent matter of public importance**, and an oral answer is sought.
- o A **notice of less than 10** days is prescribed as the minimum period for asking such a question.
- **Question To Private Member**:
- o A question can be addressed to a private member, provided that the question deals with a subject **relating to some Bill, resolution** or other matter for which that member is responsible.
- o This is provided under **Rule 40 of Lok Sabha's Rules of Procedure**, or under **Rule 48 of Rajya Sabha's Rules.**

When are the questions asked?

- **Question Hour** is the first hour of every sitting, usually devoted to asking and answering of questions.
- The **total number of questions for any day is limited to 175**.
- o It includes 15 questions for oral answers, questions postponed from one list to another for written answers, and 15 questions pertaining to states under President's Rule.

What kind of questions can be asked?

- The admissibility of the questions is governed by **Rules 47-50 (Rajya Sabha) and 41-44 (Lok Sabha).**
- The **Rajya Sabha Chairman or the Lok Sabha Speaker has the authority to decide whether a question or a part is or is not admissible** under the norms of the House
- He/she can also disallow any question or a part.

In Rajya Sabha:

- The question shall be pointed, specific and confined to one issue only.
- It shall not bring in any name or statement not strictly necessary to make the question intelligible.

- If it contains a statement the member shall make himself responsible for the accuracy of the statement.
- It shall not contain arguments, inferences, ironical expressions, imputations, epithets or defamatory statements.

In Lok Sabha the questions that are **not admitted** include:

- Those that are repetitive or have been answered previously
- Matters that are pending for judgment before any court of law or under consideration before a Parliamentary Committee.

RAJYA SABHA SPLIT OVER BILL ON CSR FUNDS FOR MONUMENTS' UPKEEP

There was a split in Rajya Sabha over a Bill on mandating **25% of corporate social responsibility (CSR)** funds used for **restoration, management and maintenance of ancient monuments and archaeological sites.**

CSR Funds?

- **Corporate Social Responsibility** is a concept, whereby companies decide voluntarily to contribute to a better society and a cleaner environment.
- **The companies integrate** social and other useful concerns in their business operations for the betterment of the stakeholders.
- CSR motivates companies to contribute socially, economically and environmentally by engaging in acts like:

- Engaging members of local community
- By using **Socially Responsible Investment** (SRI)
- Develop an amicable relationship with employees and consumers
- **Engage in actions** which are protecting and sustaining the environment.

Need of CSR:

- CSR is responsible for **generating goodwill** to companies either directly or indirectly. These include
- Making employees **more loyal and help companies** retain them in the long run.
- **Make companies** more legitimate and help them in accessing a greater market share.

- Bolster the goodwill of companies amongst the general public and help in strengthening their brand value.
- Help in the **stabilization of stock markets** in both the short and long run.

Benefits of CSR:

CSR helps companies and their shareholders to help in the development of a country's economy on a macro-level.

- The **Standard of living** gets better with the introduction of more amenities.
- Companies engage in large-scale capacity building due to which the society becomes more **prosperous and wealthier.**
- Creates a more balanced world and **healthier environmental systems**.

CSR Laws in India:

- The **Companies Act, 2013** made CSR a compulsory act.
- **Under Section 135** of the new act, CSR is compulsory for all companies- government or private or they meet any one or more of the following fiscal criterions:
  - The net worth of the company should be Rupees 500 crores or more.
  - The annual turnover of the company should be Rupees 1000 crores or more.
  - **Annual net profits** of the company should be at least Rupees 5 crores.

List of Permitted Activities under the CSR is included in Schedule VII of the Companies Act, 2013

Features of CSR Laws:

- Money utilized for CSR purposes are to be included in the annual profit-loss report released by the company.
- The CSR rules will include **subsidiary companies**, holdings and other foreign corporate organizations, involved in business activities in India.

AN INNOVATION THAT CAN BETTER PROTECT POWER GRIDS

Researchers from Indian Institute of Technology (IIT) Kanpur have come up with an innovation to protect power grids.

Need of new technology:

- Power grids need **protection from sudden surges** in the current (fault current).
  - Surge in current can arise due to short-circuits, sudden overdrawing of power or excess power generated due to a falling demand.
- These surges **cause** heating of the wires and melting and fire accidents.
  - Earlier this used to be controlled by using circuit breakers, which would cut off the current in the event of a surge.
- These suffered from the **limitation** that if the **response time** to the current surge was **too large**, they would **fail to be effective.**
- Also, once the circuit was broken to avert the accident, the switch had to be **manually turned**

on once again, and this could **lead to longer power cuts**.

Superconducting fault current limiters (SFCL):

- This device uses a **superconductor**, which allows a **dissipation less passage of current** under normal circumstances.
- However, if the current flowing through it increases beyond a threshold value, as during a fault, its **resistance increases** sharply.

Features:

- The operation of a SFCL is very **rapid and automatic**.
  o Once the fault current reduces and the current flow returns to below the threshold value, the resistance of the SFCL also automatically goes down to zero.
- It is **cost effective** compared to the imported counterparts.
- It can **operate at higher currents.**

Significance:

- It **shields the grid** from large current surges and consequent fire accidents.
- It can also **sense** when the current surges will happen and warn the system about it.
  o This can help the detection of a fault situation even while it is developing

Superconductors:

- Superconductivity is a set of physical properties observed in certain materials where **electrical resistance is** near zero.

- Superconductivity is a phenomenon which can only be explained by **quantum mechanics.**

Characteristics:

- It has a **characteristic critical temperature** below which the **resistance drops abruptly to zero**.
  o An electric current through a loop of superconducting wire can persist indefinitely with no power source due to zero resistance.
- Superconducting magnets are some of the most powerful **electromagnets** known.

Applications:

- In **mass spectrometers**, the beam-steering magnets used in particle accelerators and plasma confining magnets in some tokamaks.
- For **magnetic separation**, where weakly magnetic particles are extracted from a background of less or non-magnetic particles, as in the pigment industries.
- In **large wind turbines** to overcome the restrictions imposed by high electrical currents.
- Earlier, superconductors were used to build **experimental digital computers** using cryotron switches.
- More recently, superconductors have been used to make **digital circuits** based on rapid single flux quantum technology and RF and microwave filters for mobile phone base stations.

ASSAM SCRIBE FACING SEDITION CHARGE RELEASED ON BOND

Editor and co-owner of a news portal in southern Assam charged with sedition was released on a personal recognisance (PR) recently.

- The editor was **charged with sedition** for an editorial aimed at igniting enmity between the Assamese and Bengali-speaking people of Assam.

What is Sedition?

- Sedition means **any act or speech** that leads to insurrection against the State.

Origin:

- Origin of Sedition law in India is connected to the **Wahabis Movement** of the 19th century.
  o This was an Islamic revivalist movement and was led by Syed Ahmed Barelvi.
- Since 1830, the movement was active but in the wake of 1857 revolt, it turned into armed resistance, a Jihad against the British.
- The British termed **Wahabis as rebels** and carried out military operations against Wahabis.

Seditious Activities:

- **Raising of slogans** against the government.
- **A speech** made by a person must incite violence / public disorder for it to be considered as seditious.
- **Any written work** which incites violence and public disorder.

Sedition Law in India:

Section 124-A of IPC

Sedition is covered under Section 124-A of IPC.

It states that:

- 'Whoever by words either spoken or written, by signs, or by visible representation, brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection towards, the Government shall be punished with imprisonment for life, to which fine may be added'.

Punishment for Sedition:

- **A person convicted** of sedition is punishable with either imprisonment ranging from 3 years to a lifetime, a fine or both.
- Sedition is a **cognizable offense**; the police can arrest a person accused of sedition without needing a warrant for the same.
- It is a **non-bailable offense**; a person arrested for sedition cannot be released on bail by the police as a matter of his right.
  o He has to apply for bail before a court or a magistrate.
- It is a **non-compoundable offense;** it cannot be settled with a compromise between the accused and the victim.

Personal Recognizance Bail:

- **PR bail** means getting released from jail in which **a bail amount is set but then waived.**
- **A defendant** doesn't pay for a cash bond or surety bond or post property as collateral for bail.
- It is based on a promise that the **person who has been arrested will appear at all required court hearings.**
- This type of bail is offered for **lesser crimes** when the defendant is not considered to be a flight risk.

PR Bond Conditions:

- The court can implement a set of conditions that the defendant must follow to remain free on PR bail.
  o **Example**: An arrest for domestic violence might require the defendant to avoid contacting the alleged victim.
- Failure to meet conditions for release can result in **arrest and requirement to post bail.**

GOVERNMENT PLANS TO AMEND NOTARIES ACT; PUTS DRAFT BILL IN PUBLIC DOMAIN

The Centre came out with a draft Notaries (Amendment) Bill.

Proposed Amendments in the Bill:
The Bill seeks to:

- **Restrict the number of terms** a person can practise as a notary.
  o It is proposed to restrict the overall term of notaries for a period up to 15 years (initial term of five years and two renewal terms of five years each).
- **Extend power** to suspend the certificate of practice in cases of professional misconduct by the appropriate government for conduct of inquiry.
- **Digitise and automate** the **notarial work** undertaken by notaries.

Notaries Act, 1952:

- The Notaries Act, 1952 was enacted to **regulate the profession of notaries**.
- The act **empowers** the **Central government** as well as **State governments to appoint** notaries who possess the prescribed qualifications.
- There are **fixed number** of Notaries who are **appointed** by the Central as well as State Governments.
  o There are a **fixed number of notaries** who can **operate in fixed areas**, keeping in view the commercial importance and the requirement of that particular area.
- As per the existing provisions of the law, the **number of terms of renewal** of certificates of practice of a notary is **unrestricted** after the initial appointment.

Significance of the amendments:

- It will allow more **young legal practitioners** enter the field.
- Digitization will **prevent misconduct** in respect of notarization and safeguard the interests of general public.
  o This will help to avoid any fraud, deceit, tampering of records and back-dating of notarization, etc.

RAJYA SABHA PASSES NIPER (AMENDMENT) BILL

Recently, The **National Institute of Pharmaceutical Education & Research** (Amend) Bill, 2021 was passed in the Lok Sabha.

National Institute of Pharmaceutical Education and Research (Amendment) Bill, 2021

- **Aim:** To amend the National Institute of Pharmaceutical Education and Research Act,

1998, which declared the NIPER established in Punjab, as an institution of national importance.

Key features of the Bill:

- **Six additional National Institutes of Pharmaceutical Education and Research** (NIPERs) as institutions of national importance are declared.
  - o It includes the institutes in **Ahmedabad, Hajipur, Hyderabad, Kolkata, Guwahati, and Raebareli.**
- The bill seeks to **rationalize the board of governors** of each such institute from its existing strength of 23 to 12 members.
- The bill will **widen the scope and number of courses run by such institutes**.
  - o It includes graduate and post-graduate degrees, doctoral and post-doctoral distinctions, and

research in pharmaceutical education.

- The bill will provide **for a council** to ensure the development of pharmaceutical research and ensure close collaboration between research institutions and industry.

Functions of the Council include:

- Advising on matters related to course duration, and admission standards in the institutes.
- Formulating policies for recruitment, conditions of service, and fees.
- Examining and approving development plans of the institutes.
- Examining annual budget estimates of the institutes for recommendations to the central government for allocation of funds.

DECISION TO LINK PRICE OF COKING COAL TO IMPORTED DRY FUEL UNDER CONSIDERATION: GOVT

The recently formed Inter-Ministerial Committee, headed by the Additional Secretary, Ministry of Coal has submitted it recommendations to strategize augmentation of coking coal production in India.

The main recommendations of the Committee:

- **Identify additional coking coal blocks** for production by Coal India Ltd (CIL) and private sector
- Adopt **existing advance technology** for beneficiation of coking coal.
- Developing **policy framework** for disposal of **washery rejects**.

- **Allocate coking coal linkages** by CIL to private washeries, setting up of coking coal washeries on aggregator model basis.
- Formulate **import parity-based pricing mechanism** for domestic coking coal factoring the quality parameters.
- **Incentive-based framework** to encourage steel sector for utilisation of domestic coking coal.
- CIL should publish mine-wise/seam-wise details of coking properties of coal on its website and purchaser may be allowed to choose from specific source.

- **Tax incentives** may be provided to the entities for manufacturing of underground mining machinery and entities engaged in underground mining.

What is Coking Coal?

- Coking coal, also known as **metallurgical coal**, is used to **create coke**.
  - Coke is one of the key irreplaceable inputs for the production of steel.
- Coke quality is largely influenced by **coal rank, composition, mineral content** and the ability to soften when heated, become plastic, and resolidify into a coherent mass.
  - **Bituminous class coals** that possess **these properties** are called "**coking**" coals.
- The property that sets coking coals apart from other coals is its caking ability.
  - It is the specific property required in order to make coke suitable for steel making.

Uses of Coking Coal:

- It is mainly used in manufacturing of **steel through blast furnace** route.

Present Scenario:

Demand Supply Gap of Coking Coal:

- India's domestic reserves are **inadequate t**o meet the demand.

Domestic Production:

- **Domestic** coking coal is **high ash coal** (mostly between 18% - 49%) and is not suitable for direct use in the blast furnace.
  - Majority of the country's coking coal is being produced in **Jharkhand.**

- Therefore, coking coal is washed to reduce the ash percentage and is blended with imported coking coal (<9% ash) before utilisation in the blast furnace.

Import of Coking Coal:

- Indian steel industry fulfils **70%** of its coking coal requirements through **imports.**
  - About **50 MT** coking coal is imported by the country on an **annual basis**.

Mission Coking Coal:

Objectives:

- To prepare an action plan **to reduce import** of coking coal.
  - It will include **exploration, enhanced production**, adoption of new technologies, setting up of new coking coal washeries and **enhanced R&D activities.**

Significance:

- This will give necessary boost to coking coal production in our country and **strengthen in-house capabilities.**
- It will help in substantial reduction of coking coal imports and will lead us on a path to **Atmanirbhar Bharat.**
- Coking coal has the potential to emerge as one of the important new **business areas** for CIL and other private sector players.

Steps taken by the Government for increasing coal production:

- Auction of commercial mining on **Revenue Sharing Mechanism** was launched.
  - A total of 28 coal mines have been successfully auctioned.
- The Ministry of Coal has amended **Mineral Concession**

Rules, 1960 with a view to allowing sale of coal or lignite, on payment of additional amount, by the lessee of a captive mine.

- **Single Window Clearance portal** has been launched.
  o It is a unified platform that facilitates grant of clearances and approvals required for starting a coal mine in India.

- Coal India Ltd. has envisaged 15 Projects identified with a Capacity of about **160 MTPA (Million Tonnes per Annum)** to be operated by Mine Developer cum Operator mode.
- **Increasing domestic production** of coal through allocation of more coal blocks.

JUDGES' SALARIES AND SERVICE AMENDMENT BILL TO BE TABLED IN LOK SABHA

Union law and justice minister will introduce the High Court and Supreme Court Judges (Salaries and Conditions of Service) Amendment Bill, 2021 in the Lok Sabha.

The Bill proposes to:

- Bring **clarity concerning the date** on which a retired judge becomes eligible for an **additional quantum of pension.**
  o At present there are **five age brackets** (with minimum age of 80, 85, 90, 95, and 100 years) when they are entitled to an additional quantum of pension or family pension.
- Insert an explanation in sections 17b of the HC judges act and 16b of the Supreme Court judges act to clarify the **government's objective**.

Key Facts:

- The **pension** of a retired **judge of high court** is charged on **the Consolidated Fund of India** according to Article 112(3) of the Constitution of India whereas, **salaries & allowances** are charged on **Consolidated Fund of State**.

HOUSE YET TO CLEAR MORE THAN TWO-THIRDS OF 36 LISTED LEGISLATIONS

More than two-third of the 36 legislations, listed by the Centre for consideration and passage are yet to be taken up in the winter session of Parliament.

Decline in Productivity:

- The productivity of both the Houses came down in the first two weeks of winter session, when compared to the recent previous sessions of Parliament.

- **The Monsoon Session** was the third least productive Lok Sabha session of the last two decades, with a productivity of just 21 per cent.
- **Rajya Sabha** had a productivity of 28 per cent.
  o It worked 6 percent more during second week of Winter Session.
- **For Lok Sabha**, the Winter Sessions of 2013 and 2016 were

the second worst-hit in terms of productivity.

- **The Budget Session of 2018** witnessed a productivity of 21 per cent in Lok Sabha.
- For Rajya Sabha, the Budget Session of 2019 was the second worst in terms of productivity: 7 per cent.
- **Seven MPs** were suspended from Lok Sabha for the Budget Session in 2020.

Suggestions to improve Parliament Productivity:

Nodal Standing Committee on Economy

- There should be a **nodal standing committee on economy** with specific subject-oriented study groups concerned with economic policy formulation and implementation.
- It would help to evolve better means of monitoring performance in implementing policies and prescribing correctives to ensure the best use of available resources.

Improving the quality of Members

- Quality of Members is the most important variable in the working of any **Parliament**.
- It is the **primary duty** of every member to maintain and project a good image of Parliament by his conduct both inside and outside the Houses of Parliament.

Reducing the Expenditure:

- **Financial cost** of parliamentary democracy has been skyrocketing.
- During the last five decades they have gone up by over 100 times.

- **A strict limit** needs to be placed on the number of Ministers and equivalent posts both at the Union level and in the States.

Planning Legislation and improving its Quality:

- The legislation has been criticized for **hasty drafting** and for being rushed through Parliament in an ad hoc and haphazard manner.
- There is a need for a **dynamic approach** to legislative engineering and systematic programming of laws.
- This can be done by:
- Streamlining the functions of the **Parliamentary and Legal Affairs Committee** of the Cabinet.
- Making greater use of the **Law Commission**.
- Setting up a new **Legislation Committee of Parliament** to oversee and coordinate legislative planning.

Codifying Parliamentary Privileges:

- Currently, **parliamentary privileges are not codified** and thus have MPs have gained an undefined power as there is no expressed provision to state the limitations on their powers.
- Thus, there is need of the codification of **parliamentary privileges** to prevent the potential misuse.

Parliamentary Control Over Borrowing:

- **There is no provision** for a parliamentary scrutiny or control of public borrowing.
- In India, the Constitution and the laws **place no limits** on the

borrowing powers of the Executive.

- Beyond certain limits, the proposals for the borrowing should be subjected to scrutiny by

the proposed parliamentary committee on National Economy or the Standing Committee for the Ministry of Finance.

RAILWAYS TO INVITE BIDS FOR PRIVATE TRAIN PLAN

Indian Railways plans to invite bids from private operators for running more than 150 passenger trains for 35 years on 109 busy routes.

Highlights:

- **The 151 trains represent only around 5 per cent** of total trains run in India.
- **Each cluster has an indicative project cost and average train distance of 900-1052km**.
- The contract period of 35 years is based on the fact that trains and engines are usually in service for around three decades.
- The first set of 12 trains is estimated to roll out by 2022-23.

Need of privatization:

- **Low Revenue: Due to cross subsidization** revenue has not be generated at the optimum level.
  - o **Cross subsidization**- money earned through freight traffic is diverted to meet the shortfall in passenger traffic revenue.
- **Quality of service:** The quality of service in Indian Railways is sometimes questionable. **The catering and punctuality are not the strongest pursuits of our railways.**
- **Accidents:** Due to low-quality maintenance, **the number of accidents increases during the rainy season**. Slipping from rails,

broken rails all become common during harsh seasons.

Advantages of Privatization

- **Improved infrastructure:** Privatization will improve the infrastructure of the railway stations. **It will also enhance the services for the travelers provided by the station such as** hygiene in the washroom, availability of clean and drinking water all the time, etc.
- **Better technology**: increased competition will incentivise private players to innovate new things which will result in better convenience and better performance of Indian Railways.
- **Low fare:** The government increases the prices to counter the enormous losses of Indian Railways **if the private sector is involved in the competition will keep the costs low and will make up for the losses of government.**
- **Better security:** Private participation will ensure high security and better monitoring of the stations. Also, rail management will be better.
- **Political interference:** The government may be reluctant to get rid of the workers because of

the negative publicity involved in job losses.

Disadvantages of Privatization

- **Monopoly:** It is very costly to maintain the railways, so very few private players will be able to bid for maintaining the IR. **It may lead to the monopoly in the system,** which will affect the services, fare and other facilities.
- **Increased fare: Private players do business only to gain profit**, which will result in increased fare prices of transportation through railways. **It will defeat the very purpose of operating railways to provide social service** at affordable price to Indian residents.
- **Complexity**: Indian rail network **is 4th largest in the world** which is very difficult to operate and

manage, which is one of the reasons why government is not able to maintain a vast network of railways efficiently.

- **Constitutional obligations**: Providing cheap and affordable travel is the Constitutional responsibility of the government. It will violate article 19 which provides for the movement in any area of the country, increased fare prices will affect this fundamental right.
- **Trade unions**: They have suggested the government not to privatise Indian railways as it will affect the livelihood of many people. **Privatization will lead to informalisation of jobs which will increase vulnerability of workers in the railways.**

FORMER JUDGES, LAWYERS SAY COLLEGIUM SYSTEM NEEDS TO CHANGE BUT NJAC IS NOT THE ANSWER

Recently, in a Parliament there was discussion over existing vacancies in the judiciary and the collegium for judicial appointments.

Collegium system

- The Indian Judicial **collegium system**, which appoints judges to the nation's constitutional courts.
- It has its genesis in three of its own judgments which are collectively known as the **Three Judges Cases.**
- A collegium consists of the **Chief Justice of India (CJI) and 4 other senior most SC judges.**
- The Collegium of judges is **the Supreme Court's invention and**

is not mentioned in the Constitution.

- o The constitution says judges of the Supreme Court and High Courts are appointed by **the President** and speaks of a process of consultation.
- Names recommended for appointment by a High Court collegium **reaches the government only after approval by the CJI** and the Supreme Court collegium.

Landmark cases

First Judges case 1982 (S. P. Gupta v. Union of India)

- The Court held that **consultation** does not mean

concurrence and it only implies exchange of views.

Second Judges case 1993 (SC Advocates on Record Association vs Union of India)

- The Court reversed its earlier ruling and changed the meaning of the word consultation to **concurrence.**
- It ruled that the advice tendered by the **Chief Justice of India** is binding on the President in the matters of appointment of the judges of the SC.

Third Judges case (1998)

- The Court opined that the consultation process to be adopted by the Chief justice of India requires '**consultation of plurality judges'**
- The sole opinion of the chief justice of India does not constitute the consultation process.
- He should consult a collegium of **four senior** most judges of the SC .
- The court held that the recommendation made by the chief justice of India are **not binding** on the government.

WHY KERALA GOVERNOR ARIF MOHAMMED KHAN SAYS HE WANTS TO QUIT AS CHANCELLOR

Recently, there has been a rift between the Governor and the government of Kerala over the appointment of Vice Chancellor of State Universities.

Role of Governor in State Universities:

- The Governor of the state is the **ex-officio chancellor** of the universities in that state.
- The Governor's **powers and functions** as the Chancellor are laid out in the **statutes** that govern the universities under a particular state government.
- The Governor, as the Chancellor, **presides over the university convocation** and also **appoints the Vice-Chancellor (VC).**
- o Whether the governor has an **absolute discretion** over the choice of VC, **depends on the statute of the individual state concerned.**

Central Universities:

Under the Central Universities Act, 2009:

- The **President of India** shall be **the Visitor of a central university.**
- o His role is limited to presiding over convocations.
- o He has the right to **authorise inspections** of academic and non-academic aspects of the universities and also to institute inquiries.
- **Chancellors in central universities** are **titular heads**, who are **appointed by the President** in his capacity as Visitor.
- The **Vice Chancellors** too are **appointed by the Visitor from panels** of names picked by search and selection committees formed by the Union government.

Punchhi Commission:

- The **Punchhi Commission** on Centre-State Relations in its

report published in March 2010 **recommended removing** **Governors from the post of Chancellor** of state universities.

WHY NITISH KUMAR HAS FALLEN BACK ON HIS DEMAND FOR SPECIAL STATUS FOR BIHAR

Recently, The Chief Minister of Bihar has raised the demand for the status of special category state for Bihar.

Special Category Status

- **Special Category Status (SCS)** is a classification given by the Central government to assist in the development of those states that face geographical and socio-economic disadvantages.
  - Such as hilly terrains, strategic international borders, economic and infrastructural backwardness, and non-viable state finances.
- The decision to grant special category status lies with the **National Development Council.**
  - It is composed of the prime minister, union ministers, chief ministers and members of the planning commission, who guide and review the work of the commission.

Criteria for special category status:

- Hilly and difficult terrain
- Low population density or sizeable share of tribal population
- Strategic location along borders with neighbouring countries
- Economic and infrastructural backwardness
- Non-viable nature of state finances

Can special category status be granted to more states now?

- In the present scenario, no more states can be given the status of a special category state.
- The Constitution of India does not include any provision for the categorization of any state in India as a 'special category state.
- A wide range of provisions is available to as many as 10 states that have been listed under **Articles 371, 371-A to 371-H, and 371-J**.

Benefits states confer with special category status:

- The central government bears **90 percent of the state expenditure** on all centrally-sponsored schemes.
- Concession on excise duty to attract industries to the state.
- **30 percent of the Centre's gross budget** also goes to special category states.
- The states can avail the benefit of debt-swapping and debt relief schemes.
- States with special category status are exempted from **customs duty, corporate tax, income tax and other taxes to attract investment**.
- Special category states have the facility that if they have unspent money in a financial year, then it does not lapse and gets carried forward for the next financial year.

CABINET CLEARS BILL ON ELECTORAL REFORMS, ALLOWING VOLUNTARY AADHAAR-VOTER ID LINKING

The Union Cabinet cleared proposed amendments to electoral law to link Aadhaar to voter ID.

- Aadhaar- voter id linkage will help to work towards **secure electronic voting** for migrant workers.

Highlights:

- It will **amend** the representation of people act and **allow four qualifying dates** in a year rather than one, for those who are above 18 years, to register as a voter.
- Bill proposes to **make gender-neutral** provision allowing **only the wife of male service voter to register as voter in same constituency.**
- Seeks to **empower the EC to requisition premises** for any purpose related to election.
- Bill proposes to amend representation of people act to empower electoral officer to seek aadhar number of existing as well as new voter, only on voluntary basis.

Criticism of bill

- It would be **detrimental** to our **privacy and democratic right to vote.**
- There might be a **possibility of disenfranchisement** caused by the linking of Aadhaar and voter IDs.
- In 2018, at least 55 lakh voters found they had been **arbitrarily deleted from the voter database.**
- Proposal of voluntary use of Aadhaar unlikely to **clear Proportionality test**.
- **Proportionality test:**
- The action must be **sanctioned by law**;
- The proposed action must be necessary in a democratic society for a **legitimate aim**;
- The extent of such interference must be proportionate to the need for such interference;
- There must be **procedural guarantees** against abuse of such interference.

OFFERING NAMAZ AT PUBLIC PLACES WILL NOT BE TOLERATED: HARYANA CM KHATTAR

Haryana chief minister said that offering namaz in public places could not be "**tolerated**".

Constitutional rights

- **Article 19 (1)(a)** lays down that **all citizens shall have the right to freedom of speech and expression**
- **Article 19 (1)(b)** gives the **right to assemble peaceably and without arms.**

- **Article 19(1)(c)** affirms the citizens' **right to form associations or unions.**
- **Article 25 of the Constitution** maintains that all persons are equally entitled to freedom of conscience and the right freely to profess**,** practice and propagate religion**, subject to public order, morality and health.**

- **Article 26** entitles every religious denomination to manage its own affairs in matters of religion but this right is also **subject to public order, morality and health.**

Judgments regarding public places

In Saghir Ahmad vs State of Uttar Pradesh, 1955 Supreme Court said that

- All public streets and roads vest in the State, but that the **State holds them as trustees on behalf of the public.**
- The State as trustees on behalf of the public **is entitled to impose all such limitations** on the character and extent of the user, as may be requisite for protecting the rights of the public generally.

In Railway Board vs Niranjan Singh, 1969,

- The Supreme Court stated that the citizens have freedom of speech, freedom to assemble peaceably and freedom to form associations or unions **does not mean that they can exercise those freedoms in whatever place they please.**

Himat Lal K Shah vs Commissioner of Police, Ahmedabad, 1972

- Constitution bench ruled that the right that flows from Article 19(1) is **not a right** to hold a meeting at any place, at any time.

Olga Tellis and Ors Vs Bombay Municipal Corporation, 1986, Supreme Court held that

- Footpaths or pavements are public properties which are intended to serve the convenience of the general public.
- They are not laid for private use and indeed their use for a private purpose frustrates the very object for which they are carved out from portions of public streets

In M Ismail Faruqui Vs Union of India and Others, 1995, Supreme court held that

- **A mosque is not an essential part** of the practice of the religion of Islam and namaz by Muslims can be offered anywhere**, even in the open**.
- It ruled that the **power of acquisition is available to the State for a mosque** like any other place of worship of any religion.
- **At the same time**, the court said that the right to worship, guaranteed under Article 25 of the Constitution of India, **does not extend to the right of worship at "any and every place.**

CABINET APPROVES IMPLEMENTATION OF PRADHAN MANTRI KRISHI SINCHAYEE YOJANA FOR 2021-26

The Cabinet Committee on Economic Affairs has approved implementation of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) recently.

Highlights:

- **Outlay of Rs. 93,068 crores**, including Rs.37,454 crore central

assistance to states would be given.

- Benefits to about **22 lakh farmers**.

Pradhan Mantri Krishi Sinchayee Yojana

- It is a centrally sponsored scheme.
- **Launched-** 2015

- **Implementing Agency**- Ministries of Agriculture, Water Resources, and Rural Development
- **Aim**-
  o To provide assured irrigation to cultivated areas.
  o To reduce wastage of water and improve water-use efficiency.

Objective-
- To achieve **convergence of investments** in irrigation at the field level.
- Expand the cultivable area **under assured irrigation.**
- Improve on-farm **water use efficiency** to reduce wastage of water.
- Enhance the **adoption of precision-irrigation** and other water saving technologies (More crop per drop)
- **Enhance the recharge of aquifers** and introduce sustainable water conservation practices by exploring the feasibility of reusing treated municipal wastewater for peri-urban agriculture
- Ensure **the integrated development** of rainfed areas using the watershed approach towards the soil and water conservation, regeneration of groundwater, arresting runoff etc.
- **Promote extension activities** relating to water harvesting, water management, and crop alignment for farmers and grass root level field functionaries.

Scheme components
Accelerated Irrigation Benefits Programme (AIBP)

- **Implementation:** Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti
- **Aim**- It provides financial support to irrigation projects.
- **Features-**
  o Irrigation potential creation targeted is 13.88 lakh hectare.
  o Tribal and drought prone areas have been relaxed.

Har Khet Ko Pani (HKKP)
- **Implementation:** Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti
- **Objectives-**
  o **Creating and rejuvenating** traditional water storage systems.
  o Improvement in **water management and distribution system** for water bodies.
- **Aim-** To enhance physical access on the farm and expansion of cultivable area.
- **Features-**
  o **Enhancement of central assistance** from 25% to 60% in general area.
  o 1.52 lakh hectare in **ground water irrigation under suitable block.**
  o 4.5 lakh hectare irrigation through **surface minor irrigation and rejuvenation** of water bodies.
- **Sub-Components-**
  o Command Area Development (CAD)

o Surface Minor Irrigation (SMI)
o Repair, Renovation and Restoration (RRR) of Water Bodies
o Ground Water Development

Watershed Development

- **Implementation:** Department of Land Resources, Ministry of Rural Development
- Aim- To regenerate ground water.
- **Features-**
- It focuses on development of **rainfed areas towards soil and water conservation**.
- It promotes **extension activities related to water harvesting** and management.
- To envisage completion of sanctioned projects covering 49.5

lakh hectare rainfed/ degraded lands.
- **Development of spring sheds** has been included.

Per Drop More Crop

- **Implementation:** Department of Agriculture and Farmers Welfare, Ministry of Agriculture & Farmers Welfare
- **Objectives-**
- **Promoting efficient water conveyance** and precision water application devices.
- **Construction of micro irrigation** structures.
- **Extension activities** for promotion of scientific moisture conservation and agronomic measures.

DATA PROTECTION BILL: HOUSE PANEL SUGGESTS ONE AUTHORITY FOR ALL DATA

A Joint Select Committee of Parliament has recommended substantial changes to the Personal Data Protection (PDP) Bill.

Highlights:

- The Bill provides for the **establishment of a Data Protection Authority** (DPA).
- The report suggests that there should be **single regulatory body** for personal and non-personal data.

Recommendation of the Joint Committee:

- There should be **single regulatory body** for personal and non-personal data.
- The Personal Data Protection Bill provides for the **establishment of a Data Protection Authority** (DPA).

- To treat all **social media platforms as publishers** and be held accountable for the content.
- To **select the receiver** of the content and also exercise control over the access.
- **Data fiduciaries and data processors** would also require sufficient time for transition.
- Provisions of the Act shall be deemed to be **effective not later than 24 months** from the date of notification.
- A **comprehensive analysis and consultation with stakeholders** should be undertaken.
- To **discover and understand the technical or operational and managerial requirements** for

compliance of the provisions of the bill.

- To prepare a policy for **gradual data localisation**.
- To devise a **single window system** to deal with complaints, penalties and compensation.

Provisions for Penalty:

- It should **be flexible** as digital technology is evolving rapidly.
- The **penalty of ₹5 crore** or two per cent of its total worldwide turnover of the preceding financial year, if a fiduciary fails to register with the Data Protection Authority (DPA).
- The **penalty of ₹15 crore** or four per cent of its total worldwide turnover for processing personal data in violation of the provisions of the Bill.
- The fiduciary should report a **data breach within 72 hours.**

INDIA'S FIRST GREEN HYDROGEN MICROGRID PROJECTS TO BE SET UP IN ANDHRA

India's first and one of the **world's largest green hydrogen projects** to be set up at **Simahadri, Visakhapatnam.**

Project highlights

- It is India's **first Green Hydrogen** based Energy Storage Project.
- It would be a **precursor to large scale hydrogen energy** storage projects.
- It would be useful for **studying and deploying multiple microgrids** in various off grid and strategic locations of the country.
- **The hydrogen would be produced** using the advanced 240 kW Solid Oxide Electrolyser.
- It is a **unique project** for India and project configuration is **designed in-house by NTPC**.

Significance

- The project is in-line with the vision of Prime Minister **for becoming carbon neutral by 2070.**
- It would help for **decarbonising the far-off regions** of the country like Ladakh, J&K etc.
- It will help in making **Ladakh a carbon neutral territory**.

Green hydrogen

- Green hydrogen is hydrogen that is produced using **renewable energy through electrolysis.**
- Green hydrogen has significantly **lower carbon emissions** than grey hydrogen.

Methods to produce green hydrogen

- Electrolysis of water
- Steam reforming of biomethane
- Pyro-reforming of glycerine of renewable origin

With electrolysis:

- Green hydrogen is produced by **splitting water using electricity** generated from low-carbon sources.
- If the electricity comes from renewable sources such as wind, solar or hydro, then the hydrogen is effectively green.

Steam reforming of biomethane

- In steam-methane reforming, **methane reacts with steam under 3–25 bar pressure** (1 bar = 14.5 psi) in the

presence of a catalyst to **produce hydrogen, carbon monoxide,** and a relatively small amount of **carbon dioxide**.

Uses

- Fuel-cell vehicles

- Alternative fuels
- Energy storage
- Heating
- Replacing existing hydrogen feedstocks

DATA PROTECTION BILL HAS PROVISIONS FOR 'RIGHT TO BE FORGOTTEN', CENTRE TELLS HC

The Centre has told the Delhi High Court that right to be forgotten comes under the right to privacy.

- Center told that **Right to be forgotten** is a new concept in India and its come **under Right to privacy.**
  - o **Right to privacy** is Fundamental right under article 21**.**

Right to be forgotten

- The right to be forgotten reflects the claim of an **individual to have certain data deleted so that third persons can no longer trace them.**
- Under the Right to be forgotten, **users can de-link, limit, delete or correct the disclosure** of their personal information held by data fiduciaries.
- The Right to be Forgotten falls under the purview of an **individual's right to privacy**.

Right to privacy and Right to be left alone

- In the landmark judgement of K.S. Puttaswamy vs union of India Supreme Court Stated that **Right to privacy is a fundamental right under art 21.**
- Privacy is, at its core, the **right to be left alone**.

- It is understood that **society will not interfere in the choices made by the person** so long as they do not cause harm to others.
- Right to privacy would mean that all persons have the **right to be left alone** by the state unless such intrusion is necessitated by a just, reasonable, and fair law.

Issue with Right to be Forgotten (RTBF)

- It may lead to **violation of Art.19**.
  - o Example: A person may want to de-link information about his criminal records and make it difficult for people to access certain journalistic reports when they google him.
- In the absence of specific legislation, RTBF emerges from **the right to privacy** under Article 21 and **partly from the right to dignity** under Article 14.
  - o Due to this its application is unclear because the RTBF will normally be claimed against a private party.
  - o This raises the question of whether fundamental rights which have **traditionally only been enforceable vertically** — against the State – **can be enforced horizontally**, that is, against private citizens.

NCP CRITICISES CENTRE'S 'IN PRINCIPLE' NOD FOR JAITAPUR NUCLEAR SITE

Recently, Central Government has given approval for setting up of six nuclear power reactors at Jaitapur in Maharashtra.

- The **six nuclear power reactors** will have a capacity of 1,650 MW each.
- It will be the **country's largest nuclear power generating site** with a total capacity of 9,900 MW.
- The **net zero targets** are expected to be met through a nuclear power.

Status of Nuclear Energy in India:

- The present installed **nuclear power capacity** in the country is 6,780 MW.
- The share of nuclear power in the **total electricity generation** in 2020-21 is 3.1%.
- The nuclear power plants have so far generated about 755 billion units of electricity, saving about 650 million Tons of CO_2 emission.
- The present nuclear power capacity is expected to be increased to **22,480 MW by 2031.**

LOK SABHA PASSES BILL TO LINK ELECTORAL ROLLS WITH AADHAAR

Recently, Lok Sabha cleared **Election Laws (Amendment) Bill 2021**.
Amendments:
It envisages major changes in **Section 23 of** Representation of the People Act (RPA), 1950, which contains provisions for inclusion of names in electoral rolls.

- **Section 15: For every constituency** there shall be an electoral roll, which shall be prepared in accordance with the provisions of this Act under the superintendence, direction and control of the election commission.
- **Section 16: A person shall be disqualified** for registration in an electoral roll if he is not a citizen of India.
- **Sections 17: No person shall be entitled** to be registered in the electoral roll for more than one constituency.
- **Section 18:** No person shall be entitled to be **registered in the electoral roll** more than once.

- **Section 19:** Every person who is not less than 18 years of age on the qualifying date and is ordinarily resident in a constituency shall be entitled to be registered in the electoral roll.
- **Section 23** is directly related to Sections 15, 17 and 18 of the law.
- o The amendment seeks to include new clauses authorizing electoral registration officers to seek the **Aadhaar numbers of people** who want to register as voters for the purpose of establishing identity.

Features:

- **No application for inclusion of name** in the electoral roll shall be denied and no entries in the electoral roll shall be deleted for inability of an individual to furnish or intimate an Aadhaar number
- o The electoral registration officers allow such individuals to produce other documents.

- Even after 18 years, one has to wait a whole year to **exercise their voting rights** if they couldn't register on Jan 1 (of the year of revision of electoral roll).
  o The passage of electoral bill gives 4 qualifying dates a year to register as voters.
- The bill proposes to replace the word **"wife"** with **"spouse".**
  o An Army man's wife is entitled to be enrolled as a service voter, but a woman Army officer's husband is not.
- The bill **empowers the authorities with all the powers** required to take over premises for the conduct of elections.

Concerns regarding the Proposal:
Privacy Concerns

- There are privacy concerns and the **possibility of voter manipulation**, since large amounts of personal data linked to Aadhaar would now be linked to the Election Commission's voter database.
- The **Election Commission of India** started National Electoral Roll Purification and Authentication Programme in March 2015 to link Aadhaar to voter IDs, to delete names in the voter list that had been duplicated.
- The effects of this linkage were seen three years later in the 2018 **Assembly elections in Telangana.**
  o **Lakhs of voters** found their names to be missing from the voter list.
  o 27 lakh voters had been deleted.
- **Andhra Pradesh** saw a similar decline of around 20 lakh voters, out of a total voter base of 3.71 crore voters.
- In many cases **deletions took place** without due diligence: there was no proper door-to-door verification of voters whose names were to be deleted.

Problem of Exclusion:

- **Problem of exclusion** due to Aadhaar has been flagged previously.
- In 2020, a sample of 213 ration card deletions occurred when Aadhaar was linked to ration cards in Jharkhand in 2016 and 2017, only 12% were **legitimate deletions**.
  o The remaining 88% were found to belong to families that had valid claim to the cards.
- The government's push has sparked other concerns, given that India does not have a **functional data protection law**.
- **Aadhaar data** of 7.8 crore residents from Andhra Pradesh and Telangana got leaked in 2019.
  o The data was also linked to the voter database.

'PRASHASAN GAON KI AUR': NATIONWIDE GOOD GOVERNANCE WEEK KICK-STARTS TO TAKE BEST GOVERNANCE PRACTICES TO GRASSROOTS LEVEL

The government will soon launch 'Prashasan gaon ki aur' campaign as a part of 'Good Governance' week.

Highlights:

- It is a Nation-wide campaign:
  o to **Redress the Public Grievances**

- o to promote **citizen centric governance**
- o to improve **Service Delivery**
- **Objective**: To **translate the vision** of the Prime Minister

for **Next Generation Administrative Reforms** across all Districts and Tehsils of India.

CENTRE TO CELEBRATE 'GOOD GOVERNANCE' WEEK

Department of Administrative Reforms and Public Grievances, in collaboration with Ministry of External Affairs, Department of Promotion of Industry and Internal Trade is celebrating Good Governance Week.

Prashasan Gaon Ki Aur campaign:

- It is a Nation-wide campaign for **redressal of public grievances** and improving service delivery will be held in all Districts, States, and Union Territories of India.

What is Governance?

- Governance is the **process of decision-making** and the process by which decisions are implemented.
- It can be used in several contexts such as **corporate governance**, international governance, national governance and local governance.

Good Governance:

- According to UN, Good governance has 8 major characteristics.
- It assures that **corruption is minimized**, the views of minorities are taken into account and voices of the most vulnerable in society are heard in decision-making.

Principles of Good Governance:

1. Participation

- **Participation by both men and women** is a key cornerstone of good governance.

- It could be either direct or through legitimate intermediate institutions or representatives.

2. Rule of Law

- Good governance requires fair **legal frameworks** that are enforced impartially.
- **Impartial enforcement of laws** requires an independent judiciary and incorruptible police force.

3. Transparency

- Transparency means that decisions taken and their enforcement are done in a manner that follows **rules and regulations**.
- It also means that **information is freely available** and directly accessible to those who will be affected by such decisions and their enforcement.

4. Responsiveness

- Good governance requires that institutions and processes try to serve all stakeholders within a reasonable time frame.

5. Consensus Oriented

- Good governance requires mediation of the **different interests in society** to focus on what is the interest of the whole community and how this can be achieved.
- It also requires long-term perspective on what is needed

for **sustainable human development** and how to achieve the goals of such development.

6. Equity and Inclusiveness

- A society's well-being depends on ensuring all its members feel, they have a stake in it and do not exclude from the mainstream of society.
- This requires all groups, but particularly the most vulnerable, have opportunities to improve or maintain their well-being.

7. Effectiveness and Efficiency

- Good governance means that institutions produce results that meet the needs of society **utilizing the best use of resources** at their disposal.
- The concept of efficiency covers the sustainable use of natural resources and the protection of the environment.

8. Accountability

- **Accountability** is a key requirement of good governance.
- The **private sector and civil society organizations** must be accountable to the public and to their institutional stakeholders.

Challenges of Good Governance in India:

Lack of Accountability

- The reason behind inefficiency in governance is the **inability within the system** to hold the Civil Services accountable for their actions.
- o It is primarily because at most levels authority is divorced from accountability.
- Another reason is the **performance evaluation**

systems within the government, which have not been effectively structured.

Low Awareness of the Rights and Duties of Citizens

- **Low levels of compliance of rules** by the citizens acts as an impediment to good governance.
- When citizens are not aware of their duties, they infringe on the freedom and rights of other citizens.

Ineffective Implementation of Laws and Rules

- **Weak implementation** can cause a great deal of hardship to citizens and erode their faith in government machinery.

Red Tapism

- **Bureaucracies over the world** are expected to adhere to rules and procedures which are important for good governance.
- However, at times, these rules and procedures are ill-conceived and cumbersome and therefore do not serve their purpose.

Government Initiatives towards Good Governance:

Becoming more Digital and Interconnected.

- **Digital India Campaign** is an attempt to provide government services to the citizens electronically.

Going Cashless

- The vision of cashless economy will curb generation of **black money**.

Goods and Services Tax (GST)

- **GST** is another step to bring uniformity in tax rates and

structures of both the goods and services across the country.

Investment

- **Maintaining diplomatic relations** with other countries would induce investment in the country, which would accelerate the pace of growth of Economy.

Mission Karmayogi

- **National Programme for Civil Services Capacity Building** (NPCSCB), a new national architecture for civil services capacity building has been launched.
- It is a comprehensive reform of the capacity building apparatus at individual, institutional and process levels for efficient public service delivery.

E-Samiksha

- **A real time online system for monitoring** and follow up action on the decisions taken by the Government at the Apex level in respect of implementation of Government programmes / projects.

E-Office

- **E-Office Mission Mode Project** (MMP) has been strengthened for enabling Ministries/ Departments to switchover to paperless office and efficient decision making.

Self-Certification of Documents for Appointments

- Recruiting agencies issue **provisional appointment letters** based on submission of self-certified documents by the candidates.

National Conference on E-Governance

- It provides a platform for government to engage with experts, intellectuals from industry and academic institutions to exchange ideas relating to e-Governance initiatives.

National E-Governance Service Delivery Assessment

- **Aim**: Assessing the States, UTs and Central Ministries on the efficiency of e-Governance service delivery.

Centralized Public Grievance Redress and Monitoring System (CPGRAMS)

- The Government is undertaking CPGRAMS reforms in the top grievance receiving Ministries/ Departments by enabling **questionnaire guided registration process** and providing for automatic forwarding of grievances to field level functionaries thereby reducing the redress time.

WAREHOUSING POLICY ON CARDS TO REDUCE INDIA'S HIGH LOGISTICS COST

The government is planning to introduce a warehousing policy to help ease transportation and logistics costs.

Highlights:

- The policy will set the roadmap for development of exclusive warehousing zones in **public-private partnership (PPP) mode.**
- The modern warehouses will house **cold-storage chains** and will be able to **store all kinds of cargo—wet and dry.**

- **National Highways Authority of India (NHAI)** will **frame the policy** and will also be the **implementing agency of the policy.**

Objectives:

- To **improve logistics** throughout the country.
- To **minimize pollution and traffic congestion** in major cities.

Significance:

- The **carrying capacity of trucks** will be **increased** as large goods vehicles will no longer be needed to ply on city roads.
  - It will help **ease** major **traffic congestions.**
- It will help **reduce overall logistics costs** that remains at a high level of 14-16% of gross domestic product (GDP).
- The warehousing zones will help Fast Moving Consumer Goods (FMCG) firms, steel and cement makers **stock inventory near major hubs.**

AIM, NITI AAYOG & UNCDF ANNOUNCE FIRST AGRITECH COHORT UNDER SOUTH-SOUTH INNOVATION PLATFORM

Recently, Atal Innovation Mission along with NITI Aayog and United Nations Capital Development Fund announces the first AgriTech cohort under the South-South Innovation platform.

- **Aim**: to help smallholder farmers across Asia and Africa to address their challenges in the aftermath of the pandemic.

South-South Network for Public Service Innovation (SSN4PSI)

- It is a global collaborative platform where governments, private sector organizations, experts, academicians, and distinguished individuals harness innovations in public service delivery.

Aim:

- To help smallholder farmers across Asia and Africa to address their challenges in the aftermath of the pandemic.
- To enable the **cross-border exchange of innovations**, insights, and investments.
- To exchange knowledge, experiences, and expertise to inculcate innovations in public service delivery.

SHIROMANI AKALI DAL TURNS 100: ITS JOURNEY SO FAR, AND PUNJAB's

Recently, Shiromani Akali Dal (SAD), which was conceived in December 1920, has recently completed 100 years.

Shiromani Akali Dal (SAD - A political party):

- SAD was formed as a **volunteer group** on December 14, 1920 **to free gurdwaras from the control of mahants (priests)** appointed by the British government.

- It was aligned with the Congress during the pre-Independence period, starting in the 1930s and continuing in the 1940s.

Punjabi Suba movement

- Punjabi Suba movement is a **political agitation** launched by the Sikhs demanding the creation of **Punjabi Suba** or **Punjabi speaking state** in the Punjab.

- It started in Punjab **soon after the Independence.**
- Shiromani Akali Dal was spearheading the movement for a **Punjabi speaking state**.
  - The demand for a Punjabi Suba as a policy position was first presented in April 1948 by **Master Tara Singh** of the **Shiromani Akali Dal.**
- The movement was primarily conceived **to secure a distinct Sikh political status**.
- Those in **favour** of the demand used to raise the slogan **Punjabi Suba Amar Rahe**. Those opposing the demand were raising slogans in favour of '**Maha-Punjab'**.
- Later these slogans were banned under Section 144 of CrPC.

Impact

- It led to the enactment of the **Sikh Gurdwaras Act 1925** which brought gurdwaras under the control of the SGPC.

Formation of Punjab:

- **Haryana** was separated from Punjab in 1966 to become the 17th state of India, with the passage of **Punjab Reorganization Act 1966.**
- **Haryana and Punjab were carved out from** State of East Punjab.
- Himachal Pradesh also got some of the territory.
- Provisional capital of both the Punjab and Haryana was the **Chandigarh city.**

Formation of state of Haryana:

- The state of Haryana was formed on November 1, 1966 on the recommendations of **Sardar Hukum Singh Parliamentary Committee** that was constituted on September 23, 1965.
- The Central government then formed the **Shah Commission** to set the **boundaries of Punjab and Haryana.**

HOW SPATE OF VANDALISM REIGNITED DECADES-OLD MAHARASHTRA-KARNATAKA TUSSLE OVER BELAGAVI

Belagavi border dispute between Maharashtra and Karnataka

History:

- The inter-state dispute between Karnataka and Maharashtra dates back to the period of Independence and the reorganisation of states on linguistic lines in 1956.
- At the time of Independence, the region of **Belagav**i (the Belgaum) was **part of the Bombay presidency.**
- The **Maharashtra Ekikaran Samiti (MES)** came into

existence **in 1948** with the sole aim of **pushing for integration of Belgaum with Maharashtra** during the reorganization of states.

- The region was, **however**, **integrated with the state of Mysore** (now Karnataka) during reorganisation of states on linguistic lines.

Claims:

- MES and **pro-Marathi groups** claim that **Belagavi is a largely Marathi-speaking region** with many parts being

exclusively Marathi speaking and that the region should be a part of Maharashtra instead of Karnataka.

- They claim that nearly **45 percent of the district is Marathi speaking.**
- While **pro-Kannada groups argue** that the **Marathi population is only around 35 per cent** which is on par with the Kannada-speaking population of the region.

Mahajan Commission Report:

- The Mahajan Commission was formed under Chief Justice **Mehr Chand Mahajan** in October **1966.**

- It was formed to resolve the border dispute between Karnataka and Maharashtra.

Recommendations:

- It recommended that **264 villages be transferred to Maharashtra** (which formed in 1960) and that **Belgaum and 247 villages remain with Karnataka.**
- It **recommended the exchange of several villages** in Belagavi district between the two states, but **rejected Maharashtra's claim on Belgaum city.**

GOVT OFFERS EIGHT HYDROCARBON BLOCKS IN OALP-7 AUCTIONS

Recently, Union government launched the seventh round of **Open Acreage Licensing Programme** (OALP) auctions, offering eight blocks spread across 15,766 sq km.

- In 2019 **Central Government** amended the revenue-sharing model for hydrocarbon exploration and capped the government's revenue share at 50%.

Open Acreage Licensing Program (OALP):

- Under **Hydrocarbon Exploration & Licensing Policy** (HELP), OALP mechanism was launched by the Ministry of Petroleum and Natural Gas.
- **Aim**: Allow investors to carve out blocks of their choice by assessing exploration and production (E&P) data and by submitting an Expression of Interest (EoI).

- EOI can be submitted throughout the year without waiting for a formal bid round from the government.
- These blocks are subsequently offered through **biannual formal bidding process.**

Hydrocarbon Exploration & Licensing Policy (HELP):

- HELP is a step towards improving the '**Ease of Doing Business'** in the Indian Exploration and Production (E&P) sector.
- It was launched in 2016 and replaced **New Exploration Licensing Policy** (**NELP**).

Features:

- **Reduced royalty rates**, no oil cess, marketing and pricing freedom.
- Freedom to investors for carving out blocks of their interest.

- **A single license** to cover both conventional and unconventional hydrocarbon resources.

- Exploration permission during the entire contract period.
- Easy, transparent, **swift bidding and awarding process**.

PLEA IN SC SEEKS 'UNIFORM JUDICIAL CODE' FOR HIGH COURTS

Recently, a petition was filed in the Supreme Court to implement a "**uniform judicial code**" for High Courts across the country to adopt a uniform set of procedure.

Uniform Judicial Code:

- All the **25 High Courts** of India have **different usage of the phrases** to identify **different cases**.

o This creates **ambiguity in the interpretation** leading to delayed justice.
- Different High Courts follow **different procedures** in matters pertaining to **virtual courts**, started during the pandemic.
- **Court fees differ** for the same type of cases in different States.

GOVT HAS ISSUED ADVISORY TO CARMAKERS TO INTRODUCE FLEX-FUEL ENGINES IN VEHICLES: GADKARI

Recently, Union Minister said that the government has issued an advisory to carmakers to introduce flexible-fuel engines in vehicles.

Highlights:

- India is framing policies to **promote the use of clean fuels** to meets its carbon reduction targets.
- o It includes biofuels, ethanol blends as well as hybrid EVs and hydrogen fuel cells.
- o India aims to **boost the production and consumption of ethanol** and ethanol-blended petrol.
- o India has target of **20%** ethanol-blending with petrol by **2023-24.**
- India is one of the **major consumer and importer (80%) of fossil fuels**.
- Currently**, Brazil** and the **US** are two major markets where ethanol-

blended fuels and flex-fuel engines are used predominantly.

What is flex-fuels?

- **Flexible Fuel or E85** is a type of **fuel** used in automobiles.
- It is an alternative fuel made of a **combination of gasoline and methanol or ethanol.**
- The flex-fuel engines **can run on both petrol and on biofuel** as well.

Flexible Fuel Vehicles:

- Flexible fuel vehicles (FFVs) have an **internal combustion engine** and are capable of operating on gasoline and any blend of gasoline and ethanol **up to 83%.**
- The most common commercially available FFV in the world market is the **ethanol flexible-fuel vehicle.**

Advantages:

- **Property of Blending:**

- o It will allow vehicles to **use different blends of ethanol** mixed petrol available in different parts of the country.
- o FFVs will allow vehicles to run-on unblended fuel.
- **Alternative to Fossil fuels:**
- o The increased use of bio-fuels for vehicles can result in a **decreased dependence on fossil fuels.**
- o A higher blending of ethanol in petrol will **help cut oil import bill** and also benefit sugarcane farmers as well as sugar mills.
- **Environment friendly:**
- o Flex-fuel cars generates **fewer toxic fumes** into the environment.
- o It also contributes **fewer greenhouse gases**, making it a more environmentally friendly option than traditional gasoline.
- o It is claimed as **less pollutant** compared to petrol because of its biofuel nature.
- **Sustainable Production**
- o The ethanol which is used in flex fuel vehicles is sustainably produced from ingredients such as **cane sugar and corn.**
- **Tax benefit.**
- o Tax credit will be received for those using the environmentally viable flex-fuel vehicles.

Disadvantages:
- **Engine damage.**
- o The **hygroscopic nature of ethanol** can cause **corrosion a**nd damage to the engine, mainly because it absorbs dirt easily.

- **High Expense.**
- o Ethanol is also **not as economical** as gasoline, as it does not provide the same level of fuel efficiency.
- **Problem with adaptability:**
- o Blending of the ethanol in required proportion mandates **changes in vehicle configuration.**
- o Ethanol is **not suited** to **high compression engines.**
- o The vehicles designed for low content of ethanol in petrol cars will result in **lower fuel economy** if used with higher fuel blends.
- **Unavailability:**
- o There will be lesser number of fuel stations, due to uneconomical nature of flex fuels.
- **Problems with Customer Acceptance:**
- o The cost of ownership and running cost is high for flex-fuel vehicles.
- o The flex fuel vehicles could be more **expensive** than regular vehicles due to the upgradation of materials, engine parts and fuel system.
- **Drawbacks of Ethanol:**
- o Ethanol acts as a solvent and could **wipe out the protective oil film** inside the engine which could cause wear and tear.
- o Engines very specific to run in Flex fuel environment can lead to increase in cost of the engine.

CENTRE SETS UP TWO PANELS TO LOWER CROP INSURANCE PREMIUM

The central government has constituted two committees to suggest suitable working models to lower crop insurance premium and technology in crop yield

estimation under the **Pradhan Mantri Fasal Bima Yojana** (PMFBY).

- **Need:** Recently, states like Gujarat, Andhra Pradesh, Telangana, Bihar, and West Bengal existed from PMFBY, citing high Crop insurance premium.
- **Combine mandate:** To examine alternate risk management mechanisms for rationalising the premiums.
- **Mandate of KR Manjunath committee:** To explore the feasibility of the adoption of various technology-based approaches (including) drone technology for rationalising the premiums.
- **Mandate of Saurabh Mishra committee:** To conduct a cost-benefit analysis of all possible agriculture crop insurance scheme models. It will also provide financial projections for the next five years with corresponding assumptions in each model.

NMCG & TERI LAUNCH CENTRE OF EXCELLENCE ON WATER REUSE

The Director General of National Mission for Clean Ganga (NMCG) and the Director General of The Energy and Resources Institute (TERI) launched the NMCG-TERI's **Centre of Excellence (CoE) on Water Reuse** at the **TERI Headquarters** in New Delhi.

- The Centre is a **quadripartite alliance** between NMCG, TERI, industry partners and industry representative bodies.
- It will be **meeting the objectives of the Ganga Knowledge Centre (GKC)** to foster research and innovation, including identification of knowledge gaps for research and supporting targeted research.
- It could **bridge the current treatment gaps and provide safe treated water** for reuse.

GOOD GOVERNANCE INDEX 2021 LAUNCHED ON GOOD GOVERNANCE DAY-DECEMBER 25, 2021

Recently, Union Minister of Home Affairs released the Good Governance Index 2021.

Good Governance Index (GGI):

- GGI is a framework to assess the **State of Governance** across the States and UTs which enables ranking of States/Districts.
- **Prepared by**: Department of Administrative Reforms and Public Grievances (DARPG).
- **Aim:** To create a tool that can be used uniformly across the States to assess the impact of various interventions taken up by the Central and State Governments including UTs.
- The Index provides a comparative picture among the states while developing a competitive spirit for improvement.

Indicators:

- The GGI 2019 encompassed **10 Governance Sectors** and 50 Governance Indicators.

- For GGI 2020-21, the same Governance Sectors are retained while indicators have been revised to 58.

Highlights:

Other States-Group A

- **Gujarat,** Maharashtra and Goa top the composite rank score covering 10 sectors.
- It registered 12.3 percent increase and Goa registered 24.7 percent increase over GGI 2019 indicators.
- Gujarat has performed strongly in 5 of the 10 sectors including **economic governance**, human resource development, public infrastructure and utilities etc.

Other States – Group B

- **Top 3 states:** Madhya Pradesh followed by Rajasthan and Chhattisgarh

North-East and Hill States

- **Top 3 states:** Himachal Pradesh, Mizoram and Uttarakhand
- **Mizoram and Jammu and Kashmir** have registered an overall increase of 10.4% and 3.7% respectively over GGI 2019.

Union Territories

- **Delhi** tops the composite rank registering a 14 percent increase over the GGI 2019 indicators.
- It has performed strongly in Agriculture & Allied Sectors, Commerce & Industry, Public Infrastructure and Utilities and **Social Welfare & Development**.

RIGHT TO BE FORGOTTEN: GOVT POSITION, COURT RULINGS, AND LAWS ELSEWHERE

Recently, the Centre told the Delhi High Court that the "right to be forgotten" is part of the fundamental right to privacy.

Right to be forgotten

- It allows a person to seek deletion of **private information** from the Internet.
- The concept has found recognition in some jurisdictions abroad, particularly **the European Union.**
- However, the right is not recognized by law in India.

Laws in other country

- **The Europe union** in 2018 adopted **the General Data Protection Regulation (GDPR)**, which provides for the right to erasure of certain categories of personal data which is considered no longer necessary and which consent has been withdrawn.
- **Russia** in 2015 enacted a law that allows users to force a search engine to remove links to personal information on grounds of irrelevancy, inaccuracy and violation of law.
- The right to be forgotten is also recognised to some extent in **Turkey and Siberia**, while courts in **Spain and England** have ruled on the subject.

Position in India

K S Puttaswamy judgment (2017)

- The court gave a new perspective to the **Right to Privacy** of the citizens.

- It was held that the Right to Privacy is a **Fundamental Right** under Articles 14, 19 and 21 of the Indian Constitution.

The Personal Data Protection Bill

- The **Joint parliamentary committee's** report contains provisions to the doctrine of the 'right to be forgotten'.

Landmark Cases

Delhi High Court

- It gave verdit that the **right to be forgotten** and **right to be left alone** are inherent aspects of the right to privacy, and restrained

republication of these news reports.

Karnataka High Court

- It ordered its registry to ensure that any **Internet search engine** does not reflect a woman's name.

Orissa High Court

- It ordered that allowing such **objectionable photos and videos** to remain on a social media platform without the consent of a woman is a direct affront on a woman's modesty and more importantly her right to privacy.

TELANGANA TOPS IN IMPLEMENTATION OF RURBAN MISSION

Telangana stood first in the implementation of the Shyama Prasad Mukherji Rurban Mission (SPMRM) while Tamil Nadu and Gujarat took the second and third positions respectively.

Shyama Prasad Mukherji Rurban Mission (SPMRM)

- **Objective:** To stimulate **local economic development, enhance basic services**, and create well planned Rurban clusters.
- **Vision:** Development of a cluster of villages that **preserve and nurture the essence of rural community** life with focus on equity and inclusiveness without compromising with the facilities perceived to be essentially urban in nature, thus creating a cluster of Rurban Villages.
- **Aim:** Create **300 rural growth clusters** across the country.

Funding

- The project is envisaged to be **funded through convergence** of various Centrally Sponsored, Central Sector and State Government Schemes pertaining to the chosen components under the Mission.
- In addition to the scheme funds, **Critical Gap Funding (CGF) is proposed** to be provided through the Scheme funds to the clusters to bridge the gap posed by availability of scheme funds.
- The CGF would be **capped at 30% of the capital cost or Rs 30 crores** whichever is lesser.

Mission outcome:

- **Bridge the rural urban divide**- economic, technological and those related to facilities and services.
- **Spreading development** in the region.
- **Attracting investment** in the rural areas.

- Stimulating local economic development with emphasis on reduction of poverty and unemployment in rural areas.

Rurban cluster:

- It would be a cluster of geographically contiguous villages with a **population of about 25000 to 50000 in plain and coastal areas and a population of 5000 to 15000 in desert, hilly or tribal areas.**
- Clusters of villages would **follow administrative convergence units of Gram Panchayats** and shall be **within a single block/tehsil** for administrative convenience.

Desirable component recommended under the mission

- Skill development training linked to economic activities
- Agro Processing, Agri Services, Storage and Warehousing.
- Fully equipped mobile health unit
- Upgrading school /higher education facilities
- Sanitation
- Provision of piped water supply
- Solid and liquid waste management
- Village streets and drains
- Street lights
- Inter-village road connectivity
- Public transport
- LPG gas connections
- Digital Literacy
- Citizen Service Centres- for electronic delivery of citizen centric services/e-gram connectivity.

CENTRE TO SCALE UP SKILL PROGRAMME: OFFICIALS

Recently, the National Skill Development Corporation under the Ministry of Skill Development and Entrepreneurship launched programme TEJAS.

TEJAS Programme:

- **Aim**: To train, certify and place 10,000 Indian workers in the **United Arab Emirates** in one year in partnership with some of the leading employers in the region.
- **Objective:** To prepare a trained workforce in both the **blue-collar and the white-collar job sectors**, through skilling, up-skilling and re-skilling initiatives under TEJAS.

Key features:

- The programme will converge with the existing **skill development** **programmes** and leverage training infrastructure of Industrial Training Institutes (ITIs)
- **Pradhan Mantri Kaushal Kendra** and Skill training institutes under the Central and state governments will ensure sourcing and supply of potential candidates.
- **Work opportunities** have been identified in sectors such as construction and facility management which includes electricians, plumbers and welders etc.

Need:

- The opportunity for India is estimated to be 3.6 million in the next five years, of which 2.6

million Indians can be potentially placed in the Gulf cooperation council countries, Europe, Australia, Canada, Russia and Malaysia.

5G SERVICES TO ROLL OUT IN FOUR METROS, SELECTED CITIES IN 2022

As per the Department of Telecommunications (DoT) eight metropolitan cities will get 5G services from 2022.

- The cities are: Delhi, Gurgaon, Mumbai, Bengaluru, Kolkata, Ahmedabad, Hyderabad, and Pune

What is 5-G Technology?

- 5-G or fifth generation is the latest upgrade in the long-term evolution **(LTE) mobile broadband networks.**
- It mainly works in 3 bands; **low, mid and high frequency spectrum**, which have their own uses as well as limitations.

Low Band Spectrum

- It has great coverage and high **speed of Internet and data exchange**.
- o The maximum speed is limited to 100 Mbps (Megabits per second).
- Telcos can use and install it for **commercial cellphone users** who may not have specific demands for high-speed Internet.
- o The low band spectrum may not be optimal for specialized needs of the industry.

Mid-Band Spectrum

- **It offers higher speeds** compared to the low band, but has limitations in terms of coverage area and penetration of signals.

- This band can be used by **industries and specialized factory units** for building captive networks that can be moulded into the needs of that particular industry.

High-Band Spectrum

- It offers the highest speed of all the three bands, but has limited coverage and **signal penetration strength.**
- **Internet speed** has been tested to be as high as 20 Gbps (giga bits per second), while the maximum internet data speed in 4G has been recorded at 1 Gbps.

Scenario in India:

- India had planned to start 5G services in 2018.
- **Aim:** To capitalize on the better network speeds and strength that the technology promised.

Previous Generations of Mobile Networks:

First generation - 1G

- 1980s: 1G delivered analog voice.

Second generation - 2G

- Early 1990s: 2G introduced digital voice (CDMA- Code Division Multiple Access).

Third generation - 3G

- Early 2000: 3G brought mobile data (CDMA-2000).

Fourth generation - 4G LTE

- 2010: 4G LTE ushered in the era of mobile broadband.

PM MODI TO LAY FOUNDATION STONE OF 4 HYDRO POWER PROJECTS IN HIMACHAL PRADESH

The Prime Minister of India has laid foundation stone of Luhri and Dhaulasidh Hydropower projects in Himachal Pradesh.

The Luhri Stage 1 Hydro Power Project:

- It is a 210 MW project.
- It will be constructed on the **River Sutlej.**

- It will lead to the generation of **over 750 million units** of electricity per year.

Dhaulasidh Hydro Power Project:

- It will be the **first hydropower project of Hamirpur** district.
- It will be constructed on **River Beas.**
- The 66 MW project will lead to the generation of **over 300 million units** of electricity per year.

GOVERNMENT NOTIFIES CONSUMER PROTECTION RULES, ASKS DIRECT SELLING FIRMS TO COMPLY WITHIN 90 DAYS

Recently, the Central Government notified Consumer Protection (Direct Selling) Rules, 2021.

- The rules are complied for both **direct selling entities and direct sellers** using e-commerce platforms for sale.
- The entities have to ensure that these new rules are compiled by within **90 days**.

Highlights of Consumer Protection (Direct Selling) Rules, 2021:
Guidelines for the Entities:
Redressal Mechanism

- Every direct selling entity has to establish a **grievance redressal mechanism** and display the relevant information on its website.

Role of Redressal Officer

- The **grievance redressal officer** must acknowledge the receipt of any consumer complaint within 48 working hours and redresses the complaint within a period of one month from the date of receipt of the complaint.

- In case of delay of more than a month, reasons for the delay and actions taken on the complaint are to be **informed in writing**.

Nodal Officer

- The entity shall appoint a **nodal officer** who will be responsible for ensuring compliance with the provisions of the Act and the rules made there under.

Filing Complaints

- The entity shall establish a mechanism for **filing of complaints** by consumers through its offices or branches or direct sellers.
- It shall **maintain a record** of all its direct sellers, including their identity proof and such other contact information.

Information regarding a Seller

- The entities shall, on the request in writing made by a consumer after purchase of any goods or services, provide him with the **information** regarding any **direct seller** from whom

such consumer has made a purchase.

- It will ensure that advertisements for **marketing of goods or services** are consistent with the actual characteristics, access and usage conditions.
- No entity shall directly or indirectly, falsely represent itself as a consumer and post reviews about its goods or services.

Liability

- The entity which explicitly or implicitly vouches for the **authenticity of the goods or**

services sold, shall bear the liability in any action related to the authenticity of such goods or services.

Legally Binding Contract

- A direct selling entity will monitor the practices adopted by its sellers and **ensure compliance** with these rules by legally binding contract with such sellers.

Monitoring Mechanism

- **State governments** will set up a mechanism to monitor or supervise the activities of the entities.

LOW GRANT SANCTIONS, DISBURSEMENT: INDIA WANTS TO PROMOTE FPOs BUT WHERE ARE THE FUNDS?

Recently, **State of India's Livelihood (SOIL) Report 2021** has been released by Access Development Services, a national livelihoods support organisation.

Report:

- The State of India's Livelihoods (SOIL) Report is an **annual Report released at the Summit.**
- It analysed **only farmer producer companies** (FCP — FPOs registered under The Companies Act, 2013), since they make up a large majority of the organisations started in recent years.

Key Findings of the report:

- The number of Farmer Producer Organizations (FPOs) registered as cooperatives or societies is very small.
- **Low Funding:**
  o Farmer Producer Organizations (FPO) have received only **1-5 per cent funding** under central government schemes.

Low grant sanctions:

  o **Only 5 per cent** of the total producer companies have been able to secure the grants.
  o States which received highest number of cases are in the order: Maharashtra (144), Tamil Nadu (104) and Uttar Pradesh (96).

Under Credit Guarantee scheme:

  o It provides **risk cover** to banks that advance collateral-free loans to FPCs up to Rs 1 crore.
  o Only **1 per cent** of registered producer companies have been able to avail the benefits.

Under Equity Grant scheme:

  o Equity grants up to a maximum of Rs 15 lakh in two tranches within a period of three years since 2014.
  o Only a **miniscule number of FPOs have been able to secure the grants.**

Under 10,000 Farmer Producer Organization Policy:

  o It played an important role in bringing attention to the

importance of collectivising small and marginal farmers

Farmers Producer Organisation (FPO)?

- Farmers Producer Organization is a legal entity whose members are farmers.
  - o **Aim:** To ensure a **better income** for the producers through an organization of their own.
- It is incorporated under the **Companies Act or Co-operative Societies Act of the concerned States.**
- Farmer Producer Organization is promoted under "**One District One Product"** to promote the specialization and better branding, marketing, processing and exports by FPO.
- **Small Farmers' Agribusiness Consortium (SFAC**) is providing support for promotion of FPOs.
  - o **Aim**: To **enhance the farmers' competitiveness** and to increase their advantage in emerging the market opportunities.
- It is formed to **leverage collectives** through economies of scale in production and marketing of agricultural and allied sectors.
- It will aid in the primary producers availing the **benefit of the economies of scale.**
- Farmers Producers have **better bargaining power** in the form of bulk buyers of produce and bulk suppliers of inputs.

Activities undertaken by FPOs:

- They **supply** seed, machinery, market linkages & fertilizers.

- They provide **end-to-end support** and services to the small farmers, cover **technical services,** marketing, processing, and others aspects of cultivation inputs.
- They engage in the **process of value addition** like cleaning, grading, packing, and also farm level processing facilities at a user charge basis on a reasonably cheaper rate.
- They facilitate **logistics services** such as storage, transportation, loading/unloading, etc. on a shared cost basis.

Implementing Agencies:

- Small Farmers Agri-business Consortium (SFAC) set up by the Ministry of Agriculture, Government of India.
- National Cooperative Development Corporation (NCDC)
- National Bank for Agriculture and Rural Development (NABARD)

Central Government schemes introduced to support FPOs:

Equity Grant Scheme:

- It provides an **amount equivalent to the equity contribution** done by the members in the FPCs.
- The scheme will be addressed by the SFAC which affords the maximum amount of Rs. 10 lakhs per FPC in two payments
- **Aim**: To strengthen the **financial base of FPOs** and help them to get credit from financial institutions for the projects and working capital requirements for business development

Credit Guarantee Scheme:

- The Government is providing credit guarantee cover:
  - to **accelerate the flow of institutional credit** to FPOs by minimizing the risk of financial institutions for granting loans to FPOs
  - to **improve their financial ability** to execute better business plans leading increased profits.

Formation and Promotion of 10,000 FPOs:

- **Formation and Promotion of 10,000 Farmer Producer Organization Policy** is a Central Sector scheme.
- It provided well defined training for capacity building of FPOs including their skill development in marketing, processing and export.

PM Formalisation of Micro food processing Enterprises (PMFME) Scheme

- Launched by Ministry of Food Processing Industries (MOFPI).

- It is for providing financial, technical and business support for upgradation of existing micro food processing enterprises.
- **Aim**: To **support Farmer Producer Organizations (FPOs),** Self Help Groups (SHGs) and Producers Cooperatives along their entire value chain.

Farmer Connect Portal

- It is an initiative of Agricultural and Processed Food Products Export Development Authority **(APEDA)**
- **Aim:**
  - To facilitate **export facility** by providing a platform for FPOs/FPCs, Cooperatives to connect with exporters.
  - To **facilitate and integrate the activities** of Farmers and aggregators in the form of FPOs with Exporters through the assistance of ICT platform.

HUNG ASSEMBLY

- **In a parliamentary system**, to form a government, political parties have to get a clear majority in any state election.
- In some cases, when no single political party or pre-poll alliance gets a majority, it is called a **hung assembly**.

How the Government is Formed?

- In such situations, **a coalition government** may be formed in which parties might enter into alliances after the elections.

- The government may be formed with outside support of parties and **independent MLAs**.
- In case, no government is formed then President's Rule could be imposed by the state governor under **Article 356** of the Constitution.

Article 356:

- In India, **President's rule** is the suspension of state government and imposition of direct Union government rule in a state.
- **Under Article 356**, if a state government is unable to function

according to Constitutional provisions, the Union government can take direct control of the state machinery.

- **Executive authority** is exercised through the centrally appointed governor, who has the authority to appoint other administrators to assist them.

CJI FLAGS CHALLENGE OF 'NON-COOPERATIVE EXECUTIVE'

Chief Justice of India said there is a **growing tendency to disregard and even disrespect** the Court orders **by the executive** which is supposed to assist and co-operate for the rule of law to prevail in the nation.

Judicial review

- It is the **power of the courts** of a country to **examine the actions of the legislative, executive, and administrative arms of the government** and to determine whether such actions are consistent with the constitution.

Constitutional backing to Judicial review

- **Article 372(1)** said that **Judicial review of the pre-constitutional laws** that were in force before the commencement of the Constitution of India.
- **Article 13(2) is** about **any law made by the parliament** after the commencement of the constitution shall be declared null and void by the Court.
- **Article 251 and 254 states** that if there is any inconsistency between the union and state law, the law of union shall prevail and the state law shall be deemed void.
- **Under Article 32 or Article 226 of the constitution** If any person's Fundamental right is violated he/she can approach the court.

Supreme court cases

Kesavananda Bharti V. State of Kerala

- **Court for the first time explained** on its power to review amendments to the constitution.

Minerva Mills V. Union of India

- In this case, **Judicial Review** was added to the list of **Basic Structure of the constitution.**

I.R. Coelho V. State of Tamil Nadu

- In this case the court held that **any act inserted in Schedule 9 can be judicially scrutinized** but **only those enactments** which are inserted after 24th April 1973.

Importance of judicial review

- Judicial review is **necessary to uphold** the principle of **supremacy of the constitution**.
- The provision of judicial review **prevents the misuse of power** by the legislature and executive.
- It **maintains the equilibrium** between the centre and state, thereby maintaining federal equilibrium.
- The provision **protects the fundamental rights** of the citizens.

- This provision ensures the **principle of the independence of the judiciary.**

Scope of judicial review

Judicial review isn't absolute as some conditions need to be met to challenge any law in the supreme court or the high courts, i.e., a law can be challenged only if:

- The said law **infringes upon the fundamental rights** guaranteed by the constitution.

- The said law goes **against the provisions** listed in the constitution.
- The law that has been **enacted goes beyond the competency of the authority** that has framed it.

Not applicability of judicial review

- **A "money bill" is** beyond the power of Judicial Review.
- **Article 212 of the constitution of India** provides that the Courts cannot inquire proceedings of the Legislature on the ground of any alleged irregularity of procedure.

TRANSFORMING LIVES: THE JOB CREATION POTENTIAL OF A JUST LIVESTOCK TRANSITION

Livestock operations are transitioning into plant-based operations.

Industrial Livestock Production:

- Industrial livestock production generally refers to a modern type of agriculture wherein densely populated groups of animals are confined to cages, barns or feedlots.

Harmful Effects of Industrialised Livestock Production:

Environmental Threat:

- Industrialised livestock production e**ndangers planet's ecosystems, natural resources, livelihoods**, human health and animal welfare.
  - o The **livestock sector** is projected to **account** for up to **81 per cent of the 1.5 degrees Celsius emissions budget by 2050** if production continues unabated.

Pollution:

- Industrial production can create **enormous pollution problems** because it brings in large **quantities of nutrients** and

then has to **dispose of the manure to nearby land** which quickly becomes saturated.
  - o As a result, **land and groundwater are polluted.**

Threat to human health and psychological well-being:

- The **impact of injuries, illness and trauma affects** the individual worker and has devastating effects on their families and communities.
- **New strains** of bird and swine **flu**, which have the potential to become **zoonotic diseases,** emerge each year posing a major threat to human health.
- **Meat-packing jobs inflicts** daily reports of **amputations, burns, head injuries and psychological trauma.**

Racial Factor:

- Many of the workers at meat packing plants are from **racialized communities** and already face

multiple socio-economic challenges.

o Nearly half of front-line meat-processing workers in the United States are categorised as **low-income workers**, **80 per cent** are **people of colour**, and **52 per cent** are **immigrants.**

Plant-based operation?

• Plant based operations include processes on **foods mainly available from plants.**

• This includes not only **fruits and vegetables**, but also nuts, **seeds, oils, whole grains, legumes, and beans.**

Benefits of Transition into plant-based operations:

• Plant based operations creates **safer, healthier, more equitable, gender parity jobs.**

• The transition protects the climate and the **farmer's land.**

Job Creation:

• As per the recent study, plant-based food system will create **thrice as much employment** than the **meat-based food system** presently provides.

GOVT ISSUES GUIDELINES FOR PLI SCHEME FOR TEXTILES SECTOR

Recently, Government of India issued operational guidelines for the Production Linked Incentive (PLI) Scheme for the textiles sector.

Operational Guidelines:

• The Applicant will have to form a new company under the **Companies Act, 2013** before commencement of investment.

• There will be **no restriction for making higher investment** for enhancing manufacturing capabilities and achieving growth target.

• Only one project under PLI will be approved for any group of companies.

o **In case of multiple applications**, the entity will have to indicate their preference for proposal taken forward at the time of selection.

• **Participating company** have to do minimum value addition in their own registered factory premises

• The Participant, while dispatching Notified Products shall ensure to put "**Made in India" tag** on each product.

PLI Scheme for textile sector:

• **Production Linked Incentive** (PLI) Scheme for promotion of **Man-Made Fiber (MMF) Apparel**, MMF Fabrics and Products of Technical Textiles was launched in September 2021.

• Incentives under the scheme are available for five years with a budgetary outlay of Rs. 10,683 crores.

Objectives:

• To promote production of MMF apparel & fabrics and technical textiles products in the country.

• To become competitive and to **create employment opportunities** for people.

Provide incentives to eligible producers in two phases

Scheme Part- 1

- Any person including Company/Firm/ /Trust willing to create a separate manufacturing company under **Companies Act 2013**, and invest minimum ₹300 Crore to manufacture Notified Products.
  - o Such company will be eligible to get incentive when they achieve a minimum of ₹600 Crore turnover by manufacturing and **selling the notified products** by the first Performance Year.

Scheme Part-2

- Any person including Company/Firm/LLP/Trust willing to create separate manufacturing company under Companies Act 2013, and invest minimum ₹100 Crore to **manufacture notified products.**

- o Such company will be eligible to get incentive when they achieve a minimum of ₹200 Crore turnover by manufacturing and selling the notified products by the first Performance Year.

Conditions for Incentives:

- The Participant shall be **eligible for the incentives** on achieving investment and incremental turnover by the first performance year.
  - o In case the conditions are not met in time, the incentive will be available from the year these are met, but **rate of incentive** will be applicable as prescribed to first year of the scheme.
- Manufacture and **sale of textile products** will be considered as permitted activities.

ATAL INNOVATION MISSION, NITI AAYOG RELEASES 'INNOVATIONS FOR YOU' & 'THE INGENIOUS TINKERERS'

Recently, Atal innovation mission and NITI Aayog releases Innovations for you and the Ingenious Tinkerers.

- It is a compendium of **innovations** focused on agriculture featuring 70 startups supported by Atal incubation Centers (AICs) of AIM.
- It is a compilation of successful innovations by the **entrepreneurial minds** of India solving problems of present for future.

The Ingenious Tinkerers

- It is a compendium on the innovations on technology featuring **41 innovations** from Atal Tinkering Lab (ATL) of India.
- It will leverage the **upcoming technologies** available at ATLs to devise a solution.
- These young tinkerers will interact with the members of their community and designing a **prototype** in a manner that fits their needs and demands.

APPOINTMENTS OF VCs OF 24 UNIVERSITIES IN BENGAL WITHOUT MY APPROVAL: GOVERNOR

Recently, West Bengal Governor claimed that appointments of vice-chancellors of 24 universities in the State were made without his approval or in defiance of orders.

Governor

- The governor is the **chief executive head** of the state.
  - But he is a nominal executive head (titular or constitutional head).
- The governor has a dual role as he acts as an **agent of the central government.**

Appointment of Governor

- The Governor is appointed by the **President**, on consultation with the Chief Minister of the state concerned.
  - Governor whose term has expired may be **reappointed** in the same state or any other state.
  - The President may **transfer a Governor** appointed to one state to another state for the rest of the term.
- The 7th Constitutional Amendment Act of 1956 facilitated the appointment of the same person as a governor for two or more states.
  - The emoluments and allowances payable to him are shared by the states in such proportion as determined by the president.
- A governor holds office for a term of **five years** from the date on which he enters upon his office.
  - However, this term of five years is subject to the **pleasure of the President.**

Qualifications

- He should be a **citizen of India.**
- He should have completed the age of **35 years.**
- He should be an **outsider,** that is he should not belong to the state where he is appointed.

- He should **not be a member** of either House of Parliament or a House of the state legislature.

Powers and Functions of governor

1. Executive powers.

- He can **make rules** for more convenient transaction of the business of a state government and for the allocation among the ministers of the said business.
- He **appoints** the chief minister and other ministers, general, state election commissioner, chairman and members of the state public service commission.
- He can **seek any information** relating to the administration of the affairs of the state.
- He can **recommend** the imposition of **constitutional emergency** in a state to the president
- He acts as the **chancellor** of universities in the state and **appoints the vice-chancellors** of universities in the state.

Legislative powers.

- He can **summon or prorogue** the state legislature and dissolve the state legislative assembly.
- He can **address the state legislature** at the commencement of the first session.
- He can appoint any member of the State legislative assembly to preside over its proceedings in the absence of the speaker and deputy speaker.
- He **nominates one-sixth** of the members of the state legislative council

- He can nominate one member to the state legislature assembly from the Anglo-Indian Community.
- He decides on the **question of disqualification of members** of the state legislature in consultation with the Election Commission.
- When a **bill** is sent to the governor after it is passed by state legislature, he can:
  - Give his **assent** to the bill,
  - **Withhold** his assent to the bill,
  - **Return** the bill (if it is not a money bill) for reconsideration of the state legislature
  - **Reserve** the bill for the consideration of the president.
- He can **promulgate ordinances** when the state legislature is not in session
- He lays the **reports** of the State Finance Commission, the State Public Service Commission and the Comptroller and Auditor-General.

Financial powers.

- He sees that the **Annual Financial Statement (st**ate budget) is laid before the state legislature.
- **Money bills** can be introduced in the state legislature only with his prior recommendation.

- No demand for a grant can be made except on his **recommendation.**
- He can make **advances out of the Contingency Fund** of the state to meet any unforeseen expenditure.
- He **constitutes a finance commission** after every five years to review the financial position of the panchayats and the municipalities

Judicial powers

- He can **grant pardons**, reprieves, respites and remissions of punishment or suspend, remit and commute the sentence of any person.
- He is **consulted by the president** while appointing the judges of the concerned state high court.
- He makes appointments, postings and promotions of the **district judges** in consultation with the state high court.
- He also **appoints persons to the judicial service** of the state (other than district judges) in consultation with the state high court and the State Public Service Commission.

SCIENCE & TECHNOLOGY

PAT: CENTRE'S DECARBONISATION SCHEME NOT EFFECTIVE ENOUGH, SAYS NEW CSE REPORT

Centre for Science and Environment released a report on decarbonisation scheme.

Highlights of report:

- National Action Plan on Climate Change (**NAPCC) has proved ineffective.**
  - **Cause-** Non-transparency, loose targets and overlooked deadlines.
- Thermal power plants had reduced just **1-2 % of overall carbon dioxide emissions** emitted by them.
- Industrial sector consumes **43%** of overall consumption of energy, which is the **most energy consumption sector of India.**
- Carbon dioxide (CO_2) emissions has been reduced in **PAT cycle 1 and 2.**
- The total emission reduction from **Thermal Power Plants (TPPs) is 24.85 million tonnes** of oil.

National Action Plan on Climate Change (NAPCC)

- **Launched-** 2008
- **Aim-** to check the increasing energy consumption of industries and related carbon emissions.

There were **eight national missions** under the NAPCC.

- **National Solar Mission**
  - **Objective-** to promote solar power and reduce dependency on the traditional power sources.
  - **Kisan Urja Suraksha Evam Uthhan Mahabhiyan (KUSUM)** was launched under this scheme.
  - Aimed to produce **20,000 Megawatts of solar power** in three phases of (2010-2013); (2013-2017); and (2017-2022).
- **National Mission for Enhanced Energy Efficiency**
  - **Implemented by-** Union Ministry of Power and Bureau of Energy Efficiency.
  - **Objective-** To **promote the use and adoption of energy efficient equipment's**.
  - The Mission has four components:
    - Perform Achieve and Trade (PAT)
    - Energy Efficiency Financing Platform
    - Market Transformation for Energy Efficiency (MTEE)
    - Framework For Energy Efficiency Economic Development
- **National Mission on Sustainable Habitat**
  - **Objective-** to make cities sustainable through

improvements in energy efficiency in buildings, management of solid waste & shift to public transport.

- **National Water Mission**
- o **Objective**- To focus on conservation of water and minimizing wastage
- o To ensure equitable distribution among the state.
- **National Mission for Sustaining the Himalayan Ecosystem**
- o **Objective**- to assess the health of Himalayan Ecosystem.
- **National Mission for a Green India**
- o **Objective**- to protect, restore and enhance India's diminishing forest cover.
- **National Mission for Sustainable Agriculture**
- o **Objective-** To make agriculture more productive, sustainable, remunerative and climate resilient.
- **National Mission on Strategic Knowledge for Climate Change**
- o **Objective-** to build a dynamic and vibrant knowledge system that informs and supports effectively to climate change challenges.

Perform, Achieve and Trade (PAT)

- It is **a flagship programme and market-based mechanism**.
- **Launched by-** Bureau of Energy Efficiency (BEE) in 2012
- **Aim**- to enhance the cost effectiveness in improving the Energy Efficiency in Energy Intensive industries.
- The scheme has set **energy efficiency targets for industries**.
- It refers to the calculation of **Specific Energy Consumption**

(SEC) in the baseline year and projected SEC in the target year.

Features-

- Industries that participate in this scheme are called **designated consumers (DC)**
- **Energy savings certificates (ESCerts)** are issued for achieving the targets.
- Non-achievers have to buy the ESCerts **after the three years** for compliance.
- PAT covered about **13 energy-intensive sectors.**

PAT Cycles for Implementation of Scheme:

- The government shortlists industries and restricts the amount of energy within a time limit of three years. These three years of time are called **one PAT cycle.**
- o Industries that participate in this scheme are called **designated consumers (DC).**
- Those that overachieve their targets are issued **energy savings certificates (ESCerts)** that can be traded with industries that have not achieved their targets.

PAT Cycle I (2012-13 to 2014-15)

- o It included 478 DCs from eight different sectors.
- o The overall energy saving targets for PAT Cycle I was 6.686 million Tonne of Oil Equivalent (MTOE) by the end of 2014-15.

PAT Cycle II (2016-17 to 2018-19)

- o 621 DCs from 11 energy-intensive sectors were included.
- o **Aim-** to achieve an overall energy consumption reduction of 8.869 MTOE.

PAT Cycle –III (2017-18 to 2019-20)
- o 116 DCs from eight sectors were part of it.
- o **Aim**- to achieve an overall energy consumption reduction of 1.06 MTOE.

PAT Cycle IV (2018-19 to 2020-21)
- o 109 DCs with a total reduction target of 0.6998 MTOE was notified.

PAT Cycle V (2019-2020 to 2021-22)
- o 110 DCs have been notified for targeted energy savings of 0.5130 MTOE.

PAT Cycle VI (2020-21 to 2022-23)
- o 135 DCs are selected with a target of 1.277 MTOE.

NEUTRINO SIGNALS DETECTED AT LARGE HADRON COLLIDER FOR FIRST TIME EVER

Recently, physicists at Large Hadron Collider (LHC) have reported the detection of neutrino signals for the first time.

Highlights:
- An international Forward Search Experiment (FASER) team has observed **six neutrino interactions** during a pilot run of a compact emulsion detector installed at the Large Hadron Collider (LHC).
- Scientists have encountered **difficulties in detecting neutrinos as**:
- o LHC uses magnets to direct particles around a circular collision path with detectors dotted around these curves.
- o Since these magnetic traffic signs don't impact chargeless particles like neutrinos, they are gone undetected.
- But recent study has shown that particle colliders can be used to detect **neutrinos.**

Significance of the study:
- It can help in **developing a deeper understanding of neutrinos and their role in the universe.**

What is a Neutrino?
- **A neutrino is a subatomic particle** that is very similar to an electron.
- o It has **no electrical charge and a very small mass**
- They are **difficult to detect because they have a very little interaction with matter.**
- **Natural sources** of neutrinos include the **radioactive decay of primordial elements** within the earth.
- o It can be created from atomic decay, cosmic rays, and the collision of Earthly particle beams.

Applications of Neutrinos
- Help find cavities of mineral and oil deposits in Earth.
- Facilitate faster global communication.
- Allow scientists to detect dark matter

Large Hadron Collider (LHC)
- The **Large Hadron Collider (LHC)** is the **world's largest and most powerful particle collider**.

- o It was built by the European Organization for Nuclear Research, CERN.
- Large Hadron Collider (LHC) work by **slamming beams of hadron particles (e.g., protons, etc.) into each other at nearly the speed of light.**
- o As a result of these collisions, subatomic particles such as **quarks or bosons** are shed and caught by detectors.
- o These particles also create marks that are **visible following processing**.
- o These etchings provide clues about the energies of the particles, their flavors – **tau, muon, or electron** – and whether they're neutrinos or antineutrinos.
- Neutrinos come in what physicists' call "flavors" which can be either **tau, muon, or electron.**
- Flavours can be described as what the neutrino **will break into** upon hitting an atomic nucleus.
- **Tau neutrinos have proven to be the rarest** and **most challenging to detect.**

ForwArd Search ExpeRiment (FASER)

- **It is one of the experiments conducted at the LHC**.
- o It uses emulsion detection to catch neutrinos.
- o It focuses on detecting the constituent parts of a neutrino that it decays into after striking an atomic nucleus just right.
- FASER **will also be able to distinguish between neutrinos and anti-neutrinos** striking its detector.
- **Antineutrino is a neutrino with an opposite charge.**

DHAWAN-1: SKYROOT TEST-FIRES CRYOGENIC ROCKET ENGINE

- It is India's **first privately developed cryogenic rocket engine,** named after eminent rocket scientist Satish Dhawan.
- The engine has been completely **3D printed and made in India**.
- It has been developed by **Hyderabad based start-up** named **Skyroot Aerospace**.
- The company used a **superalloy** for 3D printing the engine, which reduced the manufacturing time by 95%.
- o A superalloy is an alloy with the ability to operate at a high fraction of its melting point.

INDIA'S FIRST PRIVATELY BUILT

- o Key characteristics of a superalloy are excellent mechanical strength, resistance to thermal creep deformation, good surface stability, and resistance to corrosion or oxidation.

Dhawan-1 engine

Dhawan-1 engine comprises of a vacuum thrust of about 1.5kN. Engine was tested on a specially constructed testbed at Solar Industries in Nagpur. The engine is the upper stage of Vikram-2 launch vehicle. It uses **environment friendly** combinations called **LNG** and **LOX**. It is entirely 3D printed. Engine has been named in honour of Satish Dhawan.

Pixxel 1 satellite

Pixxel 1 satellite will be launched in **2022**. It will be the **first private satellite** in an Earth Observation constellation in low Earth orbit.

HISTORIC WIN FOR FARMER SEED RIGHTS: PEPSICO'S IPR ON POTATO VARIETY REVOKED

Recently, Protection of Plant Varieties and Farmers' Rights (PPV&FR) Authority revoked a PVP (plant variety protection) certificate granted to PepsiCo India.

- **PepsiCo India** provoked outrage by suing Gujarati farmers for allegedly infringing patent rights by growing its registered potato variety.

What was the issue?

- In 2016, the Pepsico company registered the **FL-2027 (or FC5 variety) variety of potatoes** under the **PPV & FR Act, 2001**.
  - o The FC5 variety has **5 % lower moisture content** than other varieties.
  - o With 80 % moisture content, this variety is considered more suitable for processing and therefore, for making snacks such as potato chips.
- The potato was grown by 12,000 farmers with whom the company had an exclusive contract to sell seeds and buy back their produce.
- However, farmers who were not part of its **collaborative farming programme** were also growing and selling the variety in Gujarat.
- **In April 2019, PepsiCo filed** rights infringement cases under the Act against nine farmers in the state.
  - o However, after protest it took the case back.

Protection of Plant Varieties and Farmers' Rights Act 2001:

- The **Government of India** enacted the Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act, 2001 adopting sui generis system.
- **Aim**: To provide for the establishment of an effective system for the protection of plant varieties, rights of farmers and plant breeders.

Objectives:

- **To encourage** the development of new varieties of plants.
- To protect the rights of farmers in respect of their contributions made in conserving, improving and making plant genetic resources for the development of new plant varieties.
- **Stimulate investment** for research and development both in public & private sector for the development new of plant varieties.
- **Facilitate the growth** of seed industry to ensure the availability of high-quality seeds and planting material to the farmers.

Rights under the Act:

Breeders' Rights

- Breeders will have exclusive **rights to produce**, sell,

market, distribute, import or export the protected variety.

• They can appoint agent/ licensee and may exercise for civil remedy in case of infringement of rights.

Researchers' Rights

• Researcher can use any of the registered variety under the Act for conducting experiment or research.

Farmers' Rights

• A farmer who has developed a new variety is entitled for registration and protection as a breeder of a variety.

• A farmer can save, use, sow, share or sell his farm produce including seed of a variety protected under the **PPV & FR Act, 2001**.

• **Farmers are eligible** for recognition and rewards for the conservation of Plant Genetic Resources of land races and wild relatives of economic plants.

• There is a provision for compensation to the farmers for non-performance of variety under **Section 39 (2) of the Act, 2001**.

o **Registered seed** must be sold with the full disclosure of their agronomic performance under recommended management conditions.

o When such seed is sold to farmers but fails to provide the expected performance the farmer is eligible

PROJECT RE-HAB

• A pilot project RE-HAB **(Reducing Elephant-Human Attacks using Bees)** has been launched in Karnataka

to claim compensation from the breeder.

PPV& FRA Authority:

• **Ministry of Agriculture** established the Protection of Plant Varieties and Farmers' Rights Authority on 11 November, 2005.

• The chairperson is the **Chief Executive** of the authority.

• The **Registrar General** is the ex-officio member secretary of the authority.

General Functions of the Authority:

• Registration of new plant varieties **essentially derived varieties** (EDV).

• **Developing DUS** (Distinctiveness, Uniformity and Stability) test guidelines for new plant species.

• Developing characterization and documentation of varieties registered.

• Compulsory cataloging facilities for all variety of plants.

• **Documentation,** indexing and cataloguing of farmers' varieties.

• Recognizing and rewarding farmers particularly tribal and rural community engaged in conservation and improvement.

• **Preservation of plant genetic resources** of economic plants and their wild relatives.

• Maintenance of the National Register of Plant Varieties.

• Maintenance of **National Gene Bank**.

• **Project initiated by:** Khadi and Village Industries Commission (KVIC).

- **Aim:** To prevent elephant human conflicts without creating harm to either of them by creating bee fences.

- **Advantages:** The bee boxes are cost-effective and will increase the production of honey to improve the economic conditions of farmers.

NECA AND NEEIA AWARDS

- On the occasion of **National Energy Conservation Day (December 14th),** the awardees of the National Energy Conservation Awards and National Energy Efficiency Innovation Awards was felicitated.
- **Aim:** To apply new methods to achieve energy efficiency and to lay greater emphasis on research & development.
- **National Energy Conservation Awards (NECA):** It is given to

the **energy-intensive units of various sectors of the Indian economy** for their exceptional achievements in reducing specific energy consumption.

- **National Energy Efficiency Innovation Award (NEEIA):** It is given to recognize "**Innovative Energy Efficiency Technologies**" and instill a sense of competition to motivate industries to develop innovative energy efficiency efforts in their units.

CRUMB RUBBER

- It is **recycled rubber** produced from **automotive and truck scrap tires.**
- o During the recycling process, steel and tire cord (fluff) are removed, leaving tire rubber with a granular consistency.
- o Crumb rubber is manufactured from two primary feedstocks: tire

buffings, a by-product of tire re-treading, and scrap tire rubber.

- **Application of Crumb rubber:**
- o Foundation waterproofing, rubberized asphalt, and infill for artificial turf fields and playgrounds.

GIVE IMPETUS TO SET UP FORTIFIED RICE MANUFACTURING PLANTS IN PADDY PROCURING DISTRICTS OF MAHARASHTRA: GOVT

Recently, centre asked the rice manufacturing plants in Maharashtra to **give impetus to set up fortified rice** manufacturing plants.

Suggestions made by the Centre to state:

- **Improve the infrastructure** at the procurement centres.

- Interact with the farmers encouraging them to **avail the benefits of various schemes of the Centre.**
- **Promote diversification of crops** towards corn to encourage grain-based distilleries for ethanol production.

- Emphasized the **strengthening of solvent extraction plants** to manufacture rice bran oil in the purchasing areas.
- Emphasised to give impetus on **setting up fortified rice manufacturing plants** especially in and around paddy procuring districts.
- It has set out a plan for **issuing fortified rice through public distribution system (PDS) in future.**

Food Fortification

- Food fortification is defined as the **practice of adding vitamins and minerals to increase their nutritional value.**
- It is a **proven, safe and cost-effective strategy** for improving diets and for the prevention and control of micronutrient deficiencies.
- It is done by the **addition of key vitamins and minerals such as iron, iodine, zinc, vitamins A and D to staple food items such as rice, wheat, oil, milk, and salt, during the processing.**
- o The addition of the vital nutrients is done to staple food items so that it can reach a larger population.

Need of food fortification:

- 70% of people in India do not consume enough micronutrients such as vitamins and minerals.
- 70 % of pre-school children suffer from **anaemia** caused by Iron Deficiency and 57 percent of preschool children have sub–clinical **Vitamin A deficiency.**
- **Neural Tube Defects (NTDs)** are the most common congenital

malformation with an incidence that varies between 0.5-8/1000 births.

- **Malnutrition** is the primary reason behind 69 % of deaths of children below the age of five in India.
- o It is estimated that 50-70% of these birth defects are preventable.
- o One of the major causes is **deficiency of Folic Acid.**
- Deficiency of micronutrients or micronutrient malnutrition, also known as "**hidden hunger**", is a serious health risk.

Advantages of Food Fortification

- The **nutrients are added to staple foods that are widely consumed** reach a large section of people.
- Fortification is **a safe method** of improving nutrition among people.
- o The addition of micronutrients to food **does not pose a health risk to people**.
- o The quantity added is so small and so well regulated as per prescribed standards that likelihood of an overdose of nutrients is unlikely.
- It **does not require any changes in food habits and patterns of people**.
- o It is a socio-culturally acceptable way to deliver nutrients to people.
- It **does not alter the characteristics of the food**—the taste, the feel, the look.
- It can be implemented quickly as well as **show results in improvement of health in a relatively short period of time.**

- This method **is cost-effective** especially if advantage is taken of the existing technology and delivery platforms.
- Fortified foods will **maintain body stores of nutrients more efficiently** and more effectively than other supplements.

Disadvantages of Food Fortification

- They are **not a substitute for a good quality diet** that supplies adequate amounts of energy, protein, essential fats and other food constituents required for optimal health.
- It **might not benefit infants** as a child will get nutrition only if the lactating mother will be healthy and consumes adequate nutrition.
- **Restricted access to fortified foods in** the open markets due to low purchasing power and an underdeveloped distribution channel.
- It is **not a long-term solution to malnutrition**.
  - For long term sustainability, dietary diversity is the key to address micronutrient malnutrition.
- It can have detrimental effects as **excess dosages of vitamins and minerals in some cases can have harmful effects.**

LONGEST IN-COUNTRY MIGRATION ROUTE OF LESSER FLORICAN FROM RAJASTHAN TRACKED

Recently, the longest in-country migration route of **lesser floricans** has been tracked for the first time from Rajasthan to Maharashtra's Ahmednagar district.

Highlights of the study:

- The telemetry exercise was undertaken in the **Shokaliya landscape** of Ajmer district **to trace the journey of lesser floricans from their breeding grounds to their places of origin.**
- The scientific experiment has **succeeded in locating a bird** which **travelled a distance of 1,000 km after breeding during the monsoon.**

Lesser Florican

- Lesser florican is a **small and slender bird species** belonging to the bustard group.
- It comes from the taxonomic family of bustards, the Otididae.
  - It is the **only member** of its genus, **Sypheotides.**

Physical Features:

- Male is striking: black with pale wings and a filamentous crest.
- The female is light brown but her size and shape set her apart from other similar species.

Distribution

- Lesser Floricans are observed in **Rajasthan, Madhya Pradesh, Gujarat**.
- The population is concentrated in the north-west of India.

Habitat And Ecology

- They inhabit **grasslands and open fields**, particularly un-grazed areas with grass ~1 metre high.
- It occurs in scattered bushes, shrub, and in agricultural fields of millet, cotton, and some cereal crops.

Breeding

- o They have **a lekking mating system**, where males perform unique aerial displays.
- A lek is an aggregation of male animals gathered to engage in competitive displays and courtship rituals, known as lekking.
- o A lesser florican can jump up **to 2-3 metres** while performing its courtship display.
- o They have **separate breeding and wintering sites**.
- o Rainfall and land-use is intrinsically linked to the sprightly florican's breeding habits.

- o **Sufficient grass cover** is particularly important during the breeding season.
- **Diet:** They are **omnivores,** feeding on insects, frogs, small lizards, leaves, crop shoots, herbs and berries.
- **Threat:**
- o Habitat destruction caused by natural and man-made reasons.
- o Changing agricultural patterns is a very prominent reason
- o Human Intervention
- **Conservation status:**
- o **IUCN Red List:** Endangered
- o Its population has been identified as "decreasing".

HIGHLY INVASIVE SNAIL SPECIES REPORTED IN KERALA

During a biodiversity impact assessment study, researchers have found an acute bladder snail called Physella acuta, from the Edappally canal in Kochi.

Physella acuta:
- It is a species of **small, air-breathing freshwater snail**. It is an aquatic gastropod mollusk in the family Physidae.
- **Physical Feature:**
- o It is tiny snail with a striking, **pellucid golden-yellow shell.**
- o Small in size, the snail can grow to 16 mm in height and 9 mm in width.
- o The dead, vacant shell is brownish-yellow while that of the live individuals are translucent golden-yellow with a mottled appearance.
- **Habitat and Distribution:**

- o **Native to North America** but is now found in all continents except Antarctica.
- o This species lives in **freshwater rivers, streams, lakes, ponds, and swamps.**
- o It can **survive well under temporary harsh conditions** like extreme temperature and water pollution.
- The acute bladder snail is globally branded as **highly invasive.**
- o It plays **host to worms** that can cause food-borne diseases and skin itches in humans.
- o its **rapid growth rate**, **air-breathing capability**, and **tolerance to pollution** makes it a potential competitor to native fauna.
- o It also has an **ability to quickly dominate new environments** endanger native

species, even causing serious economic loss.

Invasive species?

- An invasive species can be **any kind of living organism that is not native to an ecosystem** and causes harm.
  - o It can be an amphibian (like the cane toad), plant, insect, fish, fungus, bacteria, or even an organism's seeds or eggs.
- They **can harm the environment**, the economy, or even human health.
- These species **that grow and reproduce quickly**, and **spread aggressively**, with potential to cause harm, hence given the label "invasive."
- Invasive species thrive in a new location because:
  - o There are no predators that hunt them in the new location.
  - o They **outcompete native species** for food.

How are they spread?

- Invasive species are often introduced into new places **accidentally.**
  - o Ships carry aquatic organisms in their **ballast water**, while smaller boats may carry them on their **propellers**.

- Some invasive species are deliberately introduced for the **purpose of pest control.**
- Other invasive species **descended from pets that** escaped or were released into the wild.
- Higher average temperatures and changes in rain and snow patterns caused by **climate change** will enable some invasive plant species to move into new areas.

Threats:

The **direct threats** of invasive species include:

  - o preying on native species
  - o outcompeting native species for food or other resources
  - o causing or carrying disease
  - o preventing native species from reproducing
  - o killing a native species' young.

- They can **change the food web** in an ecosystem by destroying or replacing native food sources.
- It may provide little to no food value for wildlife.
- They can also **alter the abundance or diversity of species** that are important habitat for native wildlife.

NEW RESEARCH INDICATES THAT HYDROGEN SULPHIDE SUPPRESSES HIV INFECTION

Recently, the researchers at the Indian Institute of Science (IISc.) have identified a key role played by hydrogen sulphide (H_2S) gas in suppressing the Human Immunodeficiency Virus (HIV).

Key findings of the study:

- Increased H2S was found to have a direct effect on **reducing the rate at which the virus multiplies in HIV-infected human immune cells.**

Significance of the study

- It can **negate the shortcomings of current combined antiretroviral therapy (cART).**
  o **Combined antiretroviral therapy (cART)** can only suppress the virus by causing it to become latent.
  o cART has some negative effects such as the build-up of toxic molecules leading to 'oxidative stress' and loss of function in the mitochondria.
  o These effects can contribute to **inflammation and organ damage.**
- Hydrogen Sulphide showed **a direct effect in suppressing the HIV reactivation and replication.**
- It also maintained mitochondrial health and helped in dissipation of oxidative stress.

Hydrogen Sulphide:

- **Hydrogen sulphide (H_2S) is a colourless ga**s with a strong odour of rotten eggs.
  o It is commonly called as **sewer gas, stink damp** due to its odour.

Occurrence:

  o It is **found in volcanic gases** and in the waters of certain mineral springs.
  o Small amounts of hydrogen sulphide occur in crude petroleum.

Production:

  o It is also formed as a result of the **decomposition** and decay of proteins present in living matter.
  o The **human body** produces small amounts and uses it as a signalling molecule.
  o It can also result from **industrial activities**, such as food processing, coke ovens, kraft paper mills, tanneries, and **petroleum refineries.**

Safety:

  o Hydrogen sulphide is a highly **toxic and flammable gas.**
  o Because it is **heavier** than air, hydrogen sulphide **can collect in low-lying and enclosed spaces** manholes, sewers, and underground telephone vaults.
  o It can **poison several different systems in the body**, although the nervous system is most affected.
  o Exposure to hydrogen sulphide may **cause irritation to the eyes and respiratory system.**

Uses Of Hydrogen Sulphide

- As an important **reducing agent.**
- In the **manufacture of sulfuric acid** for removing arsenic.
- Hydrogen sulphide is used in many industries.
  o It is **used to produce textiles**

TESS DISCOVERS A PLANET THE SIZE OF MARS BUT WITH THE MAKEUP OF MERCURY

- Recently, Smallest planet named **GJ 367b** was detected **outside our solar system**.

- GJ 367b is the **smallest exoplanet** to be precisely characterized.
  o Its **radius** is **72%** that of **Earth's.**

o Its **mass** is **55%** that of **Earth** and it is denser.

- **86%** of GJ 367b is composed of **iron**, with an interior structure resembling Mercury, the closest planet to our sun.

- GJ 367 b's star, called **GJ 376**, is a **red dwarf**, or **M dwarf** – a type of star that typically hosts multiple planets.

o GJ 367b **orbits** its star once every **7.7 hours.**

- It was **discovered** by NASA's **Transiting Exoplanet Survey Satellite (TESS).**

DRDO SUCCESSFULLY TEST-FIRES VERTICALLY-LAUNCHED SHORT RANGE SURFACE-TO-AIR MISSILE

India successfully test-fires Vertically Launched Short Range Surface to Air Missile from Integrated Test Range (ITR) in Odisha.

Vertically Launched Short Range Surface to Air Missile (VL-SRSAM):

- It is a quick reaction **surface-to-air missile** developed by **Defence Research and Development Organisation.**

- It is meant for **neutralizing aerial threats at close ranges**.

Features-

- It has **lock on before launch** (LOBL) and **lock on after launch** (LOAL) capability.

- It will also be used as **short-range air defence system for Indian Air Force**.

- It will replace **the older Barak-1 surface to air missile** system.

- **Guidance system-** Fibre-optic gyro based inertial navigation system with mid-course update via datalink.

- **Launch platform**- Surface Ship

A PLANT-BASED CHEWING GUM THAT 'TRAPS' CORONAVIRUS

Plant based chewing gum was recently discovered by the researchers of University of Pennsylvania.

- It will **neutralise the SARS CoV-2 in the saliva** and **controls the transmission** of the infection.

- It targets the virus in the saliva by **trapping it with the ACE2 protein**.

o **Angiotensin-converting enzyme 2 (ACE2)-** It is an enzyme attached to the membrane of cells in the intestines, kidney, testis, gallbladder, and heart.

WHAT IS THE DIFFERENCE BETWEEN A BOOSTER SHOT AND AN ADDITIONAL COVID-19 VACCINE?

Recently, due to the spreading of the Omicron variant of Covid-19 across the country, there is an urgent need for booster shots and or an additional dose of vaccine.

Booster Shots:

- The booster shot is an **additional dose** after the protection provided by the original shot(s) has started to decrease over time.

- It is means of **strengthening one's immune system against a particular pathogen**.
- It may be the **same original vaccine,** in which case its goal is to increase the magnitude of protection by producing more antibodies.
- The booster is designed to **help people maintain their level of immunity for longer.**
- Booster shot gives the memory cells the crucial signal to **re-engage when the virus attacks.**

Additional Covid-19 vaccine

- It is originally called a **third dose**, which is given to people with **moderately or severely compromised immune systems** to improve their response to the initial vaccine series.
  o The term "third dose" was used to refer to additional doses for the two **mRNA** vaccines.
- People with weakened immune systems might not develop enough immunity after vaccination with two doses of a vaccine.
  o Therefore, an additional dose might improve their protection against the novel coronavirus.

TWO HELD FOR TRYING TO SELL 550 GM OF AMBERGRIS WORTH RS 1.1 CRORE

Recently, two were held for trying to sell 550 gm of ambergris worth Rs 1.1 crore.

Ambergris

- **Ambergris** is a **waxy substance** that originates from the digestive system of the protected **sperm whales.**
  o It means **gray amber** in French.
- Mistakenly called **whale vomit**, it is actually excreted by the Sperm Whales.
- **Formation**:
  o The substance **originates in the intestines of male sperm whales** after feasting on squid whose hard, pointy beaks scrape the whales' guts.
  o It has a **very strong faecal odour** combined with a **strong marine odour.**
  o The freshly **passed ambergris is a light yellowish substance and is fatty**

  o It turns waxy and gets red brownish over time, sometimes with shades of gray and black in colour.
  o It attains a **mild, earthy, sweet smell** but still with notes of mild marine odour.
  o It is also called '**floating gold' or 'treasure of the sea'** because of its high demand in the international market.

Uses of ambergris?

- It is used to **produce perfumes** which have notes of musk.
- It is used to **flavour food, alcoholic beverages and tobacco** in some cultures in the past
- It is considered as an **aphrodisiac** and is used in some **medicines.**

- It is also used to make **spice and potions** in some countries.

International Legalities:

- There is **a ban on possession and trade of ambergris** in countries like the USA, Australia and India.
- It is a tradable commodity with limitations in several other countries
- There is a **freeze on commercial whaling** and a **ban on international trade** of whale products
  o Iceland, Japan and Norway conduct commercial whale hunts.

Sperm Whale (or cachalot)

- Sperm whales live in a **stable and complex matrilineal society**.
- It is **largest of the toothed whales.**
- The **teeth on the bottom jaw can grasp large squid or fish** unlike other large whales, which filter smaller, denser prey through baleen.

- They are **usually found in deep oceanic waters** and can be observed closer to the shore around islands.
- They are hunted for their **valuable whale oil**, which was widely used to fuel lamps and make soap.
  o **Whale meat** is served as traditional food in many parts of the world.

IUCN Status:

- **Global IUCN status:** Vulnerable
- **Mediterranean sperm whale (Genetically distinct):** Endangered

In India:

- The sperm whales are a **protected species under Schedule 2 of the Wildlife Protection Act**.
  o The possession or trade of any of its by-products, including Ambergris and its by-products, is illegal under provisions of the **Wildlife Protection Act, 1972.**

RAJYA SABHA PASSES SURROGACY AND ASSISTED REPRODUCTIVE TECHNOLOGY BILLS

Rajya Sabha has cleared the Surrogacy (Regulation) Bill, 2020.

Surrogacy Bill 2020

- **Aim**- to **regulate in vitro fertilization (IVF)** clinics.
- **Objective**-
  o To curb **unethical practices** in reproductive services as well as safeguard interest of women.
  o To establish surrogacy Boards at national and state level.

Features:

- It allows **willing woman** to become a surrogate mother.
- It prohibits **commercial surrogacy**.
- It means sale and purchase of human embryo and gametes.
- Insurance cover for a surrogate mother has been increased to **36 months from 16 months**.
- It allows Indian woman who is a **widow or divorcee** between the age of 35 to 45 years to opt for surrogacy.

- It provides all **the rights and privileges** that are entitled to new born child.
- **Sex selection** is strictly prohibited.
- It keeps a regulatory check on **exploitation of surrogate mothers** and **abandonment of surrogate child.**
- No woman shall act as a surrogate mother **more than once** in her lifetime.
- **A certificate from a registered medical practitioner** shall be mandatory.

Surrogacy-

- It is an arrangement in which a **woman** (the surrogate) **agrees to carry and give birth to a child on behalf of another person** or couple (the intended parent/s).

In Vitro fertilization (IVF)

- It is **a series of procedures used to help with fertility** or prevent genetic problems and assist with the conception of a child.
- It is the **most effective form of assisted reproductive technology** (ART).
- It involves retrieving eggs from a woman's ovaries and fertilizing them with sperm in a laboratory.

BIRD FLU CONFIRMED IN DUCKS IN ALAPPUZHA

Recently, The Alappuzha district was put on alert after an outbreak of bird flu was confirmed at Kunnumma South in Thakazhy grama panchayat.

Bird Flu

- It is an **infectious type of influenza** that spreads among birds.
- It is a viral infection that can infect not only birds, but also humans and other animals
- This type of flu is most often contracted by contact with **sick birds**. In rare cases, it can also be passed from person to person.
- The most infectious strains of bird flu are: H5N1, H7N9, H5N6 and H5N8

Spread of Bird flu:
- o Touching infected birds
- o Touching droppings or bedding
- o Killing or preparing infected poultry for cooking

Symptoms of bird flu

- A very high temperature or feeling hot or shivery
- Aching muscles
- Headache
- A cough or shortness of breath
- Diarrhoea
- Sickness
- Stomach pain
- Chest pain

THIRD PROGRESS REPORT ON GLOBAL TRANS FAT ELIMINATION - VIRTUAL HIGH-LEVEL EVENT

The World Health Organisation has unveiled the third progress report on

Global trans-fat elimination 2021 recently.

- The report monitors **global progress** towards the 2023 target for global **elimination of industrially produced trans-fatty acids.**

Highlights of the Report:

- Elimination of industrially produced **trans-fatty acids** (TFA) can effectively reduce the risk of cardiovascular disease.
  - o **Cardiovascular disease** will make populations more resilient in future epidemics and pandemics.

Best Practice Policies:

- Bangladesh, India, the Philippines and Ukraine became the first lower-middle-income countries to pass best-practice trans-fat elimination policies.
  - o In 2018, WHO called for the **global elimination** of industrially produced TFA by 2023.
- **No low-income countries** have adopted best-practice TFA policies to date.
- **The best-practice policy** came into effect in Brazil, European Union, Peru, Singapore and Turkey.

Trans Fats:

- Trans fat is a type of **dietary fat.**
- **Too much trans-fat** in the diet increases the risk of heart disease and other health problems.
- They are made when food makers turn **liquid oils into solid fats**.
- They can be found in fried, packaged, or processed foods.

How Trans Fats Affect Health?

- Eating trans-fats can increase the risk for health problems.
- Increased **intake of trans fat** (>1% of total energy intake) is associated with increased risk of coronary heart disease mortality and events.
- Trans fat intake is responsible for 500,000 **premature deaths** from coronary heart disease each year globally.

Cardiovascular disease risk:

- **Raise** LDL (bad) cholesterol, lower HDL (good) cholesterol.
- This increases risk of heart disease and stroke.

Weight gain and diabetes risk:

- Can lead to **weight gain**.
- Increase the risk of **type 2 diabetes**.

Project REPLACE:

- **The REPLACE action package** provides a strategic approach to eliminating industrially-produced trans-fat from national food supplies.
- **Aim**: Global trans-fat elimination by 2023.

Major areas of action include:

- **Review dietary sources** of industrially-produced trans-fat and the landscape for required policy change.
- **Promote** the replacement of industrially-produced trans-fat with healthier fats and oils.
- Legislate or enact **regulatory actions** to eliminate industrially-produced trans-fat.
- **Assess and monitor** trans-fat content in the food supply and changes in trans-fat consumption in the population.
- **Create awareness** of the negative health impact of trans fat among policy-makers, producers, suppliers, and the public.

- **Enforce compliance** with policies and regulations.

IAF HELICOPTER CRASH | 'BLACK BOX' RECOVERED; AIR CHIEF VISITS CRASH SITE

The Cockpit Voice Recorder (CVR) and Flight Data Recorder (FDR) has been recovered from recently crashed Mi-17V5 chopper of the Indian Air Force.

Black Box:

- It is a **compressor shaped electronic device** placed in aircraft.
- **Purpose-**
  o To ascertain the cause of the crash of aircraft.
  o To preserve clues from cockpit sounds and data to help prevent future accidents.
- It is **mandatory for commercial airliner and armed forces**.
- It is **kept at the back side** of the aircraft for the security point of view.
- **Invented by-** Australian scientist David Warren in 1950.

The Black Box has two separate boxes:

Flight Data Recorder: -
  o It contains information about direction, altitude, fuel, speed, turbulence, cabin temperature.
  o It can withstand a temperature of about **11000°C for one hour** and a temperature of 260°C for 10 hours.

Cockpit Voice Recorder: -
  o It **records the sound** of engine, emergency alarm, cabin and cockpit in order to predict the conditions of the plane before any accident occurred.

Features:

- It is painted in **bright orange colour** to **locate them easily** in case of unfortunate events.
- A **chassis or interface is designed** to fix the device and facilitate recording and playback.
- It is made of **Titanium metal** and is enclosed in a **Titanium box**.
- It also has an **underwater location beacon** for easy tracing under the water.
- The device weighs **10 pounds approx**.
- **Finger-nail-sized recording chips** on circuit boards are also placed inside the box.
- There is a **Crash Survivable Memory Unit** inside the box that undergoes strict testing.

Working of Black Box:

- **Magnetic tape** is used to record the aircraft's operation.
- The box keeps on **emitting the waves** along with a beep sound for about 30 days when it is lost during the crash.
  o It can emit waves from the depth of 14000 feet in the sea.
- It is identified from a **distance of about 2-3 Kms**.
- It has **high storage capacity** and can save up to 25 hours of audio data from Flight data recorders and Cockpit voice recorders.
- **Memory boards** require less maintenance.

WHAT ARE CHAPERONE PROTEINS?

- Chaperones are **proteins** that assist in the **folding of newly synthesized polypeptide chains.**
  - o It also **aids** in the precise 3D **shape forming of complex proteins** to become functional entities.
  - o Polypeptides **help make up proteins by bonding numerous amino acids together**.
- Chaperones are needed under physiological conditions too, for normal cellular function.
- Major chaperones in humans include **HSP70.**
  - o HSP70 is a **Heat Shock Protein.**
    - ▪ HSP70 is induced by heat.

Protein Folding

- The beginning of **protein synthesis is carried out by ribosomes** that synthesize a linear chain of amino acids called a **polypeptide chain**. The mRNA specifies the sequence of the amino acids.
- Each amino acid within this polypeptide chain has a different property. For example, **glycine is highly hydrophobic**, whilst **arginine is very hydrophilic**. These properties dictate the three-dimensional structure of the protein. The hydrophobic amino acids need to be kept within the **interior of the protein** whilst the hydrophilic amino acids need to be on the **exterior of the protein**.
- Hydrogen bonds bind to the polypeptide chains to form secondary structure of proteins that is the alpha helices and beta sheets. The stacking of these helices and sheets forms the tertiary structure.
- Protein folding must be maintained in their **three-dimensional shape** and should not aggregate or degrade. Unfolded or misfolded proteins give way to a host of diseases.

ROLE OF CHAPERONES IN PROTEIN FOLDING

- Chaperones are a group of proteins that have functional similarity and assist in protein folding. They are proteins that have the ability to prevent non-specific aggregation by binding to non-native proteins.
- There are several families of chaperones and each possesses different functions. Example of chaperon proteins are the "heat shock proteins" (Hsps).
- The name Hsp was given after these proteins were discovered in bacterium. These bacteria produced more of these proteins in stressful conditions, such as higher temperatures, pH variation and hypoxic conditions. Two examples of Hsps are Hsp70 and Hsp60.

Hsp70

- The Hsp70 chaperone proteins are folding catalysts that assist in many kinds of folding processes such as refolding or misfolding of aggregated proteins, and folding and assembling of new proteins. These proteins are monomeric and contain two different domains called the N and C terminals. The N terminal contains ATPase whilst

the C terminal binds to the substrate. ATP hydrolysis within the N terminal allows the C terminal to open and bind to the substrate.

- Hsp70 recognizes a region of the unfolded polypeptide chain termed the "extended region". This extended region contains many hydrophobic residues. Binding of Hsp70 prevents the aggregation of these proteins.

Hsp60

- Like Hsp70, Hsp60 chaperone proteins also have the ability to bind to exposed hydrophobic residues to form aggregates that are stable but inactive. These proteins are not involved in preventing aggregation, but instead function to quarantine and isolate unfolded proteins. The isolation also prevents the polypeptide chain from aggregating into clumps with other chains within the cytoplasm.

- Hsp 60 contains 14 different proteins components. These proteins form two rings, each made of 7 proteins, which are placed on top of each other. Unfolded proteins within these rings are then able to fold without aggregating with other unfolded proteins and without interference from Hsp70.

- As seen in Hsp70, Hsp60 also has two different forms. The first state is the binding form, in which ATP is bound and the unfolded proteins can enter the hole between the two rings. Hydrolysis of ATP then initiates the formation of an enclosed state, called the folding-active state. This conformational change prevents the protein from leaving and encourages folding of the proteins. This enclosed state last for around 15 seconds before the conformation changes back and the properly folded protein is released into the cytoplasm.

- Chaperones play a very important role within the cytoplasm preventing aggregation and promoting various important functions such as translocation, degradation, and suitable protein folding.

- Loss or mutations of these chaperones give rise to several diseases. An example of a group of genetic diseases associated with mutated chaperones are multisystem proteinopathies (MSP) that affect a wide range of bodily functions involving the muscle, bone and nervous system.

BHARAT PETROLEUM, BHABHA ATOMIC TO JOINTLY PRODUCE GREEN H₂

Why in News?
Recently, Bharat Petroleum collaborates with Bhabha Atomic Research Centre for Green Hydrogen production.

- Green hydrogen is hydrogen that is **produced using renewable energy through electrolysis.**

- This method uses an **electrical current to separate hydrogen from oxygen** in water.

Refineries are producing green hydrogen?

- Refineries use large quantities of Hydrogen for **de-sulfurization** to make petrol, diesel and other chemicals.

- Currently, Hydrogen is made at the Refinery via Steam Reforming of Natural gas. However, this **results in high CO$_2$ emission.**

- Therefore, Refiners are setting up large scale electrolysers to **produce Green Hydrogen** from water and thereby decarbonize Hydrogen production.

SAVING LIVES, SPENDING LESS: THE CASE FOR INVESTING IN NONCOMMUNICABLE DISEASES

Recently, World Health Organization released a report entitled, **'Saving Lives, Spending Less**: The case for investing in non-communicable diseases'.

Highlights of the report:

- **Non-communicable diseases (NCD)** are collectively responsible for the death of **41 million people each year.**
- 85 per cent of the global premature deaths (between age 30–69) from NCDs occur in low-and middle-income countries.
- In sub-Saharan Africa, NCDs will be the leading cause of death by 2030.
- It shows that investing **$0.84 per person per year could save seven million lives**
- It is possible if low and lower middle-income countries make an additional investment in the prevention and treatment of noncommunicable diseases (NCDs).
- It reveals the **financing needs and returns on investment of WHO's "best buy" policies** to protect people from noncommunicable diseases (NCDs),

- Best Buy policies also offers protection against the impacts of the pandemic.
- The **cost-effective "best buy" interventions** include:
- **Increasing health taxes** such as increasing taxes on tobacco and alcohol.
- **Healthy diet instructions** such as reducing salt intake through the reformulation of food products.
- **Restrictions on marketing and sale of harmful products.**
- **Information and education policies** such as, administering drug therapy and counselling for people who have had a heart attack or stroke.
- **Vaccination policies** including vaccinating girls aged 9—13 years against human papillomavirus and screening women aged 30—49 years for cervical cancer.
- **Actions connected to managing metabolic risk factor**s, such as hypertension and diabetes, in order to prevent complications.
- These interventions can make the world **achieve Sustainable Development Goal 3.4** to **reduce**

premature death from NCDs by one-third by 2030.

Non-communicable Diseases:

- Noncommunicable diseases (NCDs), are **chronic diseases of long duration.**
- NCDs are medical conditions but are **not caused by infectious agents.**
- They are the result of a **combination of genetic, physiological, environmental and behavioural factors.**

The main **types of NCD** are:

- o **Cardiovascular diseases** (such as heart attacks and stroke)
- o **Cancers**
- o **Chronic respiratory diseases** (such as chronic obstructive pulmonary disease and asthma)
- o **Diabetes.**
- It most commonly **affects people in low- and middle-income**

countries where more than three quarters of global NCD deaths occur.

- People of all age groups, regions and countries are affected by NCDs.

Risk factors

- **Modifiable behavioural risk factors:**
- o Modifiable behaviours, such as tobacco use, physical inactivity, unhealthy diet and **the harmful use of alcohol, all increase the risk of NCDs.**
- **Metabolic risk factors**
- o Metabolic risk factors contribute to four key metabolic changes that increase the risk of NCDs:
- ▪ raised blood pressure
- ▪ overweight/obesity
- ▪ hyperglycemia (high blood glucose levels)
- ▪ hyperlipidemia (high levels of fat in the blood).

SEMICONDUCTOR SHORTAGE: CABINET APPROVES RS 76,000 CRORE INCENTIVE PLAN TO WOO MANUFACTURERS

Recently, the Union Cabinet approved a production linked incentive (PLI) scheme worth Rs 76,000 crore for semiconductor and display board production in India.

- It also approved a comprehensive programme for the development of sustainable semiconductor and display ecosystem in the country.

Highlights:

- **Aim**: **To make India a global hub** of **electronic system design** and manufacturing.
- It provides a globally **competitive incentive package to companies** in semiconductors

and display manufacturing as well as design.

- It will **extend fiscal support of up to 50% to set up fabrication units.**
- It will include design, fabrication, packaging, testing.
- The Centre would work with the States to **set up high-tech clusters with the necessary infrastructure.**

Initiatives to make India Semiconductor hub:

- A **specialised and independent 'India Semiconductor Mission' will be set up.**

- o It will be **led by global experts** in semiconductor and display industry.
- o **Aim:** To develop a sustainable semiconductors and display ecosystem.
- o It will act as the **nodal agency for efficient and smooth implementation of the schemes** on semiconductors and display ecosystem.
- The ministry of electronics and IT will take requisite steps for **modernization and commercialization of semiconductor laboratory (SCL)**
- o The IT ministry will explore the possibility for the joint venture of SCL with a commercial fab partner.
- The government has lined up **incentive support for companies** engaged in silicon semiconductor fabs, display fabs, compound semiconductors, silicon photonics, sensors fabs, and semiconductor packaging and semiconductor design.

Significance:

- Trusted semiconductor sources and displays have **strategic importance in the current geopolitical scenario.**
- o They are the key to the **security of critical information infrastructure**.
- It will **propel innovation and build domestic capacities** to ensure the digital sovereignty of India.
- It will also create **highly skilled employment opportunities** to harness the demographic dividend of the country

Key Facts

- Semiconductors are **silicon chips** that cater to control and memory functions.
- They are used in products ranging from automobiles, cellphones and computers to other electronic devices.

RUSTOM-2 INDIGENOUS UAV CROSSES A MILESTONE

Recently, the indigenous Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV), named Rustam – 2, has crossed a milestone by reaching an altitude of 25,000 feet and an endurance of 10 hours.

Key Features:

- **Developed by**: Aeronautical Development Establishment (ADE), Bengaluru with Hindustan Aeronautics Ltd and the Bharat Electronics Limited.
- It has **advanced capabilities** and meets the requirements of the armed forces

- It will carry out **surveillance and reconnaissance roles** and is capable of carrying different combinations of advanced payload with auto landing.
- It technologically matches contemporary UAVs available and will be cheaper than the imported ones.

RUSTOM-1:

- Rustom is a Medium Altitude Long Endurance unmanned combat air vehicle (UCAV) developed by DRDO for the **Defence Forces**.

- It will replace/supplement the **Heron UAVs** in service with the Indian armed forces.

Features:

- **Aerodynamic configurations**, composite airframe integrated with propulsion system.
- Highly reliable systems with built-in redundancy for flight critical systems like flight control and navigation, data links, power management etc.
- **Digital flight control** and navigation system.

- Digital communication technologies to control and operate various missions
- **Payloads with high resolution** and precision stabilized platforms.

Variants:

- **Rustom-I**: Tactical UAV with endurance of 12 hours.
- **Rustom-H**: Larger UAV with flight endurance of over 24 hours, higher range and service ceiling than Rustom-1.
- **Rustom-II**: An unmanned combat air vehicle based on Rustom-H model.

VPN COMPANIES AREN'T ALWAYS PROTECTING THEIR USERS' PRIVACY

Recently, a report was released based on a study conducted by Virtual Private Network (VPN) services company Surfshark.

Highlights of the report:

- **India is ranked three** in the number of data breaches detected globally.
- **The top five countries** with the largest number of data breaches **account for more than half of all leaks this year.**
  o The top five includes US, Iran, India, Russia and France.
- The **affected accounts showed an increase of 356%** from last year's 19 million.
- **1 out of every 5 people were affected globally**.
- **The Middle East was the most affected** as Iran, Sudan, UAE and Iraq all showed extreme spikes.

Challenges of Cybersecurity in India:

- **Crimeware or ransomware** as a service is transitioning into a highly profitable industry.
  o Cybercriminals often get **generously compensated** for delivering or spreading malware.
  o Crimeware refers to advanced tools and packaged services that are offered for sale or rent to criminals.
  o Ransomware is readily available to anyone capable of paying digitally or through cryptocurrencies such as **Bitcoin.**
- **Lack of uniformity in devices used for internet access**
  o There is a widening gap between the security offered by the high-end and lower cost mobiles
  o This make it almost **impossible for legal** and technical standards to be set for **data protection by the regulators.**
- **Lack of national level architecture for Cybersecurity**:

o Most of the critical infrastructure is **owned by private sector**, and the armed forces have their own firefighting agencies.
- **Lack of separation**:
o In cyberspace there are no boundaries, thus making the armed forces, digital assets of ONGC, banking functions, etc.

vulnerable to cyber-attacks from anywhere.
- **Lack of awareness**:
o As there is **no national regulatory policy** in place for cybersecurity there is a lack of awareness at both company level as well as individual level.

HOW 'WATERFALL IMPLOSION' MAY HELP BRING DOWN NOIDA TWIN TOWERS

Waterfall implosion collapse mechanism may be used to demolish twin tower of Noida.

Waterfall implosion collapse mechanism

- It is a method to demolish the tall buildings.
- The term **'waterfall' is used as the collapse of a building** is

engineered to replicate water hitting the ground from a height.
- **For the implosion**, holes are drilled in columns, beams and shear walls.
- **To prevent high-velocity debris** from flying around as a result of the explosives, **a wire-mesh** is used encase the parts that hold the charges.

BIOLOGICAL DIVERSITY BILL REFERRED TO JOINT COMMITTEE OF PARLIAMENT

Recently, Biological Diversity (Amendment) Bill, 2021 has been tabled in the Lok Sabha.

Biological Diversity (Amendment) Bill, 2021:

Objectives:

- To **fast-track research and patenting.**
- To **promote the cultivation of medicinal plants** and ancient Indian medicine.
- **Empower local communities** to be able to utilise resources, particularly of medicinal value, such as seeds.

Proposed Amendments:

- **Decriminalize certain provisions.**
- **Allow for foreign investment** in research in biodiversity, including

research, patent and commercial utilization, without compromising the national interest.
- **Streamline** the process of **Patenting for Indian researchers** to encourage patenting.
o The bill seeks to set up **Regional Patenting centers** be opened across the country.
- **Exempt** certain people from giving **prior intimation to State Biodiversity Board** for accessing biological resource from certain purposes. They Include:
o Registered **AYUSH medical Practitioners**

- o People accessing **codified traditional knowledge, cultivated medicinal plants** and its products.
- o People who are practicing **indigenous medicine** including Indian systems of medicine for sustenance and livelihood
- **Exempting Indians cultivating medicinal plants** and manufacturing products using codified traditional knowledge **from payment of Access and benefit sharing.**

Concerns:
- It **prioritizes intellectual property** and commercial trade **at the expense** of conserving **biological resources.**
- The Bill in the current form would pave the way for "**bio piracy**" and would mean AYUSH manufacturing companies would no longer need to take approvals.

Biological Diversity Act, 2002
Objective:
- To provide for conservation of biological diversity, sustainable use of its components and fair and equitable sharing of the benefits arising out of the use of biological resources and knowledge.

Nagoya Protocol:
- Nagoya Protocol on Access and Benefit Sharing (ABS) is a 2010 **supplementary agreement** to the 1992 **Convention on Biological Diversity (CBD).**
- It is also known as 'The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity'.
- **Aim: Implementation** of one of the three objectives of the CBD; i.e.,
- o **Fair and equitable sharing of benefits** arising out of the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity.
- It sets **out obligations for its contracting parties** to take measures in relation to access **to genetic resources, benefit-sharing and compliance.**

KILLER ROBOTS AREN'T SCIENCE FICTION. A PUSH TO BAN THEM IS GROWING

Member nations of Convention on Certain Conventional Weapons said they wanted curbs on killer robots.

Killer Robots:
- They are widely considered to be **weapons** that **make decisions** with **little or no human involvement.**
- Rapid improvements in **robotics, Artificial Intelligence (AI) and** **image recognition** are making such armaments possible.

Convention on Certain Conventional Weapons (CCW):
- It is a framework of rules that **ban or restrict weapons** considered to cause **unnecessary, unjustifiable and indiscriminate suffering.**
- o It includes **incendiary explosives, blinding lasers and booby**

traps that don't distinguish between fighters and civilians.

- A total of **50 States signed the Convention,** which
  entered into **force** in **1983.**
- The convention has **no provisions for killer robots.**

Cons of Killer Robot:

Flawed Distinction Process:

- Killer robots can **fail in recognizing enemies**.
- In this manner, they may **violate the principle of distinction.**
- o The principle of distinction requires belligerents to distinguish between civilians and combatants during an armed conflict.
- If killer robots are deployed in areas where civilians are present, then the **chances of civilians** being **attacked increase exponentially.**
- o Such incidents can be fatal for civilians and negatively affect reputation of the military.

Lack of Accountability:

- Killer robots **cannot be held accountable** in a manner **similar to** how **military personnel** can be held accountable.
- Also, it is increasingly difficult to determine whether a killer robot made
  a **flawed** decision **due** to **bugs** in the program **or AI-based decision-making abilities.**

Disputes Regarding Regulations:

- **Deciding** the most **feasible approach** for killer robots regulations can be increasingly **complicated.**

Poor Judgment in Complex Situations

- **Training AI systems** for scenarios **without any historically documented data** can be extremely **complex.**
- Robots may witness several new situations and make mistakes on-field, leading to dire consequences.
- o Hence, killer robots may be unable to make correct decisions in unfamiliar situations.

Ethics:

- it is **morally repugnant** to assign lethal decision making to machines, regardless of technological sophistication.
- Such weapon systems raise **ethical concerns** for society about substituting human decisions about life and death with sensor, software and machine processes.

Pros of Killer Robot:

Fewer Casualties:

- A major advantage of deploying killer robots is that the **number of casualties** can be **reduced significantly.**
- Killer robots can **help in dangerous missions**, where there is a possibility of a high rate of casualties.
- Military organizations may also be able to **get better results** using killer robots as their attacks can be precise.

Functional in Secured Combat Zones:

- The adoption of killer robots will enhance combat in **highly secured zones.**

Quick Access to Hazardous Sites:

- Military organizations can deploy killer robots in risky missions

such as **explosive ordnance disposal.**
- They can be programmed to work efficiently in **dangerous work sites.**
- **In radioactive areas,** killer robots can be especially useful as they can work for longer hours compared to humans.

Effective Solution:
- Compared to the expenses of military personnel, the **cost** of killer robots **can be lower.**

- Killer robots would **not require payroll and additional perks.**
- The only **expenses involved** in killer robots would be their **cost and maintenance charges.**
- Hence, governments can significantly reduce their expenses and allocate saved funds to other domains such as education, social security, and housing.

PEGASUS | SUPREME COURT STAYS PROBE BY BENGAL PANEL

Recently, the Supreme Court stayed in further proceedings of a Commission of Inquiry appointed by the West Bengal Government to look into allegations of snooping using the Pegasus software.

Pegasus
- Pegasus is spyware developed by the Israeli cyber arms firm **NSO Group**.
- It is a **Trojan horse computer virus** that can be sent "**flying through the air**" to infect cell phones.
- An investigation has found evidence of Pegasus being used by governments around the world for snooping on more than 50,000 phone numbers.

Mode of Attack
- The earliest version of Pegasus infected phones through what is called **spear phishing text messages** or **emails** that trick a target into clicking on a **malicious link.**
- In recent updates, Pegasus infections can be achieved through so-called "**zero-click**" attacks.

- It does not require any interaction from the phone's owner to succeed.
- Once the spyware enters the device, it installs a module to **track call logs**, **read messages**, **emails**, **calendars**, **int ernet history**, and gather **location** to send the information to the attacker.
- The spyware hides intelligently using **built-in self-destruct capabilities**.
- If Pegasus fails to connect with its **command-and-control server** for more than **60 days**, it self-destructs and removes all traces.
- If it detects that it was installed on the wrong device or sim card, it will again self-destruct.

Malware
- Malware is a code, typically delivered over a network, that infects, explores, steals, or conducts virtually any behaviour an attacker wants.

- **Types of Malwares:** Adware, Botnets, Ransomware, Spyware, Trojans Malware.

Objectives of Malware

- Provide remote control for an attacker to use an infected machine.
- Send spam from the infected machine to unsuspecting targets.
- Investigate the infected user's local network.
- Steal sensitive data.

Types of Malware Attack:

- **Email attachments** containing malicious code.
- Enabling file servers, such as those based on **common Internet file systems** (CIFS) and **network file systems** (NFS).
- **File-sharing software** can allow malware to replicate itself onto removable media and then onto computer systems and networks.
- **Peer-to-peer** (P2P) file-sharing can introduce malware by sharing files.

Virus

A computer virus is a malicious piece of computer code designed to spread from device to device.

- It operates by inserting or attaching itself to a legitimate program or document that supports macros to execute its code.
- A virus has the potential to cause unexpected or damaging effects, such as harming the system software by corrupting or destroying data.

Types of Viruses attack

- **Boot sector virus attack**
  - This type of virus attack can take control when the computer is started or booted. It can spread is by plugging an infected USB drive into your computer.
- **Web scripting virus attack**
  - This attack exploits the code of web browsers and web pages. If users access such a web page, the virus can infect the user's computer.
- **Browser hijacker**
  - This type of virus attack "hijacks" certain web browser functions, and a user may be automatically directed to an unintended website.
- **Resident virus attack**
  - A resident virus attack can execute anytime when an operating system loads.
- **Polymorphic virus attack.**
  - In this attack, the polymorphic virus changes its code each time an infected file is executed. It does this to evade antivirus programs.

NEARLY 2,000 DOGS IN AMRAVATI INFECTED WITH CANINE PARVOVIRUS. WHAT IS IT?

Nearly 2,000 pet and stray dogs in Amravati city were affected by parvovirus virus recently.

What is Parvovirus?

- It is a highly **contagious viral disease** that can be life-threatening in puppies and dogs.
- It affects the **intestinal tract of canines** with puppies being more susceptible.
- **Symptoms:** Diarrhoea, vomiting, drastic weight loss, dehydration and lethargy.

- The virus has reported a 90 percent **mortality rate**.
- **How does the virus spread in dogs?**
  - **Direct Transmission:** The virus spreads through **direct contact** with an infected dog.
  - **Indirect Transmission:** It occurs when a person has recently been exposed to an infected dog touches the puppy or when a puppy encounters a **contaminated object** like food collars and leashes.

INDIAN IMMUNOLOGICALS LAUNCHES GOAT POX VACCINE

Recently, Indian Immunologicals Ltd (IIL) has launched Goat Pox Vaccine to help control of Goat Pox disease.

Goat Pox:

- Sheep and goat pox are **contagious viral skin diseases** of sheep and goats.
- It occurs in parts of **Africa, Asia, the Middle East and India.**
- **Goats of all ages** and breeds are affected but disease is severe in young, old and lactating animals.
- The **morbidity of goat pox** may be up to 100% and mortality up to 85%.

Symptoms:

- **High fever**, generalized nodules/papules over skin, face, mucus membranes of mouth.
- Conjunctiva, nasal cavities, severe internal lesions.
- Blistering skin lesions.
  - Such lesions can lead to substantial economic losses due to decreased milk production, damage to hides and wool, and possible import restrictions

How does the disease spread?

- Sheep and goat pox viruses are spread by **respiratory secretions** between animals, direct contact or indirectly by fomites.
- The viruses are found in saliva**, secretions from the nose** or eyes, milk, urine and feces.
- The scabs from skin lesions are contagious and may be present in dust or soil.
- The virus may be spread by **insects** (vector).

Goat Pox in India:

- The **prevalence rate of Goat pox** varies according to agroclimatic zones and may be up to 48% in certain parts.
- India has 150 million Goat population.

INDIA'S MISSILE CAPABILITY, AND WHERE IT STANDS IN RELATION TO ITS NEIGHBOURS

Recently, Defence Minister has urged DRDO scientists to work towards developing hypersonic missile technology.

Missile technology in India:

- Pre-independent India used **rockets** as part of their warfare technologies.
  - Mysore ruler Hyder Ali had iron-cased rockets in his army in the mid-18th century.
  - Tipu Sultan, son of Hyder Ali increased this missile technology.
- Post-independence, India did not have any indigenous missile capabilities.

o The government created the **Special Weapon Development Team** in 1958.

o This was later expanded and called the **Defence Research and Development Laboratory (DRDL).**

o By 1982, DRDL was working on several missile technologies under **the Integrated Guided Missiles Development Programme (IGMDP).**

• **Defence Research and Developmental Organisation (DRDO)** is developing varieties of missile technology for India:

o DRDO is the Research & Developmental wing of Ministry of Defence, Government of India.

o **Aim:** To empower India with **cutting-edge defence technologies** and a mission to **achieve self-reliance** in critical defence technologies and systems

Types of missiles does India have?

• India is considered among the top few nations when it comes to designing and developing missiles indigenously.

o But India is way behind the **US, China and Russia** in terms of range.

Surface-Launched Systems:

Anti-Tank Guided Missile (ATGM):

1. Nag

• It is an Indian third-generation, **all-weather, fire-and-forget**, lock-on after launch, anti-tank guided missile (ATGM).

• It has an operational range of 500 m to 20 km.

• It is called "**Prospina**" for the land-attack version.

2. Stand-off Anti-Tank (SANT) missile

• It has a range over 10 km.

• it has a **millimetre wave seeker**, which enhances target detection in all weather conditions.

Surface-To-Air Missile (SAM):

Akash

• The **short-range SAM** system is known as **Akash**.

o It has the capability to neutralise aerial targets like fighter jets, cruise missiles and air-to-surface missiles as well as ballistic missiles

o It has already been inducted in the Army and the Air Force.

• **Medium-Range SAM**: Production of MRSAM systems for the Navy is complete.

• **Short-Range SAM:** For the Navy, the first flight tests have been successfully conducted.

Air-Launched Systems:

Air-To-Air:

Astra:

• It is India's **Beyond Visual Range Air-to-Air Missile (BVRAAM)** and is under induction.

• It has a range of **around 100 km.**

• A **long-range Astra** is also being developed.

• The missile uses **solid fuel ramjet technology**, which enhances speed, and will have an indigenously-built seeker.

Air-To-Ground:

1. Rudram is a New Generation Anti-Radiation Missile (NGRAM):

• It has a maximum range of around 200 km.

• The missile mainly **targets communication, radar and surveillance systems of the adversary.**

2. BrahMos:

- It is developed jointly by **India and Russia.**
- It is a **medium-range ramjet supersonic cruise missile** that can be launched from submarine, ships, aircraft or land.
- It is notably one of the **fastest supersonic cruise missiles** in the world.
- It has a range of **300 km to 500 km.**

A supersonic missile-assisted torpedo system

- It will **enhance Navy anti-submarine capability** with a range of around 400 km.

Most Important Missile Systems of India:

Agni and Prithvi, the most important ones are being used by the **Strategic Forces Command.**

Agni

- It has a range of around 5,000.
- They are **long range, nuclear weapons capable, surface to surface ballistic missiles.**
- It is India's only contender for an **inter-continental ballistic missile (ICBM).**

Prithvi

- It is a short-range surface-to-surface missile with a 350 km range.
- A **modified anti-ballistic missile** named Prithvi Defence Vehicle Mk 2 was used to hit a low-orbit satellite.
- It put India only behind the US, Russia and China in this capability.

Hypersonic Technology

- DRDO successfully tested a **Hypersonic Technology Demonstrated Vehicle (HSTDV)** in September 2020.
- HSDTV is an **unmanned scramjet demonstration aircraft** for hypersonic speed flight.
- It is not a weapon but is being developed as a carrier vehicle for hypersonic and long-range cruise missiles.
- India has developed its own **cryogenic engine**.
- India will try to make a hypersonic cruise missile, using HSTDV.
- Cruise missiles are designed to deliver a large warhead over long distances with high precision.
- India is expected to be able to have a hypersonic weapon with medium- to long-range capabilities.
- The only countries in the world which have hypersonic technology are the United States of America, Russia and China.

India's capability in developing new technology:

- India is at a very advanced stage among the top three or four nations.
- BrahMos was among the fastest in the world when it was developed.
- India is working on **Agni VI and Agni VII**, which should have a much longer range.
- India's only **nuclear missiles are Prithvi and Agni:**
- But tactical nuclear weapons can be fired from some IAF fighter jets or from Army guns, which have a low range, around 50 km.

DRDO SUCCESSFULLY TESTS NUCLEAR-CAPABLE AGNI PRIME MISSILE

Recently, Defence Research and Development Organisation has successfully tested the new-generation nuclear-capable ballistic missile Agni Prime.

Agni Prime

- **Type:** Medium Range Ballistic Missile
- **Range:** 1,000-2,000 kilometres

Features

- It is **two-stage canisterised solid propellant ballistic missile** with dual redundant navigation and guidance system.
- It is the **sixth missile in the Agni (missile) series of a ballistic missiles**.
- It is capable of covering vital targets all across **Pakistan**.
- The Agni P weighs **50 percent lesser than the Agni 3 missile** and can be launched from rail or road.

Agni I

- **Range:** 700 – 1200 kilometres
- **Type:** Short-Range Ballistic Missile
- **Pay Load:** 1,000 Kg

Features

- It is an indigenously developed surface-to-surface, single-stage missile that was inducted into service in 2004.
- It is propelled by a solid rocket propellant system.

Agni-II

- **Range:** 2000-3500 kilometres
- **Type:** Medium-range ballistic missile
- **Pay Load:** 820–2,000 Kg

Features

- It is equipped with an advanced high **accurate navigation system**.

Agni-III

- **Range:** 3,000–5,000 kilometres
- **Type:** Intermediate-range ballistic missile
- **Pay Load:** 2,500 Kg

Features

- It was designed to hold at risk targets in all of Pakistan and much of China from across Indian territory.
- It is a two-stage, solid-propellant missile deployed in rail-mobile mode.

Agni-IV

- **Range:** 3,500 – 4,000 kilometres
- **Type:** Intermediate-range ballistic missile
- **Pay Load:** 800–1,000Kg

Features

- It uses a two-stage rocket engine powered by **solid propellant**.
- It has the most accurate **ring laser gyro-based inertial navigation system** (RINS) and is supported by a highly reliable redundant **micro navigation system** (MINGS).
- The Agni-IV ensures the vehicle reaches the target within two-digit accuracy.

Agni-V

- **Range:** 5,000 – 8,000 kilometres
- **Type:** Intercontinental ballistic missile
- **Pay Load:** 1,500 Kg

Features

- It has been developed by the Defence Research and Development Organisation under

the **Integrated Guided Missile Development Program.**

- It made India join the super-exclusive club of countries with ICBMs (missiles with a range of over 5,000-5,500km) alongside the **US, Russia, China, France and the UK**.
- Agni-V is capable of striking even the **northernmost parts of China**.

Agni-VI

- **Range:** 11,000–12,000 kilometres

- **Type:** Intercontinental ballistic missile
- **Pay Load:** 3,000 Kg

Features

- Currently, it is in the **early stages of development.**
- It is to be the latest and most advanced version among the Agni missile program.
- It will be capable of being launched from **submarines** as well as from **land**.

DRDO CONDUCTS FLIGHT DEMONSTRATION OF CONTROLLED AERIAL DELIVERY SYSTEM

Recently, Aerial Delivery Research and Development Establishment (ADRDE), Agra conducted flight demonstration of Controlled Aerial Delivery System.

CADS-500:

- The **CADS-500** is used for **precise delivery of payload upto 500 kgs at predetermined location**.
  - It makes use of manoeuvrable capabilities of **Ram Air Parachute (RAP).**

- It uses **Global Positioning System** for the coordinates, altitude and heading sensors for the heading information during its flight.
- It autonomously steers its flight path using waypoint navigation towards target location by operating controls.

LONGEST DRONE FLIGHT MEDICAL SUPPLIES DELIVERY IN INDIA DONE IN NAGALAND

Recently, **I-Drone pilot project** was launched in Mokokchung and Tuensang districts of Nagaland.

- **Initiated by**: Indian Council of Medical Research (ICMR) in collaboration with state health

and family welfare (H&FW) department.

- **Aim:** To deliver COVID-19 vaccines to remote areas and strengthen the vaccine delivery system.

'MINERAL OUTPUT TO RISE WITH CHANGES TO RULES'

Ministry of Mines has notified the Minerals (Evidence of Mineral Contents) Second Amendment Rules, 2021 and the Mineral (Auction) Fourth Amendment Rules, 2021 to amend the Minerals

(Evidence of Mineral Contents) Rules, 2015 and the Mineral (Auction) Rules, 2015 [Auction Rules], respectively.

Amendment in the Minerals (Evidence of Mineral Contents) Rules

- This will enable any person, who is intending to participate in auction, **to propose suitable blocks for auction for composite licence** where mineral potentiality of the blocks has been identified based on the available geoscience data.
- **A committee constituted by State Government** shall assess the mineral potentiality of the blocks so proposed and recommend the block for auction.

The Mineral (Auction) Fourth Amendment Rules, 2021

- It provides that in case **the blocks proposed by any person** are notified for auction, that person would be provided **incentive of depositing only half of the bid security amount** in auction of the blocks proposed by him.

Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession (Fourth Amendment) Rules, 2021

- It will pave the way for **sale of 50 per cent** of mineral produced from **captive mines,transfer of mines without any charges and partial surrender of a lease.**
- **Aim:** Increasing employment and investment in the mining sector, increasing revenues to states, raising the production and time-bound operationalisation of mines.

- The allowance for sale of prescribed quantity of mineral shall also motivate the lessees to enhance the production from the captive mines.

Minerals

- A mineral is a **naturally occurring inorganic element** or compound having an orderly internal structure and characteristic **chemical composition, crystal form, and physical properties**.
- Common minerals include quartz, feldspar, mica, amphibole, olivine, and calcite.
- In India, **11 states account for 90 % of the total number** of operational mines (Andhra Pradesh, Orrisa, Chhattisgarh, Jharkhand, West Bengal, Maharashtra, Tamil Nadu, Gujarat, Madhya Pradesh, Rajasthan, and Karnataka).
- According to Mines and Minerals (Development and Regulation) Act, 1957, Minerals are divided as major and minor minerals.
- o **Major minerals** are those which are mentioned under first schedule of MMDR act 1957. Such as coal, liginite etc.
- ▪ MMDR Act do not define major minrals.
- o **Minor minerals** are building materials or sand which are notified by central government.

41,000 YEARS AGO, AURORAS BLAZED NEAR THE EQUATOR

A study found that 41,000 years ago, Earth's magnetic field experienced a disturbance that leads to the shifting of Auroras nearer to the equator.

Aurora

- Aurora is **natural light displayed in Earth's sky**.

- It is predominantly seen in **high-latitude regions (around the Arctic and Antarctic).**

Formation:

The formation of Auroras can be expressed with the help of the following points:

- Auroras are the result of disturbances in the **magnetosphere** caused by **solar wind.**
- The disturbances **alter the trajectories of charged particles in the magnetospheric plasma**. These particles, mainly electrons, and protons precipitate into the upper atmosphere.
- The resulting ionization and excitation of **atmospheric constituents** emit light of varying color and complexity.
- The form of the aurora, occurring within bands around both polar regions, is also dependent on the amount of acceleration imparted to the precipitating particles.

Occurrence

- Auroras occur in a band known as the "**auroral zone**".
- It is typically **3° to 6° wide in latitude and between 10° and 20°** from the geomagnetic poles at all local times (or longitudes), most clearly seen at night against a dark sky.
- It is a region that currently displays an aurora is called the "**auroral oval**", a band displaced by the solar wind towards the night side of Earth.
- The geomagnetic connection comes from the statistics of auroral observations.
- In northern latitudes, the effect is known as the **aurora borealis** or **the northern lights**.
- The southern counterpart, the aurora australis or the southern lights, has features almost identical to the aurora borealis and changes simultaneously with changes in the northern auroral zone.
- Auroras are **occasionally seen in latitudes below the auroral zone** when a geomagnetic storm temporarily enlarges the auroral oval.

Forms of Auroras

The Four major forms of Auroras can be seen from the ground that are:

- **A mild glow**, near the horizon. These can be close to the limit of visibility but can be distinguished from moonlit clouds because stars can be seen undiminished through the glow.
- **Patches,** that looks like a cloud.
- **Arcs** - It is the curve across the sky.
- **Rays -** are light and dark stripes across arcs, reaching upwards by various amounts.

IIT MADRAS RESEARCHERS DEVELOP MOTION PLANNING ALGORITHMS THAT CAN THINK LIKE HUMANS

Recently, researchers at Indian Institute of Technology (IIT), madras have developed a class of fast and efficient motion planning algorithms.

- The algorithms have been developed based on the **Generalised shape expansion** (GSE) that enables planning for a safe and dynamically feasible trajectory for autonomous vehicles.
- It can think like **human beings** and enable **autonomous aerial,** ground or surface vehicles to navigate obstacle cluttered environments.

- It will provide a **crucial advance** during time sensitive planning scenarios arising in applications like Self-driving cars, Disaster response, Aerial drone delivery and Planetary exploration.
- It is based algorithms function by calculating a **safe region** consisting of large visible areas in the environment, customized to ensure navigability.

SCIENTISTS TRACE FIRST CLUE TO UNDERSTAND TRANSIENT HIGH ENERGY PULSES FROM MAGNETARS

Magnetars:

- Magnetars are a type of **isolated neutron stars** that possess the most **intense magnetic fields.**
  - A neutron star is the **collapsed core of a massive supergiant star**, which had a total mass of between **10 and 25 solar masses.**
- They experience **violent eruptions** or intense bursts in the form of **transient X-ray pulses** which are several orders **higher than** that of the **Sun.**

Cause of Bursts:

- Like earthquakes on Earth, **magnetars have starquakes.**
- These are produced on their crust **due to high instability** prevailing **in their magnetospheres**.
- The **instability triggers Alfven waves** that are also common in the Sun.

- The **interactions between multiple Alfven waves** ultimately **release massive energies**, appearing as giant flares **lasting for** a few **milliseconds.**

Alfven Waves:

- An Alfvén wave in a plasma is a **low-frequency travelling oscillation of** the **ions and the magnetic field.**
- The **wave propagates in the direction** of the **magnetic field.**

Atmosphere-Space Interactions Monitor (ASIM):

- It is a project led by the **European Space Agency**.
- It placed **cameras** and X-**ray/γ-ray detectors** on the **International Space Station.**
- **Objective:** To **observe the upper atmosphere** in order to **study sprites, jets and elves and terrestrial gamma-ray flashes** in connection with thunderstorms.

INDIAN ARMY LAUNCHES INDIGENOUS MESSAGING APPLICATION CALLED ASIGMA

Recently, Indian Army has launched Indian Army launches in-house messaging application named, ASIGMA (Army Secure IndiGenous Messaging Application).

- It is a new generation **web-based application**.
- It is a replacement of **Army Wide Area Network** (AWAN) messaging application which has been in service for past 15 years.

- It is developed by team of officers of the **Corps of Signals** of the Army.

Features:

- It will meet **real time data transfer** and messaging requirements of the Army in the backdrop of current geo political security environment.
- It has **multi-level security**, **message**
- **prioritisation** and **tracking**, **dynamic global address book**.

INDIA SUCCESSFULLY TESTS INDIGENOUS AERIAL TARGET 'ABHYAS'

Recently, Defence Research and Development Organization (DRDO) successfully tested Indigenous Aerial Target 'Abhyas' at the Test Range (ITR), Chandipur, Odisha.

Abhyas:

- It is an Indigenously developed **High-speed Expendable Aerial Target (HEAT).**

- It is **an unmanned aerial target system**, operated from the ground. It will be used in future tests and practices of aerial weapons.
- It has **a gas turbine engine** to sustain a **long endurance** flight at **subsonic speed**.
- It is in the development stage.

OLFACTORY ORGAN

Researchers have found that negative smells associated with unpleasantness or unease are processed earlier than positive smells.

- The olfactory system is the **sensory system** used **for smelling.**
  o It enables us to **distinguish between** many million different **smells.**
- Most **mammals and reptiles** have a **main olfactory system** and an **accessory** olfactory system

- A large proportion of these smells are associated with a **threat to our health and survival**, such as that of chemicals and rotten food.
- The olfactory organ takes up about **5% of the human brain.**
- An **olfactory bulb** processes smells and in turn can transmits signals to parts of the brain that control movement and avoidance behaviour.

SCIENTISTS DISCOVER OVER 70 ROGUE PLANETS ROAMING FREELY ON THEIR OWN

Recently, a group of scientists discovered more than 70 rogue planets, roaming freely on their own.

What are the rogue planets?

- Planetary bodies that do not revolve around the star and float freely in space, are called the **Rogue planets.**
- Instead of stars, they **orbit the galaxy.** They are **gravitationally unbound to any stars**. Due to this, their detection in space is very hard.

- Astronomers detect rogue planets using an astronomical phenomenon called **gravitational microlensing.**
o Gravitational microlensing was predicted by predicted in 1936 by Einstein using his General Theory of Relativity. It is process of brightening of a star by an object passing between the star and an observer.

E.O. WILSON, KNOWN AS 'FATHER OF BIODIVERSITY,' DIES AT 92

Recently, Edward O. Wilson (1929-2021), a US naturalist, died at the age of 92 in Massachusetts. He was dubbed as the "modern-day Darwin".

Contributions of Edward O. Wilson:

- He was considered as the one of the world's leading authorities on natural history and conservation.
- He was also as an **entomologist** (persone who studies insects).
- He also wrote a famous book, **Sociobiology: the New Synthesis (1975).**
- His **Half-Earth Project** calls for protecting land and sea to reverse the course of species extinction.
o The United Nations (UN) has urged countries for conserving 30 % of their land and ocean water by 2030. This target is known as **"30 by 30"**. This effort is from inspired in part by Wilson.

Darwin's theory of evolution
Genesis:

- Evolution studies large-scale biological changes occurred in an organism.

- It also explains how the evolution occurred in the past, and is still occurring now.
- Before 1850s many evolution theories were already in 1859, Charles Darvin in his book **Origin of Species** more logically explained the evolution. Till now, it is widely accepted evolution theory.

Essence of Darwin's theory of evolution / Darwin's theory of natural selection.

- It talks about evolution by way of **natural selection**.
- It says, organisms that were fit to adapt the changing environment structure, have only survived. In other words, it talks about **survival of the fittest.**
- **All the species** of living organisms have been gradually **evolved from common ances**

Criticisms of Darwin's theory of evolution

- Natural selection is not the only factor responsible for evolution, which Darwin didn't focus on.

- Darwin didn't mention any explanation about useful and useless modifications.
- There is no explanation for slow changes and abrupt changes.

BEE LAUNCHES CERTIFICATION COURSE ON HOME ENERGY AUDIT

The Bureau of Energy Efficiency (BEE) virtually launched "Certification Course on **Home Energy Audit (HEA).**

Highlights of course

- The certification program will **create awareness on importance and benefits of energy audit and energy efficiency and conservation** among students from engineering/diploma colleges.
- This will **increase employability of youth** in the domain of energy efficiency, climate change mitigation, and sustainability.

Objective

- It will **create a pool of professionals** to perform home energy audits based on the needs of the consumer (s).
- This will enable **Domestic consumers to get Home Energy Audit** carried out through respective SDA Certified Home Energy Auditor(s).

Home Energy Audit (HEA)

- A home energy audit is a process that **helps to identify where home is losing energy** and what steps can be taken to improve energy efficiency.
- It enables **appropriate accounting, quantification, verification, monitoring, and analysis** of energy use of various

energy-consuming equipment and appliances in a house.
- It enables the **submission of a technical report with** recommendations for improving energy efficiency, with a cost-benefit analysis to reduce energy consumption.

Significance

- helps **to understand where and how** energy is used**.**
- can assess **where home is losing the most energy and** then proposes improvements to make to **help save energy and reduce bills**.
- reduces **carbon footprint**.
- **improves the energy efficiency** of home and increases control over home environment.

Bureau of Energy Efficiency (BEE)

- The Government of India set up Bureau of Energy Efficiency (BEE) in March 2002 under the provisions of **the Energy Conservation Act, 2001.**
- **Objective**: Reducing energy intensity of the Indian economy.
- **Mission:** to **assist in developing policies and strategies** with a thrust on self-regulation and market principles, within the overall framework of the **Energy Conservation Act, 2001.**

Report and indices published by BEE

- Energy Conservation Guidelines for MSME
- Roadmap of Sustainable and Holistic Approach to National Energy Efficiency (ROSHANEEE).
- Unlocking National Energy Efficiency Potential (UNNATEE).
- State Energy Efficiency Index
- National Carbon Market

OUR SOLAR SYSTEM HAS AN OUTER BOUNDARY – NASA DISCOVERS

Recently, NASA (National Aeronautics and Space Administration) has found the outermost boundary of the solar system and called it the **hydrogen wall.**

- **Hydrogen wall** is the place where bubbles of solar wind cease to exist.
- Here, the mass of matter is very small but strong enough to not let the **solar winds** to pass through. It presses the solar winds inward.
  - Due to fusion activities at core, the sun keeps throwing out jets of matter and energy in the form of solar winds. They have potential to travel far beyond the orbit of dwarf Pluto.
- NASA's report is based on data sent by its New Horizons spacecraft.
  - **New Horizons** is an **interplanetary space probe** that was launched in 2006 by NASA.
- Earlier, the space was believed to be a continuous expanse of an imaginary sheet called **ether**.

'WIND' FROM EARTH'S MIDDLE LAYER BLOWS THROUGH A SECRET PASSAGE BENEATH PANAMA

Scientists have discovered hidden passageway beneath Panama through which wind from Earth's middle layer blows.

Highlights:

- The secret passage **beneath Panama** holds the clue that rocks from Earth's mantle are found over 1,609 kilometres from where they originated.

Formation of America:

- It is believed that **South American and Caribbean tectonic plates** collided around 15 million years ago.
- It **caused volcanic activity** that eventually formed a thin strip of land linking the Americas and separating the Pacific and Atlantic oceans.
- The forging of the Americas resulted in a **mass migration of animals**.
- The separation of the two oceans transformed the world's climate and prompted the development of new species.
- The **Cocos tectonic plate** is diving down and pushing oceanic crust under the continental crust of North America.
  - Cocos is a **young oceanic tectonic** plate beneath the Pacific Ocean off the west coast of Central America, named for Cocos Island
  - It has the capacity to cause **large earthquakes.**

Location of Galapagos Island

- **Location**- 1000 km off Ecuador's coast in **the Pacific Ocean.**
- **Ecuador** is a country in north western South America, bordered by Colombia on the north, Peru on the east and south, and the Pacific Ocean on the west.
- It is a group of islands.
- The islands are formed at the meeting point of three tectonic plates—**the Nazca, Cocos, and Pacific.**
- They are situated at the crossroads of three major Pacific currents: **Cold South Equatorial Current, Warm Panama Current and Deep-Sea Cromwell Current.**
- It is also known as the "**Columbus Archipelago**" or "**Isla Galápagos**".
- Islands are formed by volcanic activity covering **97%** of the land area and the remaining 3% are inhabited islands like Santa Cruz, San Cristobal, Isabela and Floreana Islands.
- **Legal Status:**
- National park- **1959**
- UNESCO World Heritage Site - **1978**
- **Climate- a** mixture of a tropical savanna, semi-arid and tropical rainforest.
- **Vegetation-**
- Semi desert Vegetation including shrublands, grasslands, and dry forest.
- It is home to humid-climate forests and shrublands, and montane grasslands (pampas).
- **Fauna**- giant tortoises, finches, flightless cormorants, Galápagos lava lizards and marine iguanas.
- The giant tortoises found here – 'Galápagos'– give the islands its name.

PM MODI LAUNCHES BLOCKCHAIN-BASED DIGITAL DEGREES AT IIT KANPUR. ALL YOU NEED TO KNOW ABOUT THE TECHNOLOGY

Prime Minister of India launched a system to award blockchain-based educational degrees in digital form to students of IIT Kanpur.

Blockchain Technology:

- A blockchain is a **database** that **stores encrypted blocks of data** then **chains** them **together** to form a chronological single-source-of-truth for the data.
- Blockchain is one type of Distributed Ledger Technology (DLT).
- It makes the history of any digital asset unalterable and transparent through the use of **decentralization and cryptographic hashing.**

Features:

- The three key principles of blockchain technology are **transparency, decentralization and accountability.**
- **In this, digital assets are distributed** instead of copied or transferred, creating an immutable record of an asset
- The asset is **decentralized,** allowing full real-time access and transparency to the public.

- A transparent ledger of changes preserves integrity of the document, which creates trust in the asset.

Working of Blockchain:

Blockchain consists of three important concepts: blocks, nodes and miners.

Blocks

- Every chain consists of multiple blocks and each block has **three basic elements:**
  o The **data** in the block.
  o A **32-bit** whole number called a **nonce.**

Nodes:

- Nodes can be any kind of **electronic device** that **maintains copies of the blockchain** and keeps the network functioning.

Miners:

- Miners **create new blocks** on the chain through a process called mining.

Significance of Blockchain Technology:

- The principle of **decentralization** means that the control is not in the hands of a central agency, but to a distributed network of nodes.
  o This will help in keeping the **data safe** even if any specific node is compromised.
- The information in a blockchain is recorded and stored sequentially along with an exact timestamp.
- The previous information can't be altered, only amended by adding a new block.
  o This makes **tampering** with a transcript **very hard**.

Public Procurement / Government Contracting:

- A blockchain-based process can **facilitate third-party oversight of transactions** and provide greater objectivity and uniformity through automated contracts.
- There also would be more **transparency and accountability** of transactions and participants.

Land Title Registries:

- Blockchain is a way to **increase efficiency in land title registries.**
- Blockchain-based land registries could provide a **secure, decentralized, publicly verifiable, and immutable record system** where people could prove their land rights.

Electronic Voting:

- Governments are considering **blockchain-based voting platforms** due to concerns about **election security, voter registration integrity, poll accessibility, and voter turnout.**
- Blockchain's information security qualities could help **address election tampering and increase poll accessibility.**
- A limitation would be blockchain's vulnerability to cyberattacks and other security issues.

Beneficial Corporate Ownership Registries:

- Blockchain can develop **central registries to help track conflicts** of interest and criminal activity.

- It also could provide **transparency and disclosure.**
- However, there are **several limitations** as most countries don't require companies to maintain beneficial ownership information themselves.
  o Also, a blockchain-based registry would **require buy-in** from **politicians, lawyers, banks, and big business**, which may be a heavy lift in some locations.

Grant Disbursements

- Blockchain could **reduce the number of actors and managers**, could **streamline the process**, and improve verification.

- A **limitation** would be among the **less technologically savvy** who might be excluded from grant disbursement processes.

Challenges of Blockchain Technology:

- **Security** is one of the primary challenges of using the blockchain technology for any purpose.
  o It also eliminates the possibility of modifying student records for legitimate purposes.
- There is a **limitation with scaling the system** beyond a certain level.
- Increasing the network means adding more blocks, which will **slow down the speed** of transaction as each transaction requires peer-to-peer verification.

WHAT IS MOLNUPIRAVIR, THE COVID PILL APPROVED BY INDIA?

Recently, the Central Drugs Standard Control Organisation (CDSCO) approved the Covid pill Molnupiravir, for restricted use in emergency situation.

Molnupiravir:

- Molnupiravir (MK-4482, EIDD-2801) is an **oral anti-viral pill.**

- It was developed initially to **treat influenza**. Now it is also being used to treat Covid-19 patients.
- It works by introducing errors into the SARS-CoV-2 virus' genetic code. Due to this, the virus is stopped from further replicating.

ARMY SETS UP QUANTUM COMPUTING LAB, AI CENTRE AT ENGINEERING INSTITUTE IN MHOW

Recently, the Indian Army established the Quantum Lab at Military College of Telecommunication Engineering in Mhow.

Quantum Cryptography:

- Quantum cryptography is a technology that **uses quantum physics** to **secure the distribution of symmetric encryption keys.**

- It works by sending photons, which are "**quantum particles**" of light, across an **optical link.**

Advantage:

- It allows the **completion of various cryptographic tasks** that are proven to be impossible using only classical (i.e., non-quantum) communication.
  o For example, it is **impossible to copy data encoded in a quantum state.**

o If an attempt to read the encoded data, the quantum state will be changed due to wave function collapse (no-cloning theorem).

• Quantum cryptography has the potential to **encrypt data for longer periods** than classical cryptography

Quantum Key Distribution (QKD):

• It is the best-known example of quantum cryptography.

• It is the process of **using quantum communication** to **establish a shared key** between two

parties **without a third-party learning anything** about that key.

Qubits:

• A qubit (or quantum bit) is the **quantum mechanical analogue** of a **classical bit.**

• In classical computing the information is encoded in bits, where each bit can have the value zero or one whereas in quantum computing the **information is encoded in qubits.**

• A qubit is a **two-level quantum system.**

IN BOOST TO INDIA'S COVID FIGHT, 2 VACCINES, COVOVAX & CORBEVAX, AND 1 ANTI-VIRAL PILL CLEARED IN A SINGLE DAY

Recently, India has cleared the pill molnupiravir for treating Covid-19 patients, and the vaccines Corbevax and Covovax.

Corbevax:

• It is manufactured by **Hyderabad-based Biological E.**

• It is a protein **subunit vaccine**, which means that instead of the whole virus, it uses **fragments** of it to trigger an immune response.

Working:

• The **subunit vaccine contains** a harmless **S protein.**

• Once the immune system recognises the protein, it **produces antibodies** to fight a real infection when it happens.

Molnupiravir:

• Molnupiravir is an **oral antiviral drug.**

• It is developed in collaboration by US firms Ridgeback Biotherapeutics and Merck, initially to treat influenza.

• It is a **repurposed oral antiviral candidate** to treat Covid patients.

Working:

• It works by **introducing errors into the virus's genetic code**, which **prevents replication.**

Covovax:

• It is a **recombinant nanoparticle vaccine.**

• It is manufactured by **Serum Institute of India (SII).**

• It is also a **protein subunit vaccine**, but uses **recombinant nanoparticle technology.**

o It has been developed by US-based Novavax.

Working:

• Harmless copies of the **spike protein are grown in insect cells**; the **protein is then extracted and assembled into virus-like nanoparticles.**

Types of Vaccine:

Spike Protein:

- The S protein is a **highly glycosylated fusion protein.**
- It is **made up of amino acids**.
- The S protein plays a crucial role in **penetrating host cells** and **initiating infection.**
- The presence of S proteins on the coronaviruses is what gives rise to the **spike-shaped protrusions** found **on their surface.**

- **Without** the **S protein**, viruses like **SARS-CoV-2** would **not be able to interact with the host cells** of animals and humans to cause infection.
- As a result, the **S protein** represents an **ideal target** for vaccine and antiviral research endeavours.

SOCIAL ISSUES & DEVELOPMENT

FOCUS ON UNIVERSAL IMMUNIZATION: DR HARSH VARDHAN LAUNCHES INTENSIFIED MISSION INDRADHANUSH (IMI) 3.0

Ministry of Health and Welfare conducted two rounds of Intensified Mission Indra Dhanush (IMI) 3.0 recently.

- **Aim**: To reach out the pregnant women and children who missed vaccination under routine immunisation programme in 250 districts across 29 states/UTs.

Mission Indra Dhanush?

- **Mission Indra Dhanush** was launched 2014 by Ministry of Health and Welfare.
- **Aim**: Expanding immunization coverage to all children across India.

Objective:

- To cover all those children who are either **unvaccinated** or partially vaccinated against vaccine preventable diseases.

Areas under Focus:

The following areas are targeted through special immunization campaigns:

- **Identifying high risk** areas by the polio eradication programme. These include populations living in areas such as:
  - Urban slums with migration
  - Nomads
  - Brick kilns
  - Construction sites

- o Other migrants (fisherman villages, riverine areas with shifting populations etc.)
  - o Underserved and hard to reach populations (tribal populations)
- Areas with low routine immunization coverage
- Areas with **vacant sub-centers**
- Areas with missed **Routine Immunisation** (RI) sessions
- **Small villages**, hamlets and purbas along with another village for RI sessions.

Intensified Mission Indra Dhanush 2.0:

- **Intensified Mission Indra Dhanush** 2.0 was launched in 2020.
- **Aim:** To achieve 90 % vaccination coverage among children below the age of 2 years.

Objective:

- **To immunize children** under 2 years of age and pregnant women against eight vaccine-preventable diseases.

Key Highlights:

- Four **immunization rounds** were conducted in 173 districts between 2017-18.

- o **It covered** low performing areas in the selected districts and urban areas.
- **Special attention** was given to unserved/low coverage pockets in sub-centre and urban slums with migratory population.
- It focused on the **urban settlements** and cities identified under National Urban Health Mission (NUHM).

Intensified Mission Indra Dhanush 3.0

- **Aim**: To accelerate the coverage of vaccination among children and pregnant women from February-March 2021 and to boost the RI coverage.

Key Highlights:

- **Beneficiaries** from migration areas were of prime focus as they may have missed their vaccine doses during COVID19.
- The campaign focused on achieving 90% Full Immunization Coverage (FIC) in all districts of the country and foster India's march towards the **Sustainable Development Goals.**

HOW TO USE FACE ID FOR SUBMITTING ANNUAL LIFE CERTIFICATE OR JEEVAN PRAMAAN PATRA?

Recently, the Union Minister of State launched unique Face Recognition Technology for Pensioners.

- It is a joint initiative **of the Ministry of Electronics and Information Technology and the Unique Identification Authority of India (UIDAI).**

- **Benefit:** This facility is especially useful for those senior citizen pensioners who cannot submit their fingerprint as biometric ID due to various reasons.
- o Digital Life Certificate (Jeevan Pramaan) is a **biometric enabled digital service for pensioners**.

o Pensioners of central/state government, Employees' Provident Fund Organisation or any other government organization can take benefit of this facility.

o **Digital Life Certificate for Pensioners Scheme**, known as **Jeevan Pramaan**, seeks to digitize the whole process of securing the life certificate by Pensioners.

Anubhav Portal:

o It is an online initiative that enables the submission and display of commendable work done by retiring employees.

o **Aim:** To provide a platform for the retiring **Central Government employees** to showcase commendable work done during service.

Bhavishya Software

o It is an online **Pension Sanction and Payment Tracking System** implemented by the Department of Pension & Pensioners Welfare, Government of India

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FUNDS FOR MALNUTRITION SCHEME UNDER-UTILISED: DATA

Recently, data on how the funds provided by the Women and Child Development (WCD) Ministry was under-utilised for the implementation of Poshan Abhiyan Programme was published.

Poshan Abhiyaan:

- It is the Government of India's flagship programme to **improve nutritional outcomes** for children, pregnant women and lactating mothers.

  o It stands for The Prime Minister's Overarching Scheme for Holistic Nourishment (POSHAN Abhiyaan), or the National Nutrition Mission.

- **Launched in 2018,** it addresses multiple determinants of malnutrition and prioritize the intervention and services targeted on the first 1000 days of a child's life.

- **Objectives:**

  o Prevent and **reduce Stunting** (low height for age) in children (0- 6 years)

  o Prevent and **reduce under-nutrition** (underweight prevalence) in children (0-6 years)

  o **Reduce** the prevalence of **anemia** among young children (6-59 months)

  o Reduce the prevalence of anemia among Women and Adolescent Girls in the age group of 15-49 years.

  o **Reduce Low Birth Weight (LBW)**

Events under Poshan Abhiyan:

Community Based Events (CBE):

- **Community based events (CBE)** are being celebrated on 8th & 22nd of every month in all anganwadis.

  o The themes include **Annaprasan Diwas**, Suposhan Diwas, Celebrating coming of age – getting ready for preschool at AWC, Messages related to public health for improvement of nutrition and to reduce illness

- **Village Health Sanitation Nutrition Day (VHSND):**

o Village Health Sanitation Nutritional Days are being conducted regularly on 15th of the month in convergence with Health Department, Gram Panchayat.

Schemes to tackle malnutrition in India:

- The POSHAN Abhiyan has been intensified in the form of Mission **POSHAN 2.0** and the **'Saksham Anganwadi'**.
  o Anganwadis under the **Integrated Child Development Scheme (ICDS)**, is the largest nutrition supplementation programmes in the world.
- It is implemented in two ways:
  o **Take Home Ration** (THR) of food supplements for 6-36 months-old children
  o **On-site Hot Cooked Meals** (HCM) for pregnant and lactating women and children aged 3-6 years.

National Food Security Act (NFSA):

- It covers over 80 crore people to curb hunger and ensure food security for people through the Public Distribution System (PDS).
- It includes 35 kg of food grains per month to households eligible under **Antyodaya Anna Yojana** (AAY) and 5 kg of food grains per person per month to **Priority Households (PHH)** beneficiaries at a subsidised cost.

National Programme of Mid-Day Meal in Schools

- It was launched **in 1995**, with an aim to enhance **enrolment,** retention, and attendance and simultaneously **improving nutritional levels** among children.

Anemia Mukt Bharat (AMB):

- In December 2019, the Government of India launched the initiative, under POSHAN, to strengthen the fight against anaemia.
- AMB focuses on organising **Test-Treat-Talk (T3)** anaemia camp for testing for anaemia, treating with Iron-Folic Acid tablets and talking to people about iron, protein and vitamin C rich foods and healthy lifestyle measures.

Suggestions to improve Poshan Abhiyaan:

- Key Performance Indicators should **be constantly monitored** and uploaded on the website.
- **National Nutrition Park (NNP)** on the lines of the one created near the Statue of Unity, Kevadia, Gujarat, be created across different States of the country with the involvement of Anganwadi Workers.
- **Generate awareness** about the uses of ayurvedic plants for health and nutrition.
- The Ministry should set up a **vigilant monitoring mechanism** to ensure that food packets for pregnant women and lactating mothers as well as targeted meals for highly undernourished children reach the intended beneficiaries at the ground level.

- To ensure effective implementation of the new POSHAN tracker application, the Ministry should maintain a **State-wise progress** of the **implementation status** so that identification of those deprived of the benefits can be made on real time basis for timely remedial measures.

NEARLY 46 LAKH UNORGANIZED WORKERS HAVE BEEN REGISTERED UNDER THE PRADHAN MANTRI SHRAM YOGI MAAN-DHAN PENSION SCHEME

Recently, 46 lakh unorganized workers have been registered under the Pradhan Mantri Shram Yogi Maan-dhan pension scheme.

Pradhan Mantri Shram Yogi Maan-dhan pension scheme

- **Launched by:** Ministry of Agriculture & Farmers Welfare and Ministry of Labour & Employment in 2019.
- **Implementation through:** Life Insurance Corporation of India (LIC) and CSC eGovernance Services India Limited (CSC SPV).
  - o **LIC is the Pension Fund Manager and responsible for Pension pay out.**

Aim:

- o To provide old age protection in the form of a monthly pension.
- o To provide social security for Unorganised Workers.

Benefits:

- o Under this scheme, a minimum assured **monthly pension of ₹3000** will be provided to the unorganized workers after attaining the age of 60 years.
- o If the subscriber dies, the spouse of the beneficiary shall be entitled to receive 50% of the pension as a family pension.
- o **Voluntary and Contributory Pension Scheme**
- o Matching Contribution by the Government of India
- In this, **50% prescribed age-specific contribution** is made by the beneficiary and the matching contribution by the Central Government.

Eligibility:

- o Should be an unorganized worker (UW)
- o Entry age between 18 and 40 years
- o Monthly Income Rs 15000 or below
- o **Should Not be:**
- Engaged in Organized Sector (membership of EPF/NPS/ESIC)
- An income taxpayer
- o **Should be having**
- Aadhar card
- Savings Bank Account / Jan Dhan account number with IFSC

SWACHH TECHNOLOGY CHALLENGE

Swachh Bharat Mission-Urban 2.0 under Ministry of Housing and Urban Affairs (MoHUA) launched the **Swachh Technology Challenge** recently.

Key Features:

- **It will harness** the entrepreneurial potential of the waste management sector in India and promote an enabling environment for enterprise development under SBM-U 2.0

- It will provide solutions in four thematic categories:
- Social inclusion
- Zero dump (solid waste management)
- Plastic waste management
- Transparency through digital enablement.

- The top three solutions in each of the categories will be felicitated at the **Swachh Survekshan award ceremony** hosted by MoHUA.

Swachhata Start-Up Challenge:

- It will be launched as an extension to the **Swachh Technology Challenge** in January 2022.

CHILDLESS HINDU WIDOW'S DEATH LEADS TO FLAWED PROPERTY SUCCESSION: SUPREME COURT

Recently, criticizing the **Hindu Succession Act**, the supreme court recently asked Centre's view on flawed provisions of the Act that continues to discriminate ladies in the issues of property succession.

Discriminatory provisions of the Act:

- After the death of issueless widow, the **preference in succession is given to the husband's relatives**, even if the properties were gifted to her by her parents or blood relatives.
- If the person sells her property inherited from her parents, and buys another property utilising that money, then that newly acquired property would not be categorised as inherited property to vest with her parents.
- Whether the property is inherited from the father or mother, **the devolution will be upon the 'heirs of the father'**
- That is, heirs of the mother cannot succeed even if the property was gifted by the mother.

The Hindu Succession Act

- **The Hindu Succession Act 1956**
  - It granted women **ownership of**

property, whether it was acquired before or after the commencement of the Act.
  - It **abolished the 'limited owner' status**.
- **Hindu Succession (Amendment) Act, 2005**
  - It was decided that daughters would be entitled to an equal share in the property as the son.
  - The Amendment serves as a **defender for female rights**.

Property devolved in case of a female Hindu intestate dying?

The property will be devolved in the following order:

- through the sons and daughters, which would also include the children of a predeceased son or a predeceased daughter) and the husband.
- on the heirs of the husband.
- upon the mother or the father.
- on the father's heirs.
- on the heirs of the mother.

Exceptions:

- In the case of any **property being inherited by a female Hindu by her father** or mother and there is no son or daughter of the

deceased, then it shall devolve in **favour of the heirs of the father.**
- In the case of any **property being inherited by a female Hindu by her husband** or her father-in-law, and there is no son or daughter of the deceased, it shall devolve **in favour of the heirs of the husband.**

Flaws of the Act:
- **Retention of Article 15**
  - o The said section **recognises women only on the basis of her relationship with a man**, i.e., wife, daughter, etc.
  - o Therefore, **it compromises the individuality and identity of a woman**.
  - o It acts as a black mark on the issues of gender parity and women empowerment.
- It **only focuses on daughters and wives**
  - o The daughters-in-laws and sisters have not been included under the purview of the amendment.
- There is a **lack of clarity** as to whether the said act will override and supersede the state laws or not.

- o The agricultural land, which was earlier the part of the act was made an item in the state list through the amendment.
- **Ambiguity still exists in regards to the validly adopted daughters**
  - o Rights of an adopted daughter in regards to inheritance of her father's property is not mentioned anywhere in the act.

Impact of Hindu Succession (Amendment) Act, 2005
- It allowed a Hindu female to become an **absolute owner of property**.
  - o They were also given the right to dispose off the property at will.
- A **window was also given importance** regarding the succession of her husband's property as also to her father's property.
- **Women were given rights to become coparceners** even Karta
  - o A women can become Karta if she is the eldest member of her family.
  - o However, a widow cannot be a Karta of a family.

SHE IS A CHANGEMAKER

To improve leadership skills of grassroot women political leaders, the National Commission for Women (NCW) launched a pan-India capacity building programme, 'She is a Changemaker'.
- The **National Commission for Women (NCW)** recently launched

'She is a Changemaker' for women representatives.
- The program will represent **women representatives** at gram panchayats, parliament members and political workers including office bearers of National/State political parties.

- **Aim**: To **improve leadership skills** of grassroot women political leaders.
- **Objective:** To undertake capacity building of women political leaders and improve their decision making and communication skills.

Significance:

- It will benefit every woman to claim her **rightful space** in politics.
- It will mark a new beginning in the lives of women, determined to bring a positive change in the society.

WORLD HUMAN RIGHTS DAY: IS AN INDIA FREE OF WITCH-HUNTS POSSIBLE

The International Day for the Elimination of Violence against Women and the World Human Rights Day are observed every year from November 25 to December 10.

- **Theme of 2021:** "Orange the World: End Violence against Women Now".

Causes of Violence against Women:

- **Unequal and unjust socio-economic** systems.
- **Gender inequality**
- Inadequate healthcare
- **Lack of law enforcement**
- Widespread **illiteracy**.

Universal Declaration of Human Rights?

- The UDHR is a document which acts as a global road map for **freedom and equality**, protecting the rights of every individual.
- It was adopted by **United Nations** on **10 December 1948**,
- Its adoption recognised **human rights** to be the **foundation for freedom, justice and peace**.
- It has **30 rights and freedoms** including the right to be free from torture, the right to freedom of expression, the right to education and the right to seek asylum.

- It includes **civil and political rights** such as the rights to life, liberty and privacy.
- It also includes **economic, social and cultural rights** such as the rights to social security, health and adequate housing.

Significance:

- It provides various **universal human rights standards**, that must be promoted and protected in all countries.
- It continues to serve as a foundation for national and international laws and standards.

Human Rights Council:

- **The Human Rights Council** is an inter-governmental body within the United Nations.
- It was established in 2006.
- **Objective:** Strengthening the promotion and protection of human rights around the globe, addressing situations of human rights violations and make recommendations on them.
- The Council is made up of 47 United Nations Member States, elected by the **UN General Assembly.**
- It replaced the **former Commission on Human Rights**.

Functions:

- **The Council act as a forum** for dialogue among States, with input from other stakeholders.
- **It may issue resolutions** calling on States to take specific actions or uphold certain principles to investigate or monitor questions of concern.
- It has created the mandates of various special procedures.
  o The special procedures are experts appointed to monitor human rights in specific countries with serious human rights problems.
- The Council manages the **Universal Periodic Review**, a process through which each UN Member State's overall human rights record is reviewed.

Human Rights in India:

- **Human rights** are the basic rights available to any human being by virtue of his birth in human race.
- The **Protection of Human Rights Act, 1993** defines Human Rights as:
  o "Human rights" means the rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by courts in India".
- The Constitution of India guarantees basic human rights to each and every citizen of the country.

Fundamental Rights:
Civil and Political Rights:

- Many of the civil and political rights are contained in the **International Covenant on Political and Civil Rights (ICCPR), 1966.**
  o India has signed and ratified the ICCPR.
- They are also mentioned in **Part III** of the Constitution of India.

Directive Principles of State Policy:

- The **International Covenant on Economic, Social and Cultural Rights** (ICESCR) is a multilateral treaty which focuses on social and cultural rights like food, health, education, shelter etc.
- India **ratified this covenant on April 10, 1979.**
- Most of the provisions in this covenant are found in **Part IV** (DPSPs) of the Indian Constitution.

Suggestions:

- The government and civil society groups need to gear up for a **sustained campaign** against this practice.
- Both **law enforcement and awareness drives** engaging traditional leaders, women's groups, Panchayati Raj Institutions, frontline workers must be ensured in these areas.
- **Building rationalistic thoughts** and scientific temper should be a part of the curriculum at different levels of education.
- There is a **need for a national law** regarding witch-hunting practitioners and mob violence against targeted families.
- States need to build up on different strategies to address the underlying issues of witchcraft.

- The **Integrated Child Development Services** and Integrated Child Protection

Scheme structure should be used to address cases related to violence during witch-hunts.

SETTING UP OF POULTRY HATCHERY AND REARING UNITS UNDER NERCORMP PHASE III

North Eastern Region Community Resource Management Society (NERCRMS) under North Eastern Council (NEC) launched Poultry Hatchery and Rearing units under NERCORMP Phase III recently.

- It will provide employment to the poor's, resulting in increase in income by at least 20% at household level.

Objectives:

- **To provide employment** and income opportunities to the BPL families, hatchery and other households who fall under APL classification.
- To reduce the **import of chicken meat** from outside.
- **To motivate** the people towards scientific poultry farming and hatchery through imparting training and exposure.

BHASHA SANGAM INITIATIVE TO PROMOTE LEARNING IN REGIONAL LANGUAGES

Recently, Education Ministry launched the '**Bhasha Sangam**' initiative under the **'Ek Bharat Shreshta Bharat'** mission.

- Bhasha Sangam is a mobile app.
- **Aim:**
  o To give users familiarity with common expressions of daily conversation in Scheduled Indian languages.

  o Enabling people to learn different languages of different states of India and come closer to their culture.

- **Features:**
  o The app has **100+ sentences,** designed on different themes that allow people to learn basic conversation in 22 Indian languages.

OVER 1 LAKH PEOPLE GETTING PENSION DIRECTLY INTO THEIR BANK ACCOUNTS THROUGH SAMPANN PROJECT

SAMPANN project was recently launched by Ministry of Communications.

System for Accounting and Management of Pension:

- It is **a comprehensive Pension Management system** of Department of Telecommunications, Ministry of Communications.

- **Aim-** To improve the service delivery to pensioners by providing a single window setup.
- It is a seamless **online pension processing** and payment system under a common platform.

Benefits:

- Timely settlement of pension cases.
- Improved reconciliation/auditing and ease of accounting.

- Provides **direct credit of pension** into the **bank accounts of pensioners**.
- Helps in processing, sanctioning, authorization of payments.

- Provision of e-Pension Payment Order.
- Enables access to key information like payment history.
- Online submission of grievances and timely SMS alerts.

CENTRE REVISES GUIDELINES FOR PROCUREMENT OF COARSE GRAIN

Recently, the Ministry of Consumer Affairs, Food & Public Distribution released the revised guidelines for procurement, allocation, distribution and disposal of coarse grains.

Highlights of the guidelines:

- **Distribution period** of **Jowar and Ragi** is increased to **6 & 7 months respectively** from the **earlier period of 3 months.**
- Provision of **inter-state transportation** of surplus coarse grains **through Food Corporation of India (FCI)** is incorporated to cater for advance demand placed by consuming state before the start of procurement.

Significance:

- New guidelines would **increase procurement/consumption** of coarse grains through **Public Distribution System (PDS).**
- As these crops are normally grown on marginal and un-irrigated land, therefore, enhanced cropping of these would **encourage sustainable agriculture and crop diversification.**
- With the increased procurement, number of **farmers benefitting** from the procurement of these crops, would also **increase.**

- **Marginal and poor farmers** who are also PDS beneficiaries **will gain** due to procurement and then distribution of millets at Rs.1 per kg.
- **Region specific coarse grains** can be distributed for local consumption saving transportation cost of wheat and rice.
- To strengthen our **fight against malnutrition** in children and adolescents, consumption of coarse grains would help to foster immunity and health.

Earlier Scenario:

- Under the earlier guidelines, **states** were allowed to **procure coarse grains** from farmers **at Minimum Support Price** under Central Pool "**subject to the prior approval**" **of the Centre** and **Food Corporation of India.**
- The procured quantity was to be **distributed within 3 months** from the end of procurement period.

Coarse grains?

- **Cereal grains** other than **rice and wheat** are called as coarse grains.
- They are a broad sub-group of several **short duration warm weather (Kharif) crops.**

o Examples: Jowar (Sorghum), Bajra (Pearl Millet), Maize, Ragi (Finger Millet)

- Coarse grains are **highly nutritive**, non-acid-forming, **gluten-free** and have dietary properties.

Marginal and small farmers?

- A farmer cultivating agricultural **land up to 1 hectare (2.5 acres),** as owner or tenant or share cropper is referred to as a **marginal farmer.**
- o Marginal farmers constitute around **65 %** of total farmers in India.
- Farmers having less than **two hectares (five acres)** of land as owner or tenant or share cropper, are called **small farmers**.

PANEL FLAGS POOR FUND UTILISATION IN BETI BACHAO, BETI PADHAO SCHEME

Recently, the fifth report on '**Empowerment of women through education** with special reference to Beti Bachao Beti Padhao' was released.

Report:

- Nearly **80 %** of the funds for the Beti Bachao, Beti Padhao scheme has been **used for its advertising** and not on sectoral interventions such as in health and education for women.
- o Only **25.13 percent** of the funds, of the total funds released by Centre, has been **spent by the states.**

Beti Bachao Beti Padhao:

- It is a **tri-ministerial scheme** with the **Women and Child Development Ministry** as the **nodal ministry.**
- o The other two ministries involved are **Health and Family Welfare** and **Education (Department of School Education and Literacy).**
- It is a **100 percent Centrally Sponsored Scheme.**
- The programme is being implemented across **405 districts** in the country.

Objective: To **address sex selective abortion** and the **decline in Child Sex Ratio.**

Issues in implementing the scheme:

Civic bodies' support for Beti Bachao, Beti Padhao:

- There is a **poor and uncoordinated** on-ground **civic body support**, in the form of local governance in districts with poor sex ratio.

Constantly changing administration:

- Top **local officials are often regularly transferred**, and **newly** appointed **officials need time to be educated and sensitised** to the **needs of girl** children in their respective districts.

Obsession with marriage:

- In poorer and illiterate section of society, **woman's bigger role** in life is not a career, but to be a **subservient housewife.**
- o This mindset is the basis of considering **women to be inferior.**

Accountability of officials involved

- The **lack of the culture of accountability** and measurable goals make this a weak point.

Recommendations:

- The government should focus on **planned expenditure allocation** for sectoral interventions in education and health.
- **Civil society workers** engaged in addressing issues like female foeticide, education, and welfare services for females must **regularly meet and chart out action plans with Divisional Commissioner** and other representatives.
- **Social workers** must also be **supported by local police**, members of legislative assembly, and other influential people.
- The **campaign must extend** to making **parents, brothers** and Indian be proud of a woman's autonomy.
- It also must seek to **educate men** those women are their equal – not only at school but in every arena.
- The success of 'Beti Bachao Beti Padhao', needs **firm and measurable accountability** on the part of the **civic administration.**

NEW FAO REPORT ON LAND AND WATER RESOURCES PAINTS AN ALARMING PICTURE

Recently, UN Food and Agriculture Organization (FAO) released a new report entitled, **State of the World's Land and Water Resources for Food and Agriculture** – Systems at breaking point (SOLAW 2021).

Report

- It provides new **information on the status of land, soil and water resources**, and evidence of the changing and alarming trends in resource use.
- The main focus in SOLAW 2021 are:
    - **land and soil degradation**
    - **water scarcity associated with agriculture withdrawals**
    - **pollution from land.**

Findings of the report:

Current patterns of agri-food production are not sustainable:

- The world is producing 50% food more than the necessary.
- This could **create environmental disasters, increase competition for resources, and fuel new social challenges and conflicts**.

Land and water systems are under pressure:

- Advances in food systems require focusing on land, soils and water as interconnected systems.

Human-induced soil degradation affects agricultural land:

- Land use per capita declined by 20 %.
    - The **rapid growth of cities** resulted in encroaching of prime agricultural land.

- **High levels of pollution** and greenhouse gas emissions are reducing the productive capacity.

Food security is threatened by water scarcity:

- Water scarcity threatens 3.2 billion people living in agricultural areas.
- Groundwater depletion **affects vulnerable rural populations** and **national food security.**

Challenges

- **Future agricultural production will depend upon managing the risks to land and water**.
- Land, soil and water management needs to find better synergy to keep systems in play.
- This is essential **to maintain the required rates of agricultural growth** without compromising the generation of environmental services.
- **Land and water resources will need safeguarding.**
- There is now only a narrow margin for reversing trends in resource deterioration and depletion, and it should be dealt urgently.

Responses and Actions:

- **Land and water governance has to be more inclusive and adaptive**.

- Inclusive governance is essential for allocating and managing natural resources.
- **Integrated solutions need to be planned** at all levels if they are to be taken to scale.
- Planning can define critical thresholds in natural resource systems.
- It can **aid reversal of land degradation** when wrapped up as packages or programmes of technical, institutional, governance and financial support.
- **Adoption of new technologies and management approaches** to address priorities and accelerate transformation.
- The world needs **to strengthen the digital systems that provide basic data, information and science-based solutions for agriculture.**
- It addresses caring for neglected soils, addressing drought and coping with water scarcity.
- **Investments in agriculture must be redirected towards social and environmental gains**.
- Financing of agricultural projects can be linked with redirected subsidies to keep land and water systems in play.

NITI AAYOG PARTNERS WITH BHARTI FOUNDATION TO LAUNCH RESEARCH SYMPOSIUM CONVOKE 2021-22

- NITI Aayog in partnership with Bharti Foundation, the philanthropic arm of Bharti

Enterprises, launched Convoke 2021-22.
- Convoke is a **National research Symposium**.

- **Objective:**
  o To address **challenges in imparting** education.

o To strengthen its quality with special focus on all teachers, educationists, heads of schools across India.

PMO TAKES NOTE OF CHAKMA-HAJONG CENSUS IN ARUNACHAL

The Prime Minister's Office (PMO) has registered a complaint filed by the Chakma Development Foundation of India (CDFI) against racial profiling of Chakmas and Hajongs in Arunachal Pradesh.

Genesis of Chakma and Hajong Tribe:

- The Chakmas and Hajongs were originally residents of the **Chittagong Hill Tracts.**
- They were displaced by the **construction of the Kaptai Dam in the Chittagong Hill Tracts in Bangladesh in 1957.**
- They faced **religious persecution in East Pakistan.**
- The groups entered India through the **Lushai Hills district of Assam (today's Mizoram).**
- The Indian government moved a majority of the refugees to **present-day Arunachal Pradesh.**
- In the 1960s, the Indian Government settled them legally in Arunachal Pradesh.
- However, it is claimed that members of the Chakma and Hajong communities **were illegal migrants and not tribals.** Thus, there is demand that they needed to be shifted out of the state.

Chakma Tribe:

- The chakams are the **major tribe of Tripura.**
- They are **buddhists.**

- They fled from **Chittagong Hill Tract (Bangladesh) to Northwesten India in 1960s.**

Groups-

  o Anokia
  o Tandugia
  o Mangla

- **Location**- India, Myanmar, Bangladesh
- **Language**- a mixture of broken Bengali and Assamese language.
- **Attire**-
  o **Women**-
    ▪ Phinon- It is an ankle length cloth around the waist, colourfully handwoven with various designs.
    ▪ Haadi- It is wrapped above the waist as well as silver ornaments.
- **Food**- Rice, millet, corn (maize), vegetables, and mustard.
- **Occupation**- Farmers
- **Festival-** Buddh Purnima, Bijhu.

Hajong tribe:

- They are the fourth **largest tribe in Meghalaya.**
- **Location**- They are found in the Garo and Khasi Hills of Meghalaya and Bangladesh.
- They belong to the **Kachari** group of tribes.
- They have the status of a **Scheduled Tribe in India** (Assam and Meghalaya).
- **Occupation-** rice farmers
- **Religion**- The Hajongs are Hindus and observe Hindu rites and customs.

- **Language**- Tibeto-Burman language.
- **Festival**- Durga Puja and Kamakhya Puja, Biswa.
  - o **Biswa**- It is a pre-monsoon harvest festival.
- **Traditional attire-**
  - o Women-
    - ▪ **Pathim**- Its horizontally striped, colorful, rectangular piece of cloth wrapped around skirt.
  - o Men-
    - ▪ **Nighli**- It's a hand woven piece of cloth.
    - ▪ **Gamsa**- It covers the lower part of the bodies.
- The Hajongs have five different clans.
  - o Korebari
  - o Doskina
  - o Su-Sungya
  - o Barohazari
  - o Mesparya
- Marriage within the **same clan is prohibited.**

NITI AAYOG RELEASE REPORT ON COUNTRY-LEVEL ASSESSMENT OF EMERGENCY AND INJURY CARE AT SECONDARY, TERTIARY LEVEL CENTRES AND DISTRICT HOSPITALS IN INDIA

Recently, NITI Aayog released comprehensive report on current status on Country level- secondary and tertiary level **emergency and injury care** in India.

Objectives:

- To **assess** the **prevailing status of emergency and trauma care** at government and private hospital **settings of India.**
- To **bring out the existing gaps** and provide a framework for further improvement and the needed policy directions.

Data Set:

- **100 tertiary and secondary level** hospitals in 29 States and 2 Union Territories from **5 regions of India** was conducted.

Salient Findings of the study:

Ambulance Services:

- Even though **91%** of hospitals had **in-house ambulances**, **trained paramedics** needed to assist

ambulance services were present only in **34%.**

Physical Infrastructure:

- The number of **beds available at Emergency Departments** accounted for only **3-5%** of **total hospital beds.**

Human Resource:

- Most of the hospitals **lacked presence of general doctors**, specialists and nursing staff dedicated for Emergency Departments.

Essential Medicines:

- Only **9%** of all hospitals, fulfilled the criteria to have the complete list of **all recommended emergency medicines** 24*7 in the emergency departments.

Patient disposition time:

- The **patient disposition** time for the sickest group (Red zone) **was high** at Government Medical Colleges (90 Minutes) vis-à-vis Private Hospital (15 minutes).

- o The reasons for this delay amongst others were due to:
- High patient load
- **Lack of in-house specialists** in the emergency department.
- Need for multiple cross referrals, with an overarching lack of a dedicated department for emergency services.
- There was **lack** facilities such as **presence of Police/ private security guards**, to mitigate violence episodes between relatives of the care-seekers and health care providers.

Financing
- **None** of the Hospitals had **funds dedicated for emergency care services.**

Key Recommendations:
- Develop a **robust integrated emergency care service system** which can comprehensively address all medical and surgical emergencies inclusive of trauma-related care.
- **Develop standardize protocols** and **SOPs for emergency care** to have a

common optimal nation-wide policy.
- **Strengthen** the prevailing pre-hospital services such that a world-class **ambulance services** are made available 24*7.
- Create **adequate space for emergency care systems** at the prevailing health facilities.
- Systems to ensure **efficient handling of medical care** during disasters need to be ensured at all hospitals.
- **Upgrade** all the **prevailing emergency care services** to meet the standardized norms, with efforts made to accredit all the existing emergency departments.
- Create standalone **Central/ State level efficient funding mechanisms** to ensure continuous upgradation of emergency related issues at all hospitals.
- Develop **mechanisms to ensure free treatment for emergency care services** for all citizens covering the minimal required period for early stabilization.

CENTRE ISSUES ADVISORY TO PARENTS, TEACHERS ON CHILDREN'S SAFE ONLINE GAMING

The advisory for parents and teachers on "**Children's safe online gaming**" has been issued by Ministry of Education.
Objectives:
- To **educate parents and teachers** to take necessary action.
- To **ensure effective use of measures** in overcoming all online gaming downsides with the associated mental and physical stress to children.

Recommendations in the guidelines:
Do's for parents:
- **Adopting OTP based payment methods** as per RBI's guidelines.
- **Installing internet gateway** at home with features like monitoring, logging and controlling the types of content that the children can access.
- Help the child to **protect their privacy online**.

Don'ts for parents:
- Allowing in-game purchases without parental consent.
- Credit or debit cards registration on apps for subscriptions.

Issues related with online gaming:

Psychological:
- Addiction to video games may **cause issues** such as:
  o Depression
  o Low-self-esteem
  o High stress levels
  o Shyness / social anxiety.
- Inability to control the addiction can cause **feelings of shame, guilt**, or a sense of powerlessness.

Physical and Health:
- Playing online games with no restriction and self-limits leads many players to become addicted and are eventually diagnosed with **gaming disorder.**
- Addiction to video games may lead to:
  o **No physical activities** or exercise.
  o **Poor sleeping habits** depending on gaming schedules.

o Choice of **unhealthy foods** that simply are convenient to eat while gaming.

Family:
- Parents may face daily **arguments** from children about time limits on games and the neglect of other responsibilities.

Financial:
- Video games can be a very **expensive** form of entertainment that includes:
  o Computer upgrades
  o New gaming consoles
  o Subscriptions to online services, newly released games, and the latest expansion packs.
- The **gaming companies** also emotionally compel the child to buy more levels and almost **force in-app purchases.**

Interpersonal Impact:
- **One-to-one in person** contact with others is **minimized** and online / virtual contact is increased.
  o It may cause **social isolation** and **disconnection from the world** around.

DELHI POLICE LAUNCHES E-LEARNING PLATFORM TO EDUCATE YOUTHS, SCHOOL DROPOUTS

- Unnati is an **e-learning platform** which provides training, counselling and placement to trainees.
- It was launched under Delhi Police's flagship scheme **'YUVA'.**

Aim: Serving to the youth (specifically from weaker sections of the society) and college dropouts get a training and purchase abilities to understand their desires of a safe future.

DEMOCRACIES SHOULD SHAPE SOCIAL MEDIA, CRYPTOCURRENCIES, SAYS PM MODI

Recently at the Summit for Democracy convened by U.S. President, the Prime Minister of India stated that democracies should jointly deal with social media and crypto currencies.

Democracy?

- **Democracy is a government** of the people, for the people, and by the people.
- The term '**democracy' c**omes from the Greek word demokratia which means "rule of the people".
- It was coined from two words: **demos** that means "people" and **kratos** which refers to "power".
- In a democracy the **power rests with the people**.

Indian Democracy:

- India is recognized for having the **largest democracy** in the world.
- India achieved the status of being a democratic nation post its independence in 1947.
- The citizens of India were given **the right to vote** and to elect their leaders.
- **Indian Constitution guarantees** its citizens the right to vote irrespective of their caste, color, creed, religion, and gender.
- It has **five democratic principles** – sovereign, socialist, secular, democratic, and republic.

Types:

In India democracy is of two types:

Direct

- It refers to a form of government wherein citizens take part in the **administration of the government.**

- Government policies are decided by the people themselves.
- Whole community forms **legislature**.

Indirect

- The representatives elected by the people exercise the supreme power.
- Representatives of the winning party forms government and are a part of legislature.
- This type of democracy is known as **representative democracy**.
- It is of two kinds–**parliamentary and presidential**.
- o The Indian Constitution provides **representative parliamentary democracy** in which the executive is responsible to the legislature for all its policies and actions.

Role of Citizens in a Democracy:
Participation

- **In a democratic nation**, the citizen's role is to take part in public life.
- The most common role of a citizen is to exercise its **right to vote**.
- o To exercise this power, a citizen must be aware of the different political parties, their candidates, their propaganda, etc.

Accountability

- Citizens have to make efforts to make the system of democracy responsible and responsive.
- The citizens must make the Parliamentarians, **Members of State Legislature**, and their representatives in Panchayati Raj and Municipal Institutions accountable for their actions.

- The **Right to Information Act**, 2005 has been enacted to enable citizens to play their role effectively.

Fulfilling Obligations

- Every citizen should have a realization that they have many more obligations to fulfill other than voting.
- **Democracy is a system** where citizens have various freedoms but never absolute.
- It is based on the principle of "with rights comes obligations."

Challenges of Indian Democracy:

1. Illiteracy

- **Illiteracy** has been a challenge because both the education level of people and the socio-economic development of a nation play a vital role in a democratic nation.
- At the time of independence, the **literacy rate of India** was almost dismal, and the female literacy rate was negligible.
- Due to these conditions, citizens were not be able to play their part effectively and exercise their **right to vote** meaningfully.

2. Poverty

- India inherited the **state of poverty** since the colonial rule of the Britishers.
- Till date, some people live **below the poverty line** in the country.
- Poverty in India still exists because of various reasons such as **unemploymen**t and under-employment.

3. Gender Discrimination

- Although **gender equality** is a basic principle of democracy in India, it still exists on every small step.
- The Constitution guarantees equal treatment to all citizens, irrespective of their gender.
- It guarantees the **Fundamental Rights**, as well as **Directive Principles of State Policy**.

4. Communalism

- Communalism is an ideology which states that **society is divided into religious communities** whose interests differ and at times even opposed to each other.
- Communalism is a setback to the Indian democracy as it acts as an offense to secularism.

5. Regionalism

- India is a nation with **diversities of religions**, languages, tribes, cultures, and communities.
- Due to such diversities, imbalances occur in the development process and lead to regional disparities, the democracy of the country is suffering.

6. Corruption

- **Corruption** is a major problem in India as it has its roots in every field be it land, health, education, property, industry, agriculture etc.
- It exists at all levels of politics, bureaucracy, government, and corporate.

7. Casteism

- **Casteism** is a differentiation made between individuals based on birth.
- In India, the caste system originated on the arrival of Aryans

and continues in some parts of the country.

- The system brought **practices like untouchability** which continues despite being banned.
- Due to this system, the lower caste people even today are deprived of basic education, social benefits, etc.

8. Political Violence

- **Violence** is of various forms namely, communal, caste, political, etc.
- Whenever a political party loses elections, its party members begin engaging themselves in violence.
- It is a threat to the democracy as it leads to **aggressive competition** for political power and the victim is always the general public.

NON-LAPSABLE CENTRAL POOL OF RESOURCES

Recently, 1635 projects were sanctioned in the North Eastern States under Non-Lapsable Central Pool of Resources-State (NLCPR-State).

Non-Lapsable Central Pool of Resources-State (NLCPR-State) Scheme:

- It is a **Centrally Sponsored** Scheme.
- **Launched**- 2001
  - Came into Existence- **1998** under Planning commission
- It has been restructured as **North East Special Infrastructure Development Scheme (NESIDS)** in 2017.
  - **Reason for restructuring:** - To focus on projects related to infrastructure creation and to enhance tourism.
- **Nodal Agency**- The Department for Development of North-Eastern Region (DoNER)
  - The North Eastern Region (NER) comprises of eight States- Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura
- **Objective-**
  - To ensure speedy development of infrastructure in the North Eastern Region.
  - To increase the flow of budget for new infrastructure projects.
- **Funding-** Central and State Government allocate the funds on 90:10 basis.
- **Sectors Considered-**
  - Physical and social infrastructure sectors are considered.
  - Funds from the Central Pool can be released for State sector as well as Central sector projects/schemes.

UNDERNOURISHED INDIA: WHICH ASSEMBLY SEATS FARE THE WORST

Recently, a report was released based on a study conducted on children aged 0-5 years, across legislative Assembly constituencies.

Findings of the report:

- **Malnutrition is the biggest threat to children under five years** in India.
- Undernourishment is worst in places like **Uttar Pradesh, Bihar** and **Andhra Pradesh**.
- The c**auses** of undernutrition in children in this age group are rooted **in socioeconomic determinants distributed unequally across the country.**

They study was based on **the four undernourishment indicators**:

- **Stunting:** Nine of the top 10 constituencies were from **Uttar Pradesh**, including the worst performer — Ghorawal (60.94 per cent).
- **Underweight: Jharkhand, Maharashtra and Andhra Pradesh** had three constituencies each in the top 10 list, and Karnataka had one.
  - o Jharkhand's Khunti was the worst performer.
  - o All the top five constituencies in the ranking were scheduled caste or scheduled tribe.

- **Wasting**: Nine of the 10 constituencies with the highest proportion of wasted children were spread across **Karnataka, Jharkhand and West Bengal**.
- **Anaemia:** Andhra Pradesh had the highest prevalence with eight of the top 10 constituencies.
- No state fared badly in all four indicators. This shows the **uneven distribution of undernourishment.**

Significance:

- The analysis can help in **identifying areas with high malnutrition burden** in areas where resources are scarce.
- The indicators can be used by the government **to monitor malnutrition and eradication programmes** such as National Nutrition Mission (or POSHAN Abhiyaan).
- It can help **monitor assembly-wise burden of child malnutrition.**
- The report recommended that the policy initiatives driven by assembly constituencies can be more precise with greater political accountability.

FOUR ARRESTED IN MANGALURU IN 'MORAL POLICING' CASE

Recently, four people were arrested for moral policing case in Mangaluru.

Moral policing:

- Moral police are a category of **vigilante groups** which act to **enforce a code of morality** in India.

- The target of moral policing is any activity that is deemed to be immoral or against Indian culture.

Factors responsible for moral policing:

- **Orthodox societal mindset**: Orthodox mindset views that women are weaker and security of them is their responsibility.

- **Upbringing by parents: Indian parents** try to inculcate morality to their children according to societal norms. The children, who later on in their lives, deliver those values in the society in the form of moral policing.
- **Indian Cultural value:** Some vigilante groups oppose the western ideas and **claim that Indian culture is superior** and it's their responsibility to protect the Indian culture.
- **Presence of social media:** In present world social media is one of the biggest reasons that create enmity between different religion.

Misuse of Laws:
o Section 292 of the Indian Penal Code deals with sales and distribution of obscene books and other material.
▪ **But police personnel use Section 292** to file cases against film posters and advertisement hoardings that are deemed to be obscene.

o **The Immoral traffic (prevention) act (PITA)** was originally passed to prevent human trafficking.
▪ **But it has been used by police to raid hotels** if they suspect a sex racket being run there even without proper evidence, thus embarrassing legal couples and young people.

Impact:
- **Gender inequality:** Moral policing promotes gender biasness which create problem to women work free environment.
- **Affects Fundamental right:** It violates fundamental right and showed cultural values are supreme then the democracy.
- **Mob lynching:** Lynching is an extrajudicial killing by a group. Moral policing promotes mob lynching.
- **Honor Killing:** Honor killings are one of the worst manifestations of moral policing which supposedly curtail western influences by infiltrating on Individual freedom.

2030 RENEWABLE ENERGY TARGET: PANEL TO BE SET UP SOON FOR 'MISSION 500GW'

Ministry of power will soon set up a detailed action plan to take up India's renewable energy (RE) capacity to 500 GW by 2030 recently.

- India's announced to achieve 500-GW of its installed capacity through **non-fossil fuels** and 50% of its energy requirement from renewables by 2030, at COP 26 climate conference in Glasgow.

- India's current capacity is **about 101 GW in 2021**, another **400-GW of RE** will be added by **2030.**
- The action plan will assess issues of transmission, types of technology to be used, the energy mix for the 500-GW target and storage requirements.
- It will look into the **regulatory framework** required for the scale-up of RE and to draw foreign investment into the sector.

CJI BATS FOR MORE WOMEN JUDGES

Chief Justice of India promised to take up the demand for more women judges with the Supreme Court Collegium recently.

- The collegium has recommended **68 names for appointment** in total across 12 high courts.

Current Scenario of women in judiciary in India:

- The Supreme Court currently has the **highest number of women judges**.
- Out of the sanctioned strength of 34 judges, the Supreme Court has **four women judges**.
- Out of 677 sitting judges in both the Supreme Court and high courts, only **81 are women**.
  o This makes the representation of women judges in the total working strength to 12%.
- Among the 25 high courts, only **Madras high court** has women judges in double digits.
  o Out of the working strength of 58 judges, the Madras HC has 13 women, which is more than 22% representation.
- **High courts of Manipur, Meghalaya, Bihar, Tripura and Uttarakhand** do not have even a single woman judge.
- The sanctioned strength of judges across **25 high courts in India is 1,098.**
  o **465 posts were vacant** as of September 1.

Impact of having women in Judiciary:

- Women judges enhance the **legitimacy of courts.**

- They **contribute far more to justice** than improving its appearance: they also contribute significantly to the quality of decision-making.
- They bring those lived experiences to their **judicial actions**, that tend toward a more comprehensive and empathetic perspective.
- **Adjudication is enhanced** by preventing ill-considered or improper decisions, by elucidating how laws and rulings can be based on gender stereotypes etc.

Suggestions:

Gender-Neutral Parenting

- There is need to **change the patriarchal mindsets of** Indian society.
- **There is need to promote gender-neutral parenting** so that future generations free themselves from the bonds of patriarchy.

Overhauling the Judicial Selection Procedure

- There is a need for the **reformation of the judicial selection** procedure and ensure fair representation of women in the Indian Judiciary.
- A more diverse judiciary would **increase public confidence** and instil greater support from its citizens.

Reservation Quota for Women

- There must be a minimum **33% reservation** quota for women in the judiciary.
- It will ensure **equal representation of women** and also provide a fair opportunity to

reach higher levels in the profession.

HUMAN TRAFFICKING SURVIVORS IDENTIFY GAPS IN DRAFT BILL, SEEK COMMUNITY-BASED REHAB

Recently, survivors of trafficking have demanded that the **Trafficking in Persons (Prevention, Care and Rehabilitation) draft Bill 2021** should define and include provisions of funds for the rehabilitation of survivors as well to investigate cases, often across states and even countries.

Features of the Draft Trafficking in Persons (Prevention, Care and Rehabilitation) Bill 2021

- The bill addresses certain loopholes and hitherto missed aspects very of the previous Bill's provisions effectively and comprehensively.

Key features of the Trafficking in Persons (Prevention, Care and Rehabilitation) draft Bill

- **Applicability:** the law will apply to all citizens of India, within and outside the country.
- **Investigation agency:** Cases will be probed by **NIA (National Investigation Agency).** The faster arrest of offenders (most often operating in syndicates and organised criminal groups).
- **Penalty:** Stricter punishment to the perpetrator if the victim of trafficking is a child. **Aggravated crime to get deservedly stricter punishment**.
- Bill includes a provision that says that physical movement or transportation of the victim is not necessary to define the crime of tracking.

- Has the provision of protection homes for immediate protection of victims and rehabilitation homes for long term rehabilitation.
- This will help the victims to come out of the trauma and seamlessly assimilate into society later.
- Proposes a proposal for the provision of separate **protection and rehabilitation** homes for transgenders.
- The rehabilitation is to begin immediately once the FIR is registered.
- Provides immediate relief to the victim within 30 days of the filing of FIR.
- The compensation will be awarded to the victim under the **State Victim Compensation Scheme.**
- The Proceeds of crime collected and accumulated by traffickers will be used for the relief and rehabilitation of the victim.
- Bill makes re-tracking an aggravated form of tracking with higher punishment of not less **than 10 years which can go up to life imprisonment and a fine which can be up to Rs 10 lakh.**
- Women, children and physically and mentally disabled persons are given extra protection in the law by including them under the provision of "**presumption of offences**".

APART COMES UP WITH COMPETITIVE FUNDING MECHANISM FOR AGRI SECTOR IN ASSAM

Recently, Assam Agribusiness and Rural Transformation Project (APART) has established the AgriFin "Xamahar" to support ecosystem/mechanisms in the agricultural domain in the state.

- **Aim:** To deliver financial services at a scale in the agribusiness sector in the state.

- The project intends to partner with select 8 to 12 sub-projects from the **financial services sector** benefitting 125,000 beneficiaries of which 30% will be women.
- The fund will support the testing and **up scaling of innovations** by financial service providers.

DELHI HIGH COURT ORDERS COMPLETE DISCLOSURE OF VEG, NON-VEG INGREDIENTS OF FOOD ITEMS

Delhi high court said that those who manufacture food items should disclose the ingredient code name along with the source from where they have originated.

E631

- It is known as **disodium inosinate.**
  o It is the disodium salt of inosinic acid.
- It is used as a **food additive** and often found in instant noodles, potato chips, and a variety of other snacks.
- As a **relatively expensive product**, disodium inosinate is
-

usually not used independently of glutamic acid.

Origin:

- Disodium inosinate is generally **produced from meat, including chicken.**
- It also may be produced **from tapioca starch** without any animal products involved in the production.
- In some cases, it can be **labelled as "vegetarian"** in ingredients lists when produced from plant sources.

UNESCO INSCRIBES 'DURGA PUJA IN KOLKATA' ON THE REPRESENTATIVE LIST OF INTANGIBLE CULTURAL HERITAGE OF HUMANITY

Recently, the Intergovernmental Committee for the Safeguarding of the Intangible Cultural Heritage has inscribed '**Durga Puja in Kolkata**' on the Representative List of the Intangible Cultural Heritage of Humanity.

Durga Puja

- It is an annual Hindu festival originating in the Indian subcontinent.

- Durga Puja is celebrated predominantly by the **Bengali community**.
- In this, homage to the Hindu goddess Durga is paid.

UNESCO's List of Intangible Cultural Heritage

- UNESCO's List of Intangible Cultural Heritage is published by the **Intergovernmental**

Committee for the Safeguarding of Intangible Cultural Heritage.

o The members of committee are elected by State Parties meeting in a General Assembly.

- **Aim:** Ensuring better protection of important intangible cultural heritages worldwide and the awareness of their significance.
- Following **UNESCO's 2003 Convention for the Safeguarding of the Intangible Cultural Heritage**, the list has been classified into five broad domains in which intangible cultural heritage is manifested:

o Oral traditions and expressions, including language as a vehicle of the intangible cultural heritage.

o Performing arts

o Social practices, rituals and festive events

o Knowledge and practices concerning nature and the universe

o Traditional craftsmanship

List of Intangible Cultural Heritage places of India

In India, the Intangible Cultural Heritages that summed into this list include:

- A tradition of Vedic chanting
- Ramlila, the traditional performance of the Ramayana
- Kutiyattam, Sanskrit theatre
- Ramman, religious festival and ritual theatre of the Garhwal Himalayas.
- Mudiyettu, ritual theatre and dance drama of Kerala
- Kalbelia folk songs and dances of Rajasthan
- Chhau dance
- Buddhist chanting of Ladakh: recitation of sacred Buddhist texts in the trans-Himalayan Ladakh region, Jammu and Kashmir.
- Sankirtana, ritual singing, drumming and dancing of Manipur
- Traditional brass and copper craft of utensil making among the Thatheras of Jandiala Guru, Punjab
- Yoga
- Nawrouz
- Kumbh Mela

IIT RESEARCHERS CREATE BHU PARIKSHAK, AN APP-LINKED AFFORDABLE SOIL TESTER FOR FARMERS

Recently, a team of researchers at the Indian Institute of Technology in Kanpur has created a portable app-linked soil testing device named **Bhu parikshak.**

- The app can detect soil quality in just 90 seconds.
- It is a first-of-its-kind invention based on infrared spectroscopy

technology, which provides soil analysis reports on a smartphone.

- The device can detect six important soil parameters namely -Nitrogen, Phosphorus, Potassium, Organic Carbon, Clay contents and Cation Exchange Capacity.

UNION CABINET GIVES NOD TO RAISE WOMEN'S MARRIAGE AGE TO 21

Recently, the Union Cabinet took the decision to raise the legal age of marriage for women **from 18 to 21 years**, based on **Jaya Jaitly committee** recommendations.

Highlights:

- **Jaya Jaitly committee** was set up by **Ministry for Women and Child Development (MWCD)** to look into the correlation between the age of marriage with issues of women's nutrition.
- The main **objectives** of the committee were:
- **to look at the feasibility of increasing the age of marriage** and **its implication on women and child health**,
- how to **increase access to education** for women.
- The committee recommended the following:
- The age of marriage of woman shall be increased to 21 years **in a phased manner.**
- **Increasing access to schools and colleges** for girls,
- **Incooperation of Skill, business training and sex education** in schools.
- **Awareness campaign** be undertaken on a massive scale to encourage social acceptance of the new legislation.

Benefits of Increasing the Age Limit

Prevents child marriages:

- **It discourages child marriages and prevent the abuse of minors**.
- Various religions have their own personal laws based on their customs.

Achieve gender-neutrality:

- It will bring the **age of marriage for both men and women at par.**
- **The National Human Rights Commission in 2018** recommended that there should be a **uniform age** of marriage for boys and girls.
- Men and women **will gain economically and socially** by marrying when they are more than the legal age.

Lower Mortality rate

- Early marriages have impact on **Infant Mortality Rate.**
- It reduces child anthropometric failure, diarrhoea and anaemia for first births.

Improve nutritional health and mental well-being:

- Early marriages and early pregnancies have impacts on nutritional levels of mothers and their children, and their overall health and mental wellbeing.

Women empowerment:

- It will increase the **chances of education** to those who are cut off from access to education and livelihood after an early marriage.
- It will increase women's participation in **higher education.**
- They will get more **empowered to take decisions and act wisely**
- **Improved level of education in the country** will also improve.
- Women pursuing higher education and careers become financially empowered, thus resulting in a more egalitarian society in thinking.
- **Increased women participation in public sphere:**

o It will help increase women's participation in the **workforce of the country.**
o It will **reduce the practice of hypergamy,** where the boy has to be older, more educated, must have a higher income, and so on.

Criticism:

- The legislation would **push a large portion of the population into illegal marriages**.
  o **Rural women will be affected more** than urban women
- The law **would end up being coercive, negatively impacting marginalised** communities,
  o 70% of early marriages take place in deprived communities such as SCs and STs, and the law will make them law-breakers.
  o The law will simply push these marriages underground instead of preventing them.
- The **law to prevent child marriages did not worked earlier.** Thus, it is highly likely that it won't work in today's era as well**.**
  o The marriage age at 18 was set in 1978, but child marriage started to decline only in the 1990s.
  o **Reduced poverty and increased primary education** are the

reasons for the reduced child marriage cases.
  o Child marriages happens as a child has no access to higher education.
- It will lead to **criminalisation of a large number of marriages** that will take place once the law comes into effect.
- It violates the **right to privacy mandated under Article 21.**
- The girls will have no **say in their personal matters until they are 21**.
  o **The elementary right that the child rights convention bestows upon minors will be denied to girls right up till 21.**
  o The convention includes the right to be heard, the right for their views to be considered.
- It **violates some provisions of Prohibition of Child Marriage Act (PCMA), 2006**
  o PCMA treats an underage marriage as valid as long as the minors involved in the marriage want it to remain valid.
  o It **has a provision that allows girls who elope with their partners to demand that their marriages are protected.**
  o This provision will be taken away with the implementation of the new law.

UNION MINISTER SHRI GIRIRAJ SINGH LAUNCHES MIS PORTAL FOR RANKINGS OF STATES/UTs IN LAND ACQUISITION PROJECTS

Recently, Union Minister for Rural Development and Panchayati Raj launched VIKAS Portal

- It is a Management Information System (MIS) portal for rankings of States/UTs in Land Acquisition Projects under **RFCTLARR**

Act, 2013. (**Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act,** 2013).
- **Aim:** To capture information on various parameters of land

acquisition, required for ranking of the State/UTs.

- It is a software-driven program to submit information by respective

State/UTs on land acquisition for developmental projects.

SC NOD TO BULLOCK CART RACES IN MAHARASHTRA

Recently, the Supreme Court allowed Maharashtra to resume bullock cart races in Maharashtra that were prohibited since 2017.

- It is on the basis of the amendments made by Maharashtra to the Prevention of Cruelty to Animals Act and the rules made under it.

Genesis of the issue:

- The Supreme Court had banned various animal sports in 2014 as they violated provisions of the Prevention of Cruelty to Animals Act (PCA).
  o The sport included post-harvest Jallikattu or bullfights in **Tamil Nadu** and bullock-cart racing in **Maharashtra, Punjab** and other states.
  o It struck down Tamil Nadu Regulation of Jallikattu Act, 2009.
  o It stated that **Bulls cannot be used as performing animals**, either for the Jallikattu events or bullock-cart races in the state of Tamil Nadu, Maharashtra and elsewhere in the country.
- The racing was banned due to a petition filed by **People for the Ethical Treatment of Animals (PETA)**.
- **Tamil Nadu** passed an amendment to the PCA Act on 2017 **exempting jallikattu.**

o **Karnataka** Assembly followed the suit and passed a similar amendment **exempting 'kambala'** (traditional buffalo racing) and bullock cart racing sports from the ambit of PCA Act.
  o Maharashtra Assembly also amended the PCA Act to permit the bullock cart race.
- The PETA petition contends that the new laws of 2017 violate the five internationally recognized freedoms:
  o freedom from hunger, malnutrition and thirst;
  o freedom from fear and distress;
  o freedom from physical and thermal discomfort;
  o freedom from pain, injury and disease;
  o freedom to express normal patterns of behaviour.

Constitutionality of the sporting games:

- Activities such as jallikattu and bullock cart races **form part of the cultural heritage of people** in Tamil Nadu, Karnataka and Maharashtra under **Article 29 (1) of the Constitution**.
  o Article 29 (1) mandates that "any section of the citizens residing in the territory of India or any part thereof having a distinct language, script or culture of its own shall have the right to conserve the same".

Various animal sports in India:

Bailgada Sharyat

- It is a traditional rural **bull-racing sport in Maharashtra.**
- It popularly known as '**chakkadi' and 'shankar path'.**
- A breed called **Khilar** is mainly used in the race.
- It is associated with **Ganpati festival** celebrated in the state and is seen as a status symbol and an integral part of the state's culture.

Jallikattu

- It is a **bull-taming sport** played in **Tamil Nadu** as part of the Pongal harvest festival.
- It is also known as '**eruthazhuvuthal'.**
- Here, a bull is released into a crowd of people, where people try to control the bull at the same time.
- '**Bos Indicus' breed** of bulls is used specifically for the sport.

Kambala

- Kambala is a **buffalo race** performed in a slushy paddy field.
- It is a popular traditional sport in Coastal regions of **Karnatak**a.
- Usually, the landlords compete against each other in this annual event.

Cockfights:

- A cockfight is a **blood sport** between two roosters, specially bred for the matches.
- Often a blade or knife is tied to their limbs to inflict injury on the opponent.

- There is evidence that cockfighting was a pastime in the **Indus Valley Civilization.**
- It is most commonly a **gambling game** where bets are placed on the winning rooster.
- It is common in the state of Andhra Pradesh, Jharkhand, Tamil Nadu and Kerala.

Bulbul Fights:

- It is organised during **Bihu (harvest festival)** in the Hayagriva-Madhava Temple in Hajo near Guwahati, Assam.
- **Often bulbuls are fed intoxicants** to make them aggressive.

Camel Race:

- It is held typically during the **Pushkar Camel fair in Rajasthan.**

Dog Fights:

- It is a **blood sport** that pits two dogs kept in cages without food for days, against one another for entertainment.
- It is held in the outskirts of Delhi and is often accompanied with illegal gambling/ betting.

Monkey Dance (Bandar aur Madari Ka Kartab)

- In this, a trainer makes the monkey dance to entertain the people, and earns money.
- It is banned in India.

Fox Darshan

- Fox Darshan is a r**itual** more than a sport.
- A village in **Periyakrishnapuram** had a tradition of a fox once a year during the Pongal Festival.

- Villagers find a fox, bring it to village and everyone dances and seek blessings.
- However, this ritual was banned some time ago.

The Prevention of Cruelty to Animals Act (PCA)

- It is an **Act of the Parliament of India** enacted in 1960.
- **Aim**: To **prevent the infliction of unnecessary pain or suffering on animals** and to amend the laws relating to the prevention of cruelty to animals
- It extends to the whole of India **except the State of Jammu and Kashmir.**

Key features

- Prevents unnecessary pain or suffering on animals.
- Enshrines **provisions for establishing the Animal Welfare Board of India,** its powers, functions, constitution, and term of the office of members of the Board.
- Enshrines the **guidelines regarding the experimentation on animals** for scientific purposes and empowers a committee to make rules with regards to such experiments.
- **Restricts the exhibition and training** of performing animals.

Provisions of the Act:

- The PCA Act, 1960 provisions **empower law enforcement agencies**, animal welfare workers, and citizens who care for animals to take action against the culprits.
  - **Section 11** of the PCA Act, 1960 deals with various forms of cruelties and atrocities perpetrated on both, domesticated and wild animals.
- It has 16 sub-sections dealing with the different forms of cruelty, under which a person is liable for a fine of ten rupees, which may extend to fifty rupees.

PRIVATE HOSPITALS TO BE TAGGED FOR BEING BREASTFEEDING-FRIENDLY

The **Breastfeeding Promotion Network of India** (BPNI) in collaboration with Association of Healthcare Providers of India (AHPI) has launched an accreditation programme called Baby Friendly Hospital Initiative (BFHI).

Highlights of Program

- It is an accreditation programme that will enable hospitals to get a **"breastfeeding-friendly" tag.**
- The certification process involves two stages:
  - The first stage includes self-assessment by a hospital.
  - Followed by an external assessment by an authorised appraiser who interviews doctors, nurses and patients as well as reviews different practices and training of staff.
- The initiative is **only for private hospitals** and is based on the Ministry of Health and Family Welfare's MAA programme for government hospitals launched in 2016
- Initiative will help mothers identify "breastfeeding-friendly" hospitals before they give birth.

Findings about India

- Early initiation of breastfeeding continues to be low in the country.
- According to **the National Family Health Survey-5 (2019-2021**), while there were 88.6% institutional births, **only 41.8% of infants were breastfed within the first one hour**.
- **Maharashtra, Karnataka, Gujarat, Uttar Pradesh, Jharkhand and Chhattisgarh** have shown a decline in the proportion of children breastfed within the first hour.
- Provision of mother's breast milk to infants within one hour of birth ensures that the infant receives the colostrum, or "first milk", which is **rich in protective factors.**

Baby Friendly Hospital Initiative

- It is a worldwide programme of the **World Health Organization and UNICEF**, launched in 1992 in India.
- **It aims** at improving the care of pregnant women, mothers and newborns at health facilities that provide maternity services for protecting, promoting and supporting breastfeeding.

The criteria for a hospital's Baby Friendly accreditation (2018) include:

- Comply fully with the International Code of Marketing of Breast-milk Substitutes and relevant World Health Assembly resolutions.
- Have a written infant feeding policy that is routinely communicated to staff and parents.
- Establish ongoing monitoring and data-management systems.
- Ensure that staff have sufficient knowledge, competence and skills to support breastfeeding.

Benefits of Breastfeeding:

- Breast milk provides ideal nutrition for babies.
- Breast milk contains important antibodies.
- Generates Stronger immune systems.
- Breastfeeding may reduce disease risk.
- Breast milk promotes baby's healthy weight.
- Breastfeeding may make children smarter.
- Mothers who breastfeed have a lower risk for depression.
- Breastfeeding reduces mother's disease risk.

International Initiative

- **Global Breastfeeding Collective:** It is a partnership of prominent international agencies calling on donors, policy makers and civil society to increase investment in breastfeeding worldwide**.**
- **The World Breastfeeding Costing Initiative (WBCi) launched in 2013,** attempts to determine the financial investment that is necessary to implement the **Global Strategy for Infant and Young Child Feeding (Global Strategy).**
- **World Breastfeeding Week Campaign 2021.**

INESCAPABLE RISKS OF MANDATORY IRON FORTIFICATION

Iron fortification of foods in India is a complementary strategy to dietary diversity but it has the risks associated with it, particularly in children.

National Nutrition Survey

- **National Nutrition Survey** evaluated the risk of high blood sugar, high blood lipids and high blood pressure in Indian adolescents.

Highlights:

- **Fortification** of any one staple (rice, wheat, or salt) will increase **serum ferritin**, without changing the **haemoglobin level**. There is a significant risk to health as serum ferritin increases.
- An additional 10 mg of iron/day increased **high blood sugar** prevalence by 2-14% across States of India, with similar findings for high blood pressure and high lipids.

Fortification of Food:

- Fortification is the **addition of key vitamins** and minerals like iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content.

Need for Fortification of Food:

- 70% of people in India do not consume enough **micronutrients** such as vitamins and minerals.
- 70 % of pre-school children suffer from anaemia caused by iron deficiency and 57 percent of preschool children have **Vitamin A deficiency**.
- **Neural Tube Defects** (NTDs) are the most common congenital malformation that varies between 0.5-8/1000 births.

Benefits of Fortification:

- Since the nutrients are added to staple foods that are widely consumed **to improve the health** of a large section of the population, it is an excellent way to improve the health of a large section of the population, all at once.
- It does not require any **changes in food habits** and patterns of people.
- It does not alter the **characteristics of the food**—the taste, the feel, the look.
- It can be implemented quickly as well as show results in improvement of health in a short period of time.
- The method is **cost-effective** especially if advantage is taken of the existing technology and delivery platforms.

Disadvantages of Food Fortification:
Not a Substitute of Good Nutrition

- Fortified foods contain **increased amounts of selected micronutrients**, they are not a substitute for a good quality diet that supplies adequate amounts of energy, protein, essential fats etc.

Might not benefit Infants and Children

- **A child will get nutrition** only if the lactating mother will be healthy and consumes adequate nutrition.
- After the six months complementary feeding is initiated, wherein infants and

children consume small amounts of food.

No access to Poorest Segment of the Population

- **Poorest segments** of the general population have restricted access to fortified foods in the open markets due to low purchasing power.

Not a Long-Term Solution

- **FSSAI** (Food Safety and Standards Authority of India) has titled food fortification as a complementary strategy rather than a replacement of balanced, diversified diets to address malnutrition.
- Fortification only bridges the gap between the need and actual consumption of required micronutrients through food.

Detrimental Effects

- **Fortified foods as a public health measure** should be promoted after analyzing the efficacies and micronutrient status of the population.
- Excess dosages of vitamins and minerals can have harmful effects.

AMENDMENT TO THE MULTI-STATE COOPERATIVES ACT, 2002

Union Home and Cooperation Minister announced that the Centre has decided to amend the Multi State Cooperative Societies (MSCS) Act, 2002.

Cooperative Society:

- It is an **autonomous association of persons** united **voluntarily** to **meet their common economic, social, and cultural needs** and aspirations **through a jointly-owned enterprise.**
- Cooperatives are **democratically owned by their members**, with each member having one vote in electing the board of directors.
- Cooperatives are a **state subject.**
- But there are **many societies** such as those for sugar and milk, banks, milk unions etc. whose members and areas of operation **are spread across more than one state.**

Multistate Cooperative Societies:

- It means a society **registered or deemed to be registered** under the **MSCS Act**, 2002 and includes a **national co-operative society and a federal co-operative.**
- The Act provides for the formation of both the types of cooperative societies viz;
  o **Primary** (with both individual and institutional members)
  o **Federal Cooperatives** (with only institutional membership)
- It is **not necessary** that a society should **have branches in more than one state.**
  o It may have branches limited to one state and it shall not cease to be a multi-state co-operative society, so long as it serves the interest of members in more than one state.

Powers:

- Their board of directors has **representation from all states they operate in.**
- **Administrative and financial control** of these societies is with the **central registrar.**

o **No state government official** can wield any **control on them.**

Multistate Societies in India:

- **Maharashtra** has the **highest** number of such societies.
- **Credit societies** constitute the **bulk of registered societies** followed by agro-based ones (which include sugar mills, spinning mills).
- There are 96 multistate cooperative dairies and 66 multistate cooperative banks.

Need for Amendment:

Lack of Transparency

- The system for state-registered societies includes **checks and balances** at multiple layers to ensure transparency in the process.
- These layers **do not exist** in the case of **multistate societies.**

o Instead, the board of directors has control of all finances and administration.

Lack of State Control:

- There is an apparent **lack of day-to-day government control** on such societies.
- Multistate cooperatives need not have to submit multiple reports to the state registrar, unlike state cooperatives.

Limited Powers of Central Registrar:

- The central registrar can only **allow inspection** of the societies **under special conditions.**
- The **on-ground infrastructure** for central registrar **is thin** — there are no officers or offices at state level, with most work being carried out either online or through correspondence.

GOVERNMENT APPOINTS THREE-MEMBER PANEL TO REVIEW EWS QUOTA

A three member-committee set up to examine the income criteria for determining the economically weaker sections (EWS) is expected to submit its report to the Centre within few days.

Why was the committee set up?

- It was set up to provide **an explanation for the basis for fixing an income limit** of Rs 8 lakh for granting reservation to EWS.
- o The Supreme Court questioned the income criteria for defining EWS, and made an observation that it appeared to be "**arbitrary".**
- o Reservation for Economically Weaker Sections (EWS) is being implemented in respect of

recruitment in government services and admission in educational institutions.

- The revisioning of the criteria is **in terms of the provisions of the explanation to Article 15** of the Constitution.
- o The 10% EWS quota was introduced under the **103rd Constitution (Amendment) Act, 2019 by amending Articles 15 and 16.**

Supreme Court termed the income ceiling arbitrary?

- The **income limit in the criteria for the determination** of the creamy layer of the OBC category and the EWS category **is the same**

- **8 lakhs. The creamy layer in Other Backward Classes (OBC) category** is known for excluding a section of the community that has 'economically progressed'.
  - o In other words, the income criterion in respect of the OBC category is aimed at exclusion from a class.
- **On the other hand, EWS category** is identified to include the segment which is 'poorer' when compared to the rest of the community.
  - o In other words, in the case of the EWS category, income criterion is aimed at inclusion.
- Hence, it is arbitrary to provide the same income limit both for the OBC and EWS categories.

When were the income criteria fixed?

- The Centre issued a **notification in 2019** implementing reservation criteria for postgraduate medical courses.
  - o It provided 10% reservation for EWS along with 27% for OBC within the all-India quota.
  - o It is set by the **Department of Personnel and Training (DoPT)** based on the 103rd Amendment to the Constitution.
- The 2019 notifications include:
  - o The criteria for **identification of Economically weaker Sections (EWS)**

  - o It also specifies what constitutes **income**,
  - o It also excludes some persons from the EWS category if their families possess assets specified in the notification.
- At present, those with an annual income below Rs 8 lakh fall in the EWS category.

Genesis of the reservation:

- **Economically Weaker Section** is a section of the society in India that belongs to the un-reserved category and has an **annual family income of less than 8 lakh rupees**.
- The government of India introduced a **10% reservation** to this category of people.
- EWS reservation was granted based on the recommendations of a commission headed by **S R Sinho** in 2005.
- The Sinho Commission recommended that:
  - o **all below poverty line (BPL) families within the general category** as notified from time to time,
  - o **all families whose annual family income** from all sources is **below the taxable limit**, should be identified as EBCs (economically backward classes).

AgNEXT ENTERS NORTHEAST; TO USE AI TECHNOLOGY FOR QUALITY ASSESSMENT OF LAKADONG TURMERIC

- AgNext Technologies, in partnership with Spices Board of India has deployed its innovative curcumin testing technology for assessment of Lakadong turmeric, which is grown in the Jaintia Hills, Meghalaya.

- Lakadong turmeric is globally considered to be one of the best quality turmeric.
- It has **high curcumin content** (between 7-12 %)

compared to other varieties of turmeric which have an average curcumin content of 3-5 %.

o **Curcumin is the key quality testing parameter of turmeric.**

RAJASTHAN: UDAAN SCHEME LAUNCHED, OVER 1.2 CRORE WOMEN TO GAIN IN PHASE

Recently, Rajasthan government launch **shakti udaan yojana** for women.

- **Aim**: To motivate women and adolescent girls to use sanitary napkins as well as to bring awareness related to their dignity, safety, and menstruation.
- 12 **sanitary napkins** per month will be distributed free of cost to every adolescent and female beneficiary in the age group of 10

to 45 years at anganwadi centres on each block.

- There would be **one stop centre** buildings for:
  o If a woman suffers any kind of violence,
  o Medical support,
  o Legal aid,
  o Temporary living space,
  o Mental and emotional support.

GOA CM LAUNCHES 'PINK FORCE' TO TACKLE CRIMES AGAINST WOMEN, KIDS, TOURISTS

Recently, Goa government launch pink force to tackle crimes against women, kids, tourists.

- **Aim**: It is A squad of women Goa Police officials tasked with acting in cases of crimes against women, children, and tourists.

- These forces will be available in the **coastal belt**, especially in places of tourist interest.
- This force will be available **24x7** and round the clock to **prevent crime.**
- Goa is the **first state** in the country to launch such a force.

WITCH HUNTING: 83% OF ODISHA'S CASES IN SIX DISTRICTS, SAYS REPORT

As per the National Crime Records Bureau (NCRB) Odisha has the 2nd-highest number of deaths due to witch-hunting in India after Jharkhand.
Highlights:

- Most of the victims in Odisha were targeted for causing **health issues or crop failure.**
  o **27 per cent** cases were triggered by health issues in children,

o **43.5 per cent** by health issues of an adult family member,
o **24.5 per cent** by misfortune or land grabbing.
o **5 per cent** due to crop failure.

- The practice of witch hunting and witch branding is mostly prevalent in 12 states of India-**Jharkhand,**

Bihar, West Bengal, Odisha, Haryana, Gujarat, Rajasthan, Madhya Pradesh, Uttar Pradesh, Assam, Chhattisgarh and Maharashtra.

Causes for prevalence of Witch Hunting in India:

- **Superstitious Beliefs-**
  o Deeply rooted superstitions and systems built on misogyny and patriarchy.
- **Lack of Education-**
  o People believe in old traditional Bej, Ojha or witch doctors due to lack of awareness and education.
  o Lack of awareness, literacy and the prevalence of caste system have exacerbated the violence.
- **Unequal socio-economic systems and gender inequality**.
- **Lack of medical facilities and resources-**
  o The village folks have a tradition of visiting witch doctor when they fall ill rather than seeking advice from qualified health practitioners, who in turn tell them that disease is an outcome of witchcraft.

Laws that are invoked for witch hunting punishment:
National Level:

- There is **no specific and particular national level legislation** that penalises witch hunting.
- Witch-hunting violates-
  o **Articles 14, 15(3), 15(4), 21, 51, 51A** of the Indian Constitution.
  o National legislations including **Protection of Human Rights Act, 1993**, **Scheduled castes** and **Sch**

eduled Tribes (**prevention** of **atrocities**) **Act**, **1989**

- Hence the provisions under the **Indian Penal Code 1860** are used as an alternative for the victim.
  o **Sec.302-** murder
  o **Sec307-** attempt for murder.
  o **Sec 376-** rape.
  o **Sec. 354-** outraging a woman's modesty.
  o **Sec 299-** Culpable homicide.

State Level:

- The Prevention of Witch Practices Act, 1999- **Bihar.**
- The Prevention of Witch Practices Act, 2001- **Jharkhand.**
- **Chhattisgarh** Tonahi Pratadna Nivaran Act, 2005.
- The **Odisha** Prevention of Witch Hunting Act, 2013.
- The **Maharashtra** Prevention and Eradication of Human Sacrifice and other Inhuman, Evil and Aghori practices and black magic Act, 2013.
- The **Karnataka** Prevention and Eradication of Inhuman Evil practices and black magic Act, 2017.
- The **Rajasthan** Prevention of Witch Hunting Act, 2015.
- The **Assam** Witch Hunting (Prohibition, Prevention and Protection Act) 2015.
  o **Aim-** to eliminate the superstition by making it as offence which is non-bailable, cognizable and non-compoundable.
  o The guilty shall be punished with up to **seven years imprisonment** and also fine up to **five lakh rupees.**

Suggestions to prevent witch hunting:
- The **school curriculum** needs to scale up scientific and rational attitude and may include reading material on health, superstition, and witch craft.
- **Children and adult audience** should be also shown the films which exposes superstition and shows the scientific aspects of magic, occult, witch craft.
- A **series of workshops** could be held with Traditional leaders as

they are widely respected in the tribal societies.
- Improved access to **health care services**.
- Women should be provided **legal education on witch hunting**.
- **National legislation criminalizing** witch-hunting is the need of the hour.
- **Appropriate investigation** must be done into a complaint by the police and other officials.
- The victims must be provided with **compensation** and **rehabilitation facilities**.

78% DRINKING WATER UNITS DID NOT HAVE NOC FROM GROUND WATER BOARD

The Comptroller and Auditor General has found that **2,475 of 3,189 packaged drinking water units** that were granted licenses by the Bureau of Indian Standards were operating without no-objection certificates from the Central Ground Water Board.

Keys:
- There is **no provision** in the Rules and Regulations of BIS for imposing the condition of obtaining NOC from CGWA before grant of license to Packaged Drinking Water units.
- **There is lack of facilities to monitor** the ground water level in the country.
- There was **shortage of human resources** in Scientific and Engineering categories in CGWB and its regional and divisional offices.
- The percentage of utilisation of ground water with respect to recharge, known as the 'stage of

extraction', was 63 % in the country.
- A 'stage of extraction' above 100 % indicates that extraction has surpassed recharge.

Central Ground Water Board (CGWB)
- It is subordinate office of the **Ministry of Water Resources,** Government of India.
- It was constituted under sub-section (3) of Section 3 of **the Environment (Protection) Act, 1986.**
- **Aim:** To provide scientific inputs for management, exploration, monitoring, assessment, augmentation and regulation of ground water resources of the country.

It has four wings:
- Sustainable Management & Liaison (SML),
- Survey, Assessment & Monitoring (SAM),
- Exploratory Drilling & Materials Management (ED&MM),

- Water Quality & Training and Technology Transfer (WQ&TT).

Function

- To conduct **micro level ground** water management studies, exploratory drilling programme.
- To monitoring of ground **water levels** and **water quality** through a network of ground water observation wells.
- To carried out **periodic assessment** of replenishable ground water resources of the country.

- To take up **special studies** on various aspects of ground water sector such as ground water depletion, sea water ingress, ground water contamination, conjunctive use of surface and ground water etc.
- To organizes various **capacity building** activities for personnel of its own as well as Central and state government organizations.
- To advise states and other user agencies on **planning** and **management** of ground water resources.

HC ISSUES DIRECTIONS FOR STREAMLINING JUVENILE JUSTICE DELIVERY SYSTEM

Delhi High Court has passed directions to streamline the functioning of juvenile justice delivery system.

Highlights of order

- **Quarterly review** of the progress of the **Individual Care Plan (ICP) and rehabilitation card** of children in conflict with **law must be carried out by the Juvenile Justice Board (JJB).**
  - o Under Juvenile Justice (Care and Protection of Children) Model Rules, 2016, the **Rehabilitation-cum-Placement Officer** is required to draw up a rehabilitation card.
  - o **JJB is mandated to monitor** the progress of the child based on the ICP and the card.
- All JJBs must **ensure post-release plan**.
  - o It is required to be drawn up **two months before** a child is due to leave a child care institution.

Juvenile Justice Board

- The Juvenile Justice Board is an institutional body **constituted under Section 4 of the JJ Act, 2015.**
- It has been included in the **State List** (List II, Schedule VII).
- **one or more than one Juvenile Justice Board(s)** are established by the State Government for each district.

Constitution of board

Composition of Bench under Juvenile Justice Act, 2015

- Metropolitan Magistrate or Judicial Magistrate First Class.
- Two social workers (one being a woman).

Powers

- The Bench shall have all the **powers conferred by the Code of Criminal Procedure, 1973** on a Metropolitan Magistrate or a Judicial Magistrate First Class.

- The Board constituted for any district shall have the power to **deal exclusively** with the proceedings under the Act:
  o In the **area of jurisdiction** of the Board.
  o In matters relating to **children in conflict with the law**.
- Board is empowered to **inquire into heinous offences** related to child.

Functions

- Ensuring informed **participation of the child & the parent or the guardian** throughout the process.
- Ensuring protection of the **child's rights** throughout the process of arresting the child, inquiry, aftercare and rehabilitation.
- Ensuring the availability of **legal aid for the child** through various legal services institutions.

- Providing a qualified **interpreter or translator to the child** if he/she fails to understand the language during the course of proceedings.
- **Ordering the police for registration of FIR** if any offence is committed against any child in conflict with the law.
- **Conducting a regular inspection of jails** meant for adults, to check if any child is lodged in such jails.
- Taking immediate measures for **the transfer of a child found in jails for adults**, to an observation home.
- **Conducting inquiry** for declaring that a certain person is fit for taking care of the child in conflict with the law.

NERCRMS LAUNCHES PRODUCTS UNDER THE BRAND NAME OF NAMDAPHA

North Eastern Region Community Resource Management Society (NERCRMS), in collaboration with Changlang Community Resource Management Society (CCRMS) has launched Local Brand Namdapha Goodness Pradesh named after iconic Namdapha National Park.

Objectives:

- To **boost the sale** of locally produced goods of the community-based organizations (CBO) members,
- To **improve the socio-economic condition** of the rural populace
- To **generate sustainable employment opportunities**.

Namdapha National Park:

- **Location**- Changlang district, Arunachal Pradesh, India.
  o It shares **international border** between India and Myanmar.
  o It lies close to the **Indo-Myanmar-China tri-junction**.
  o It is located **between the Dapha bum range** of the Mishmi Hills and the Patkai range.
- It is a **biodiversity hotspot** in the Eastern Himalayas.
- It is the **fourth largest national park** in India.
- Its name is a combination of two Singpho words "**nam**" means **water** and "**dapha**" means **origin** (river which

originates from Dapha Bum glaciers.)

Geography:

- It rises from **200 metres to 4,500** metres in the **snow-capped mountains.**
- It is crossed from east to west by the **Noa Dihing River** that originates at the Chaukan Pass.

Legal Status:

- **Wildlife Sanctuary**-1972
- **National Park and Tiger Reserve**- 1983

Vegetation:

- **Tropical evergreen forest**, temperate **broadleaf** and mixed **forest**.
- The park has extensive **bamboo forests.**

Climate: sub-tropical.

Flora:

- There are more than **1,000 floral species** and most of them are rare, endangered or endemic.
- Sapria himalayana and Balanophora are root parasites related to **Rafflesia** are found here.

- Some species, such as **Pinus merkusii** (Sumatran pine) and **Abies delavayi** (Delavay's Fir) are found nowhere else in India.

Fauna:

- It is only park in the World to have the **four Feline species** of big cats-
- o Tiger (Panthera Tigris)
- o Leopard (Panthera Pardus)
- o Snow Leopard (Panthera Uncia)
- o Clouded Leopard (Neofelis Nebulosa)
- Around **96 mammal species are found** here out of which 29 species are listed on Schedule I of the Wildlife (Protection) Act, 1972.
- **Major species-** Flying Squirrel, Marbled Cat, Spotted Linasang, Civets, Deer, Takin, Bamboo Rats, Hog Badge
- The region is very rich in **Lepidoptera species.**
- o It Includes Butterflies and moths.
- It also has the **largest population of Hoolock Gibbons** in India Forests.

KERALA'S SILVERLINE: WHY IT HAS BEEN PLANNED, WHY IT IS FACING PROTESTS

Protests are taking place across Kerala against Silverline railway project.

Silverline Project:

- It is a **semi high-speed rail corridor** that connects one end of Kerala to the other.
- o It will link Thiruvananthapuram in the south to Kasaragod in the north covering **11 districts** in **just 4 hours.**
- **Length-** 532-km
- **Deadline of project**- 2025

- **Project execution agency:** Kerala Rail Development Corporation Limited (**KRDCL**) or K-Rail.
- o It is a joint venture between the **Kerala government** and the **Union Ministry** of **Railways.**
- The Kerala Infrastructure Investment Fund Board (**KIIFB**) has sanctioned **Rs 2,100** crore for the project.

Need of the project:

- **Reason-** Most trains run at an average speed of 45 km/hr due to a lot of curves and bends on the existing stretch.
- The Silverline project can take a **significant load of traffic**.
- It can make **travel faster** for commuters.
- It will **reduce congestion** on roads and help reduce accidents.
- It will also **reduce greenhouse gas** emissions.
- It helps in expansion of **Roll on Roll Off service** (Ro-Ro) services.
  - It is a concept in which an open flat railway wagon carries road vehicles loaded with various commodities
- It will produce **employment opportunities**.

- It will help in **integrating airports and IT corridors**, and enable faster development of cities.

Controversy Around Project:

- The project is financially **unviable** and **would lead to displacement** of over 30,000 families.
- It would **cause great environmental harm** as its route cuts through precious wetlands, paddy fields and hills.
- The building of embankments will **block natural drainage** and **cause floods** during heavy rains.
- A petition signed by 17 Opposition MPs from the state and has urged the government to abandon the project and explore **sustainable solutions**.

ENERGY CONSUMPTION, RELATED EMISSIONS EXPECTED TO INCREASE THROUGH 2050: IEA

Recently, 'Renewables 2021' was recently launched by International Energy Agency.

PM-KUSUM:

- **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan** was cleared by the Union Cabinet in February 2019.
- **Aim**: To provide water and energy security to farmers and enhance their income.
- Under the scheme, 30.8 GW **solar power capacity** is targeted by 2022 with Central assistance of ₹34,035 crore.
- As on November 30, 2021, the total of 4,909 megawatts (MW) of solar power was sanctioned and 20 MW has been installed.

- Upside potential in the programme also exists if financing and implementation challenges are resolved.

Highlights:

- The **KUSUM programme** supporting solar photovoltaic (PV) deployment in rural areas has a target of commissioning about 31GW of photovoltaic (PV) capacity until 2024.
- Due to **financing and implementation challenges**, it will reduce about 10 GW over 2021-2026.

Renewable Electricity Growth:

- India is expected to add **121 GW of renewable capacity over 2021-**

2026, an 86% increase on existing capacity.

o This will make India the **third-largest growth market** globally after China and the United States.

- **China and the European Union** are set to overshoot their current targets, setting the stage for a more ambitious growth trajectory.

- Relative to existing capacity, **renewable power** is growing faster in India than any other key market in the world.

Demand for Biofuels:

- Asia is set to overtake Europe as **India and Indonesia** lead renewed growth in global demand for biofuels.

It accounts for 30% of new production overtaking European biofuel production by 2026.

- This is due to strong domestic policies, growing liquid fuel demand and export-driven production.

- Recent **Indian ethanol policies** and blending targets for biodiesel in Indonesia and Malaysia are responsible for most of the growth in Asia.

- India is set to become the **third largest market** for ethanol demand worldwide by 2026.

Suggestions:

Governments need to address four main barriers to **accelerate renewables deployment**.

- **For wind and solar PV projects** in advanced economies,

various challenges to permitting and grid integration have led to lower-than-planned capacity.

- **In emerging and developing economies**, stop-and-go policies, lack of grid availability and risks concerning off-takers' financial health are hurting investor confidence, resulting in elevated financing rates.

- **Lack of remuneration** and targeted policy support for flexibility are an issue in all countries.

- Challenges concerning **social acceptance of wind and hydropower projects** caused an increasing number of countries to delay or cancel planned projects.

Renewables need to Grow Faster

- **Renewable energy capacity** needs to grow faster to close the gap with a pathway to net zero by 2050.

o For solar PV and wind, average annual additions would need to be almost double over the next five years.

- To align with the **Net Zero Emissions** by 2050, countries would need to implement existing and planned policies before 2026.

o These Policies must incentivise greenhouse gas reductions, not just biofuel demand.

- Governments must strengthen their policy focus on **dispatchable renewable electricity** and renewable energy use in buildings, industry and transport.

DR. SUBHAS SARKAR RELEASES THE HINDI TRANSLATION OF TOLKĀPPIYAM AND THE KANNADA TRANSLATIONS OF 9 BOOKS OF CLASSICAL TAMIL

LITERATURE, HAILS THE RICH HERITAGE OF TAMIL LITERATURE AND CULTURE

Minister of State for Education released the Hindi translation of Tolkappiyam.

Sangam literature:

- Sangam literature is the name given to the **earliest available Tamil literature**.
- The Sangam age roughly extends between **300 BC and 300 AD.**
- The word 'Sangam' means **association.**
  - Here, it implies an association of Tamil poets that flourished in ancient southern India.
- The **three chief** Tamil **kingdoms** of this period were the:
  - **Cheras**
  - **Cholas**
  - **Pandyas.**
- According to the context and interpretation, Sangam literature is divided in 2 sections:
  - **Aham:** It includes feelings about love, relations etc.
  - **Puram:** It includes heroism, social life, etc.

Some of the most notable works during the Sangam age are:

Tolkappiyam:

- It was composed by **Tolkappiyar.**
- It is the **oldest extant Tamil** work till date.
- It discusses **Tamil grammar** and also offers information on **social life, human psychology**, political and economic conditions during the Sangam Age.
- **Influence of Sanskrit** on this work is peripheral and **very little.**

Silapathikaram:

- It was composed by **Ilango Adigal.**
- The story revolves around an **anklet**.
  - The name means the tale of an anklet.
- The poem gives **insight into** contemporary **Tamil society**, **polity**, values and social life of the people.

Manimekalai:

- It was composed by **Chithalai Chathanar.**
- It is a **sequel to Silapathikaram**.
- The author's aim was to **propagate Buddhism** in South India as the work espouses the values of Buddhism over other religions of the time.

Patinenmelkanakku:

- The **Eighteen Greater Texts**, known as Patinenmelkanakku, is the collection of the **oldest surviving Tamil poetry.**
  - This collection is considered part of the Sangam Literature.
- It is a series of **eighteen major anthologies**, which includes the **Eight Anthologies (Ettutokai)** and the **Ten Idylls (Pattuppattu).**
- The songs are set in the **Akaval style**.

ART, AN IMPORTANT INSTRUMENT TO TELL THE STRENGTHS OF INDIA: FM SITHARAMAN

Recently, the Central Finance minister stated that Students from various states of India should learn more about **Kalakshetra Foundation**.

Kalakshetra Foundation

- It is an art and cultural academy dedicated to the preservation of traditional values in Indian art and crafts, especially in the field of **Bharatanatyam dance** and **Gandharvaveda music.**
- It is a renowned training institute for the **classical dances of India**.
- **Aim:** To train and encourage young artists and to revive Bharatanatyam, the classical dance form of Tamil Nadu.

Rukmini Devi Arundale (1904 – 1986)

- She was an Indian classical dancer who led the renaissance of the '**Bharatnatyam**' dance form.
- She founded the **Kalakshetra Foundation in Madras**.
- She was also a theosophist who was greatly inspired by Annie Besant, **the Theosophical Society's British co-founder, and president**.
- She was nominated as a member of the Indian Parliament's Council of States (the Rajya Sabha) in **1952**.
  - o She was the **first Indian woman to be nominated in Rajya Sabha.**
- She removed the inherent eroticism of Sadhir dance to make it palatable to Victorian British morality and Indian upper-caste elites.
- She became the President of the **All-India Federation of Young Theosophists** in 1923 and the President of the **World Federation of Young Theosophists** in 1925.

Awards & Achievements

- She was honored with the **Padma Bhushan**, the third-highest civilian award of India, in 1956, for her contribution to arts.
- The **Sangeet Natak Akademi Puraskar**, the highest Indian recognition given to practicing artists, was bestowed upon her in 1967 by the **Sangeet Natak Akademi**.
- The Animal Welfare Board of India presented her with the '**Prani Mitra**' award in 1968 for her work as an animal rights activist.

KARNATAKA ASSEMBLY PASSES ANTI-CONVERSION BILL AMIDST PROTESTS

The Karnataka legislative Assembly has passed The Karnataka Right to Freedom of Religion Bill, 2021, commonly referred to as the anti-conversion Bill.

The Karnataka Right to Freedom of Religion Bill, 2021

- It **prohibits conversion** from one religion to another by misrepresentation, force, fraud, allurement or marriage.
- However, it provides an **exemption** for those who **reconvert to his immediate previous religion**.
  - o **Reconversion shall not** be deemed to be a conversion under this Act.
- **Family members or any other person** who is related to the individual, who is getting

converted, can **file complaint** regarding conversion.

- **Punishment:**
  - **Conversion from general category,** a jail term **of three to five years and a fine of Rs 25,000** has been proposed for those violating the law.
  - **Conversion from SC/St category,** a jail term of three to 10 years and a fine of Rs 50,000.
  - **Double punishment** for repeat offence.
- **Compensation:** It envisages payment of **Rs 5 lakh (on court orders) to victims of conversion** by the persons attempting the conversion.
- The offence of conversion has been deemed to be a **cognizable and non-bailable**, that can be tried in a magistrate's court under the proposed law.
- **Marriages** conducted with the intention of conversion can be **declared null and void** by a family court or a jurisdictional court.
- Any person intending to convert to another religion **after the law comes into force** will have to **notify the district magistrate two months in advance**.
- The person who is carrying out the conversion must provide **one-month notice** to district magistrate.
- District magistrate **must conduct an enquiry** through the police on

the **real purpose of the conversion.**

- **Not informing the authorities** will result in a prison term of **six months to three years for persons who convert**, and a term of **one to five years for those carrying out conversions.**
- The person **who gets converted to inform the district magistrate** of the conversion **within 30 days**, and he/she **must appear before the district magistrate** to confirm their identity.
  - **Not informing the district magistrate** will lead to the conversion being declared **null and void.**

Violation of Constitutional provision

- It **violates the constitutional guarantee of equality** because making religious conversions the sole ground for terming the marriage as void.
- It **violates article 15** which mandates that the state shall not discriminate against any citizen on grounds **only of religion, race, caste, sex, place of birth or any of them**.
- **Article 25 of the Constitution of India** guarantees the freedom to profess, propagate, and practice religion, and allows all religious sections to manage their own affairs in matters of religion; subject to public order, morality, and health. Thus, it is in contrast with Article 25.

MOHUA LAUNCHES ROADMAP TO MAKE URBAN INDIA 'GARBAGE FREE'

Ministry of Housing and Urban Affairs (MoHUA), has launched the 'Azadi@75 Star Rating Protocol of Garbage Free Cities- Toolkit 2022'

Highlights

- It is a protocol of waste management for garbage free cities.
- Aim- To give effect to the vision of creating "**Garbage Free Cities**" (GFC) under Swachh Bharat Mission-Urban 2.0.
- A total of 299 cities have been certified–
  - 9 cities rated as **5-star,**
  - 143 cities rated as **3-star**
  - 147 cities **as 1-star**

Points of protocol-

- The earlier 25 components/ indicators have now been reduced to 24,
  - Only **16 indicators** are mandatory for 1-star and 3-star levels.
  - The **remaining 8 indicators** will be relevant for 5-star and 7-star aspirants.
- Multi-step calculation of the previous GFC protocol has now been changed to a **single step marking.**
- Higher weightages (**50%)** allotted to Door-to-Door Collection, Source Segregation, Waste processing & Dumpsite remediation;
- The entire process of applying for certification and subsequent assessment have been simplified and made completely digital.
- **Capacity building**, **revenue from sale of waste by-products** have been added to strengthen the waste management system.

- Continuous assessment has been introduced to help cities plan assessment.

Swachh Bharat Mission Urban 1.0

- Swachh Bharat Mission is a **nation-wide campaign** in India.
- **Launched**- 2014
- **Phase 1** of the mission lasted till October 2019. Phase 2 has been implemented between 2020–21 and 2024-25.
- **Objectives-**
  - **Eliminating open defecation** through the construction of household-owned and community-owned toilets.
  - Establishing an accountable mechanism of monitoring toilet use.

Achievements of SBM-U

- **4,324 urban local bodies** have been declared Open Defecation Free through the construction of more than 66 lakhs individual household toilets and over 6 lakhs community/public toilets.
- Digital enablements such as **Swachhata App** has introduced by MoHUA in 2016.
  - It is the digital grievance redressal platform
- **Swachh Survekshan**, the world's largest urban cleanliness survey covering over 4,000 Urban Local Bodies was initiated under SBM-Urban in 2016.

Swachh Bharat Mission-Urban 2.0

- **Launched**- 2021
- **Nodal Ministry-** Ministry of Housing and Urban Affairs (MoHUA)
- **Implementation year**-2021 to 2026

Objectives-

- To tap other aspects under the Swachh Bharat mission including safe containment, transportation, disposal of faecal sludge, and septage from toilets.
- All **wastewater will be treated** properly before it is discharged into water bodies, and the government is trying to make maximum reuse a priority.
- It also focuses on source segregation of garbage, reduction in single-use plastic.
- To ensure complete access to **sanitation facilities.**

Consequences of mission:

- All statutory towns will become (open-defecation free) **ODF+ certified**.
- All statutory towns with less than 1 lakh population will become **ODF++ certified** (focus on toilets with sludge and septage management).
- 50% of all statutory towns with less than 1 lakh population will become **Water+ certified.**
- All statutory towns will be at least 3-**star Garbage Free rated** as per Star Rating Protocol for Garbage Free cities.
- **Remediation** of all legacy dumpsites.

MADAN MOHAN MALAVIYA BIRTH ANNIVERSARY: PM MODI PAYS TRIBUTE TO SOCIAL REFORMER

Recently, Prime Minister paid tribute to Pandit Madan Mohan Malaviya on his 160th birth anniversary.

Pandit Madan Mohan Malaviya

- He was born on 25 December 1861 in **Prayagraj**.
- He was an Indian scholar, educational reformer and politician notable for his role in the Indian independence movement.
- He was respectfully addressed by the title **Pandit**.
- He was addressed as **Mahamana**, a tile conferred to him by **Rabindranath Tagore.**

Pre-independence:

- As a **freedom fighter**:
  - He was a part of Mahatma Gandhi's **Salt Satyagraha** and **Civil Disobedience Movement** after which he was also arrested.
  - He was an important figure in the **Non-cooperation movement.**
- As the **president of Indian National Congress.**
  - He became the President of the Indian National Congress in 1909, 1918, 1930 and 1932.
  - He was the only leader of the Indian National Congress who was appointed as its president for **four terms before** independence.
- As a **moderate** leader:
  - He was a moderate leader and **opposed the separate electorates** for Muslims under the Lucknow Pact of 1916.

- He was **opposed to the politics of appeasement** and the participation of Congress in the Khilafat movement.
- As a **journalist**:
  - He started his journalistic career as the Editor of the Hindi daily **Hindostan** in 1887.
  - He became the Editor of the "**Indian Opinion**".
  - He also founded a highly influential English newspaper, **The Leader** published from Allahabad in 1909.
  - He started the Hindi paper '**Maryada**' in 1910.
  - He was also the Chairman of **Hindustan Times** from 1924 to 1946.
  - His poems (sawaiyas) were published under the pseudonym of '**Makrand**' in 'Harischandra Chandrika' magazine.
  - In 1933, Malaviya started **Sanatana Dharma** from BHU, a magazine dedicated to religious, dharmic interests.
- **As an advocate:**
  - He defended for 177 freedom fighters in the Chouri-choura case.
  - He was also **successful legislator** who served as a member of the **Imperial Legislative Council** for 11 years from 1909 to 1920.

- He was a delegate at the Second Round Table Conference in 1931.
- He started the **Congress Nationalist Party.**
  - In protest **against the Communal Award** which sought to provide separate electorates for minorities, Malaviya along with Madhav Shrihari Aney left the Congress.
  - The party contested the 1934 elections to the central legislature and won 12 seats.

Contributions:

- He was also the founder of **Akhil Bharatiya Hindu Mahasabha**.
- He co-founded of the **Banaras Hindu University** at Varanasi in 1916.
  - It was created under the B.H.U. Act, 1915.
  - It is the largest residential university in Asia.
- He was one of the **founders of the Bharat Scouts and Guides.**
  - His Scouting inspired organization known as the **Seva Samithi.**
- He was the one who popularized the term '**Satyamev Jayate**' which means 'Truth Alone Triumphs'.

Recognitions:

- He has been posthumously conferred with the prestigious **Bharat Ratna** in 2014.
- **The Mahamana Express train**, was named after him.
- The Indian Post issued **stamps** in his honour in 1961 and 2011 to

celebrate his 100th and 150th birth anniversaries, respectively.

MAHARASHTRA CLEARS SHAKTI LAW UNANIMOUSLY

The Maharashtra Assembly **unanimously cleared** the **Shakti Criminal Laws** (Maharashtra Amendment) Bill, 2020, on **crimes against women and children**.

Features

- The Bill introduces **death penalty for certain offences** against women and children such as rape.
- Punishment for certain offences such as providing false information and throwing acid has been enhanced.
- Punishment for acid attack causing grievous hurt:
  o **Under Section 326A**, the punishment has been **enhanced to a minimum of 15 years** which **can be extended to the remainder of the natural life** of the perpetrator along with fine.
  o **Under section 326B**, **voluntarily** throwing acid or attempting to throw it, punishment has been **enhanced to a minimum of seven years and a maximum of ten years**.
- **Punishment between 1-3 years and a fine of up to Rs 1 lakh** for any person for filing false complaint or providing false information in cases of rape, sexual harassment and acid attacks.
- The Bill proposes a **shorter timeline for the investigation**, trial, and disposal of appeal of certain offences.

o Investigation to be completed **within a month of the FIR which can be extended** by **another month** by the concerned Special Inspector General of Police or Commissioner of Police **only for specific reasons given in writing**.
o **Trial** to be conducted on a **day-to-day basis** and completed **within 30 working days** from the date of filing of the charge sheet.
- A separate provision under the law **for sexual harassment**.
o **Section 354E** has been inserted to the IPC for **intimidation of women** by any mode of communication, in addition to insulting modesty.
o It will be punishable for a maximum of **two years and a fine up to Rs one lakh**.
- The Bill extends **Disclosure of identity provision** to other offences committed against women such as sexual harassment, voyeurism, and stalking.
- Laws for social media platforms and mobile data companies:
o Now these companies have to **share data sought for the purposes of investigation** in cases of rape, sexual harassment, acid attacks and relevant provisions under the POCSO Act **within three working days**.
o Failing to comply with the rules, there is **imprisonment for a maximum of three**

months and/or a **fine of Rs 25 lakh**.

Punishment for certain offences under the Acts and the Bill (minimum – maximum punishment)

Issues

- The Bill provides for **mandatory death penalty**, which **has been held to be unconstitutional**.
  - **The Supreme Court has ruled in Mithu vs. State of Punjab** that **mandatory death penalty** for an offence **violates Article 14** (right to equality) and **Article 21** (right to life) of the Constitution.
- **Shorter timeline** for investigation and trial **may not be sufficient** to complete the relevant procedures.
  - The Bill proposes that the **investigation for offences** such as **rape, gang rape** be completed **within 15 working days** after an FIR is filed.
- **Obligations** have been placed on **data intermediaries and custodians to share data** for investigation, **without any safeguards**.
- The timeline for **investigation of sexual intercourse offences by a husband** during separation, or by a person in authority **has not been reduced**.
- Bill propose to introduce some strict punishment for some offences. However, for all these offences, **punishment** under the **IT Act is more stringent than the punishment envisaged by the Bill.**

DRONES TO MONITOR ILLEGAL LIQUOR MANUFACTURING IN BIHAR

Drones will be used to monitor illegal liquor manufacturing in Bihar.

What is illegal liquor

- The **Indian liquor industry** is divided into two broad segments: Indian Made Foreign Liquor (IMFL) and country-made liquor.
- **IMFL** comprises alcoholic beverages that were developed abroad but are being made in India.
- A country made liquor comprises alcoholic beverages made by **local breweries.**
  - Illegal liquor also called **hooch**.
  - **Ingredients:** Battery acid and methyl alcohol a chemical solvent used as furniture polish.

Key Facts

- India is the **second biggest** consumer for alcohol in the world after China.
- India consumes more whiskey than any other country in the world
  - It is about **three times** more than the US.
  - Nearly **one in every two** bottles of whiskey brought around the world is now sold in India.
- Indian states are highly dependent on **alcohol taxes**, which can account for as much as a quarter of their revenues.
  - Five southern states Andhra Pradesh, Telangana, Tamil Nadu, Karnataka and Kerala account for **more than 45%** of all liquor sold in India.

Suggestions

- Combination of price controls and **awareness campaigns** would be most effective in tackling the adverse effects of harmful drinking.
- The governments should reduce dependence on **liquor revenues**.

- There should be continued **monitoring** of illicit trade and robust evidence on illicit alcohol trade.
- It is essential to continue building awareness among **policy makers** of the intersection of alcohol regulation, illicit trade and public welfare.

RYTHU BANDHU, TELANGANA GOVT'S DBT SCHEME FOR FARMERS' ASSISTANCE

Recently, the State government transferred money to farmers through Direct Benefit Transfer (DBT). Rythu Bandhu is a DBT scheme for farmers, by the Telangana state government.

- Under Rythu Bandhu, the state is crediting Rs 5000 per acre per season into bank accounts of land-owning farmers ahead of Rabi and Kharif seasons.

Direct Benefit Transfer (DBT):

- DBT is a Government of India Scheme aimed to improve subsidy administration.
- DBT is also known as **cash benefit transfer.**
- It was started in 2013.
- Under DBT, funds released by government bodies are **directly transferred into the bank account of beneficiaries by digital way.**
- Initially, DBT Mission was created in the Planning Commission. But from 2015 has been placed in Cabinet Secretariat under Secretary (Co-ordination & PG).
- Though **JAM Trinity** i.e. Jan Dhan, Aadhaar, and Mobile are DBT enablers, **Aadhaar is not mandatory in DBT schemes.**

Components of DBT:

- It includes Beneficiary Account Validation System, a robust payment and reconciliation platform integrated with RBI, NPCI, Public & Private Sector Banks, Regional Rural Banks and Cooperative Banks (core banking solutions of banks, settlement systems of RBI, Aadhaar Payment Bridge of NPCI) etc.

Application of DBT in different areas:

- Direct Benefit Transfer (Central / State Government schemes)
- DBT on LPG **(Pahal scheme)**
- DBT under MGNREGA (MGNREGA covered under DBT)

Significance of DBT:

- It will bring **efficiency, effectiveness, transparency, and accountability** to the Government system. It will also infuse the **confidence of citizens in the governance** by **reducing fraud**.
- **Quick and easy delivery of services**, **reducing the burden of government**, etc, have been possible due to DBT.

- Due to DBT, **support to Indian masses at a large scale was possible, in Covid times**.
- The use of Information Technology (IT) tools under DBT will also ensure **Maximum Governance Minimum Government.**

Challenges of DBT:

- Low Aadhar seeding rate (i.e., linking Aadhaar number with
-

Personal Identification Documents or Benefit Cards)
- Negligence of population towards banking practice in India.
- Poor implementation and slow grievance redressal
- Poor Center state co-ordination
- Barriers in automation and digitalization

'NPS SUBSCRIBERS MAY CHANGE INVESTMENT PATTERN 4 TIMES A YEAR SOON'

The Pension fund regulator and Development Authority (**PFRDA**) will soon allow subscribers of the **National Pension System** (NPS) scheme to change investment patterns as many as four times during a financial year.

National Pension System

- e **National Pension System** (NPS) is being administered and regulated by **Pension Fund Regulatory and Development Authority (PFRDA)** set up under PFRDA Act, 2013.
- Under NPS, a unique **Permanent Retirement Account Number (PRAN)** is generated and maintained by the **Central Recordkeeping Agency** (CRA) for an individual subscriber.
- On retirement, a **minimum of 40% of the corpus** is mandatorily utilized to procure a pension for life by purchasing an annuity from a life insurance company.
  - The balance corpus is paid as a **lump sum.**

Types of Account

Tier-I

- Tier-I account is the pension account having restricted withdrawals.

Tier-II

- Tier-II is a voluntary account that offers liquidity of investments and withdrawals.

Eligibility

- Applicant must be a citizen of India.
- Applicant should be between 18 - 70 years of age as of the date of submission of his/her application to the Point of Presence - Service Providers (POP/ POP-SP).

Advantages of NPS

- **Flexible:** NPS offers a range of investment options and choices of Pension Fund Manager (PFMs) for planning the growth of your investments reasonably and seeing money grow.
- **Portable:** NPS provides seamless portability across jobs and locations, unlike all current pension plans, including that of the EPFO.
- **Ease of Access:** The NPS account is manageable online. An NPS

account can be opened through the eNPS portal.

Pension Fund Regulatory and Development Authority (PFRDA)

- **PFRDA** is the regulatory body under the jurisdiction of the **Ministry of Finance, Government of India** for overall supervision and regulation of pension in India.
- **The Pension Fund Regulatory & Development Authority Act** was passed in 2013 and the same was notified on **1 February 2014**.
- **Aim:** To be a model Regulator for the promotion and development of an organized pension system to serve the old age income needs of people on a sustainable basis.
- **Structure:** The Authority consists of a Chairperson and not more than six members, of whom at least three shall be whole-time members, to be appointed by the Central Government.

OP PARIVARTAN WIPES OUT 90% OF GANJA CROP IN AGENCY

Under operation parivartana, Special Enforcement Bureau (SEB) and the police have destroyed ganja crop in Andhra Pradesh.

- **It was launched by the Andhra Pradesh police.**
- **Aim: To curb the supply side of the ganja menace** and create awareness on the consequences of the illegal trade and provisions under **the Narcotic Drugs and Psychotropic Substances Act, 1985.**
- These operations also include to educate growers on **alternative crops**.

R-VALUE OVER 1 IN BIG CITIES, LIKELY START OF THIRD WAVE

Recently, it is reported that R-Value is over 1 in some Indian cities like Delhi, Pune, Mumbai.

R-Value:

- **R-value** or Reproduction number (R) value is also known as the R-factor or reproduction rate.
- R-Value is an **indicator of how quickly a disease is infecting and spreading in the population**.
- o If R-value is 1, then it means that every infected person is passing on the infection to at least one person on average.

ENVIRONMET

CLIMATE DISASTERS DISPLACE MORE PEOPLE THAN CONFLICTS NOW: WORLD MIGRATION REPORT 2022

Recently, World Migration Report 2022 was launched by the International Organization for Migration (IOM) of the UN.

- It is published **every second year** by IMO.

Key findings of the report:

- Most of the new displacement is triggered by **climate related events and disasters like storms, extreme temperature, drought** etc.
- **Internal displacement rose to 40.5 million**, up from 31.5 million in the year before.
- The **number of migrants crossing international borders has grown** globally to 281 million in 2020.
  o Number of international migrants for 2020 was lower, by around 2 million, than it otherwise would have been without the pandemic.

- **Overall increase in remittances** is $702 billion in 2020.
  o **India, China, Mexico, the Philippines and Egypt** were the top five remittance recipient countries.
  o The remittances were obtained from high-income countries like United States, United Arab Emirates, Saudi Arabia, Switzerland, and Germany.

Regions of migration:

Top 3 regions with highest shares of international migrants: Oceania (22 %), North America (16 %) and Europe (12 %).

- o **Regions with smaller shares of international migrants**: Asia (1.8 %), Africa (1.9 %), Latin America and the Caribbean (2.3%).
- **Asia experienced the most remarkable growth, followed by Europe, North America and Africa.**

CYCLONE JAWAD UPDATES: HEAVY RAINS LASH ODISHA, STORM LIKELY TO WEAKEN FURTHER TODAY

Heavy rains lashed coastal Odisha as cyclonic storm Jawad weakened into depression.

Cyclone Jawad:

- Cyclone Jawad is a **cyclonic storm formed out of a deep depression in Bay of Bengal.**
- It has wreaked damage to states of **Odisha and West Bengal.**
- It is pronounced as 'Jowad', meaning generous or merciful in Arabic.
  o It was **named by Saudi Arabia.**

What is a cyclone?

- **A Cyclone** is a **system of winds rotating inwards at a high speed with the area of low pressure in the middle.**

How are cyclones formed?

- **Tropical cyclones form only over warm ocean waters near the equator.**
- Warm moist air over the ocean rises upward from near the surface, causing an area of lower air pressure below.
- Air from surrounding areas with higher air pressure **pushes into the low-pressure area.**
- Then this new "cool" air becomes warm and moist and rises, too.
- As the warm moist air rises and cools, it **forms clouds.**
- The whole system of clouds and wind **spins and grows**, fed by the ocean's heat and water evaporating from the ocean surface.
- As the storm system rotates faster and faster, an **eye forms in the centre**. It is very calm and clear in the eye, **with very low air pressure**. Higher pressure air from above flows down into the eye.

Weakening of Tropical cyclones

- Tropical cyclones usually weaken **when they hit land**, because they are **no longer being fed by the energy from the warm ocean waters.**
- However, they often move far inland, causing mild to heavy rainfall and other damages caused by winds.

Cyclone Categories

As per Saffir-Simpson Hurricane Scale

- When the winds in the rotating storm reach 39 mph (63 kmph), the storm is called a **tropical storm**.
- When the wind speeds reach 74 mph (119 kmph), the storm is officially a **tropical cyclone** or **hurricane.**
  o The tropical cyclones that **form over the Atlantic Ocean or eastern Pacific Ocean** are called hurricanes.

As per Indian Meteorological Department (IMD)

How are cyclones named?

Global Naming

- The World Meteorological Organisation (WMO) **maintains rotating lists of names**, which are appropriate for each tropical cyclone basin.
  o **Six lists are used in rotation.** Thus, the 2019 list will be used again in 2025.s
  o Naming of cyclones was started with a **treaty in 1953** in the Atlantic region.
- Cyclones that form in every ocean basin across the world are named by the **Regional Specialised Meteorological Centres (RSMCs) and Tropical**

Cyclone Warning Centres (TCWCs).

- There are **five tropical cyclone regional bodies.**
  o ESCAP/WMO Typhoon Committee.
  o WMO/ESCAP Panel on Tropical Cyclones.
  o RA I Tropical Cyclone Committee.
  o RA IV Hurricane Committee.
  o RA V Tropical Cyclone Committee

Names of Cyclones in India & the neighbourhood

- In the Indian Ocean region, the name of cyclone system started **from 2004.**
- The responsibility of naming cyclones is handled by the **World Meteorological Organisation (WMO) and UN Economic and Social Commission for Asia and Pacific (UN ESCAP)** led panel.
  o This panel is a global body that **constitutes regional specialised meteorological centres (RSMC)** and tropical cyclone warning centres.

  o The India Meteorological Department is among the six RMCs across the globe.
- The **IMD names the cyclones developing over the north Indian Ocean, including the Bay of Bengal and the Arabian Sea.**
- WMO and ESCAP compromises Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka Iran, Qatar, Saudi Arabia, United Arab Emirates, Yemen and Thailand
  o The countries sent in suggestions and the WMO/ESCAP Panel on Tropical Cyclones (PTC) finalise the list.
  o Alphabetical listing is done and the storm cyclones are named after the suggested name.
- The next name of the cyclone will be **'Asani'** given by Sri Lanka, while the one following that will be called **'Sitrang'**, a name suggested by Thailand.

LANDSLIDE EARLY WARNING SYSTEM – LEWS

- India is developing an **early warning system for landslides** that would help save lives and prevent damage to property.
- The prototype, **LEWS,** is being developed by the **Geological Survey** in collaboration with its

British counterpart under the aegis of the National Environmental Research Council's **LANDSLIP** project.
- It is based on **rainfall thresholds since 2017**.

₹48,000 CRORE RELEASED TO 32 STATES FOR AFFORESTATION

Recently, Compensatory Afforestation Fund Management and Planning Authority has so far disbursed ₹48,606 crores to 32 States for afforestation.

Compensatory afforestation?

- Compensatory afforestation has been provisioned by the **Forest Conservation Act of 1980**.

- o It mandates that whenever a forest land is diverted for **non-forestry purposes**, equivalent non-forest land must be identified for compensatory afforestation.
- o In case when such land is not available, then **have to pay for twice the area** of degraded forest land.
- This is money **paid by developers** who have raised forest land for their construction projects.
- o The idea is that such land destroyed needs to be made good by regenerating forest elsewhere on non-forest land.

CAMPA Fund

- In 2009, the **Supreme Court permitted release of Rs.1000 crore every year to States/UTs** for compensatory afforestation and other activities
- The fund is utilized as per the provisions of the **Compensatory Afforestation Fund (CAF) Act, 2016.**
- o These include catchment area treatment, wildlife management, forest fire-prevention, soil and moisture conservation work in the forest etc.
- CAMPA funds is to be **kept in interest-bearing non-lapsable Public Account.**

- o These funds cannot be used for payment of salary, travelling allowances etc. of forest officers.
- As per the rules, **90%** of the CAMPA money is given to the **respective states** as per their share while **10%** is retained by the **Centre.**
- CAF Act (passed in 2016) was enacted to **manage the CAMPA funds** under Forest Conservation Act 1980.
- o Earlier, it was managed by adhoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA).
- **National CAMPA Advisory Council** has been established as per orders of Supreme Court with the following mandate:
- o Lay down broad guidelines for State CAMPA.
- o Facilitate scientific, technological, and other assistance that may be required by State CAMPA.
- o Make recommendations to State CAMPA based on a review of their plans and programs.
- o Provide a mechanism to State CAMPA to resolve issues of an inter-state or Centre-State character.

CORAL REEFS OF WESTERN INDIAN OCEAN AT RISK OF COLLAPSE: STUDY

As per a recent study, the reefs along the eastern coast of Africa and island nations like Mauritius and Seychelles faced a high risk of extinction.

Coral Reefs

- **Formed by**: Colonies of coral polyps

- o **Class**: Anthozoa
- o **Animal**: Phylum Cnidaria
- **Location**: Found at shallow depths in tropical waters
- Coral needs sunlight to grow, which is why they thrive in **shallow water.**

- **Under threat:** They are under threat from:
- o Excess nutrients
- o Rising temperatures
- o Oceanic acidification

Types of a coral reef:

Fringing reefs

- These are close to shore.

Barrier reefs

- It lies further out to sea
- **Barrier' reefs** get their name because they protect shallow warm waters from the open sea.
- This protection creates an important habitat for many types of tropical fish and rare plants.

Atolls

- They are usually mistaken for islands because they are so large and generally appear on the rim of a lagoon

Significance

- **Coral reefs** improve the structural integrity of **the sea bed**.
- Coral reefs also promote better water quality. The plants, animals, and organisms act as a filter, trapping debris that makes the surrounding environment cleaner.

KARNATAKA IS OPPOSED TO IMPLEMENTATION OF KASTURIRANGAN REPORT ON WESTERN GHATS, CM INFORMS CENTRE

Recently, Karnataka Chief Minister informed the Centre that the state is opposed to the **Kasturirangan Committee report** on **Western Ghats**.

Reason for opposition

- One of the recommendations of the report is to declare Western Ghats as ecologically sensitive zone would adversely affect the livelihood of people in the region.
- However, more than **600 villages** fall under the **Eco Sensitive Zone**. People of the region have adopted **agriculture and horticultural activities**.
- **Implementation of the report** will **halt the developmental activities** in the region.

Genesis:

- The **Western Ghats Ecology Expert Panel (WGEEP)** was an **environmental research commission** appointed by the

Ministry of Environment and Forests of India.

- It is also known as the **Gadgil Commission after its chairman Madhav Gadgil**.
- o One of the mandated of the commission was recommend environment-oriented development and conservation strategies to be followed in western ghats.
- o However, Gadgil Commission report was **criticised for being too environment-friendly.**
- Thus, Kasturirangan committee was constituted to re-check the Gadgil Commission report.

Recommendations of report:

- **UNESCO Heritage tag** is an opportunity to build **global and domestic recognition** of Western Ghats.

- **37 % of the total area of Western Ghats** to be declared as eco-sensitive area (ESA).
- Complete ban on **mining, quarrying and sand mining in ESA**.
- **Red category industries** and **thermal power projects** should be banned.
  o **Red Category Industry**- Industries that are highly polluted.
- **Impact of Infrastructural projects** should be studied before permission is given.
- **Conservation of the fragile ecosystems' costs less,** compared to the situation prone to calamities.

Western Ghats

- They are continuous chain of hills starting from Tapti valley in the North to Kanyakumari in the South.
- It is also called **the Sahyadri.**
- It is a **UNESCO World Heritage Site.**
- **States covered-** Karnataka, Goa, Maharashtra, Gujarat, Kerala, and Tamil Nadu.

Features:

- It covers the area parallel to **the western coast** of the Indian peninsula.
- It is **older than the great Himalayan Mountain** chain.
- It is one of the **world's biodiversity hotspots**.
- It is recognized as one of the world's eight '**hottest hotspots'** of biological diversity.
- **Anamudi** is the highest peak.

- **The Nilgiri Biosphere Reserve** comprises the largest contiguous protected area in the Western Ghats.

Climatic conditions:

- It acts as a Climatic **barrier to the South - West monsoon winds**.
- The soil is highly **fertile.**
- The climate is **humid and tropical.**

Water bodies:

- Most of the rivers that rise in **Western Ghats drain into Arabian sea**.
- The major river systems originating in the Western Ghats- **Godavari, Kaveri, Krishna, Thamiraparani and Tungabhadra rivers.**
- Western Ghats account for **80%** of India's hydropower generation.

Flora and fauna:

- **Fauna**- Asian Elephant, Gaur and Tiger.
  o Globally threatened (IUCN Red Data list)- **325 species**
  ▪ **Vulnerable**- 129
  ▪ **Endangered**- 145
  ▪ **Critically Endangered**- 51
  o **Endangered species**- the lion-tailed Macaque, Nilgiri Tahr and Nilgiri Langur are found.
- **Flora-**
  o **Forest type**- tropical rainforest, Montane forests, tropical dry forests and tropical moist forests
  o **650** tree species found in the Western Ghats.

Threats-

- Poaching and trade
- Deforestation,
- Forest fires
- Habitat loss and fragmentation

- Dangers to native tribes

WATER QUALITY IN LOWER STRETCHES OF GANGA ALARMING

The falling water quality of the Ganga River assessed by scientists shows continuous deterioration of the river.

Reasons for degradation:

- Rapid human pressure
- Untreated municipal and
- Industrial sewage
- Climate change

River Ganga

- **The Ganga** is the biggest river in the Indian subcontinent in terms of water flow.
- Length - 2,510 km.
- Origin - **Western Himalayan Ranges** in the state of Uttarakhand.
- The followers of Hindu religion regard the Ganges to be the **most sacred** of all the rivers in India.
- The river also has significant historical values a number of colonial or royal capitals like Kannauj, Patliputra (modern day Patna), Allahabad, Kara, Baharampur, Murshidabad, and Kolkata are situated on the riverbanks of the Ganges.

Tributaries of the Ganga

- **Left tributaries** - Karnali, Mahakhali, Gandak, Koshi (Kosi), Ghaghra, and Damodar
- **Right tributaries** - Yamuna, Son, Mahananda, Chambal

Run-of-the-River Projects on the Ganges

- Loharinag Pala Hydro Power Project (NTPC)
- o The project is situated on the Bhagirathi tributary in Uttarkashi district in Uttarakhand.

- Tapovan Vishnugad Hydroelectric Power Project (NTPC)
- Lata Tapovan Hydroelectric Power Project (NTPC)
- Maneri Bhali Hydro Power Project (UJVNL)
- Maneri Tiloth Hydro Power Project (UJVNL)

5 Prayag

- **Fauna in Gangetic Plain:** wild Asian elephants, Bengal tigers, Indian rhinoceros, barasinghas, sloth bears etc.
- **Fish:** 350 fish species live in the entire Ganges drainage, including several endemics.
- o Ex: Catla, golden mahseer, tor mahseer, walking catfish.
- o It also has freshwater **Ganges River dolphin** which has been declared **India's national aquatic animal**.

Namami Gange Programme

- **Aim:** To ensure abatement of pollution and rejuvenation of the river Ganga by adopting a river basin approach.
- It implemented by **National Mission for Clean Ganga.**

Main pillars of the **Namami Gange Programme** are

- Sewerage Treatment Infrastructure
- River-Surface Cleaning
- Afforestation
- Industrial Effluent Monitoring
- River-Front Development
- Bio-Diversity
- Ganga Gram

-

'TWO PLANT SPECIES NOW EXTINCT IN THE WILD'

Recently, it was found that two species of plants, first collected by botanists more than 125 years ago from Meghalaya and the Andaman Islands, are now extinct in the wild.

- **Both are classified under the Genus:** Boesenbergia and **Family:** Zingiberaceae
- **Reason for the extinction:** Climate change, Human interference, Over-exploitation and Natural calamities.

- **Boesenbergia rubrolutea**: first collected from the Khasi Hills, Thera, in Meghalaya in 1886.
- **Boesenbergia albolutea**: first collected from the Andamans in 1889.
- Both are among the least explored species of the genus Boesenbergia. Ten species of this genus, including these two, have been reported in India.

CENTRAL GOVERNMENT LOOKING TO USE STUBBLE AS BIOFUEL: ENVIRONMENT MINISTER

The Union government is working on a plan to **use stubble as a biofuel** and manure as a part of an effort to deal with stubble burning.

Stubble can be used as Biofuel?

- There are **three methods** by which stubble can be used as biomass: i) on-field management, ii) alternate cropping and iii) processing to biofuels.

On-field management:

- It involves mulching into fields deploying customised machinery.
- **Issue:** Significant subsidy is available for equipment purchase, but this alleviates only 20% of the cost.
- Mulching carbon-rich stubble impacts soil's carbon-to-nitrogen ratio, necessitates **proper nitrogenous fertiliser management** and **potential surface accumulation of potassium** (which is less mobile than nitrogen).

Alternate cropping:

- Farmers **would not adopt alternate crops** without income protection.
- The option could be **cultivation of silage crops** (hybrid sorghum, hybrid napier grass, maize).
- They have a **high yield and thus helping meet the feedstock needs of cattle and biofuels** plants, as well as permit part use of farmland for horticulture.

Processing to biofuels

- The commercialised technologies across the full value chain of solid, liquid and gaseous biofuels.

Solid biofuels:

- Solid fuels comprise **briquettes and pellets.**
- **Briquettes are** fired in industrial boilers or combustors, but the demand in Punjab and Haryana is not high.

o **Pellets can be co-fired in utility-range boilers.**

Liquid biofuels:

- These encompass **bioethanol, drop-in fuels, bio-oil and bio-methanol.**
- **Ethanol** can be used in petrol engines as **a replacement for gasoline.**
  o Ethanol has roughly one-third lower energy content per unit of volume compared to gasoline.
- The Ministry of Petroleum and Natural Gas's **JI-VAN scheme provides viability gap** funding to help meet the **blending target of 20% by 2030.**

Gaseous biofuels:

- These encompass **producer gas, biogas, green hydrogen, etc**.
- The current focus is on biogas upgraded to bio-CNG, with the co-product being compost.

Stubble burning

- It is the practice of **intentionally setting fire to the straw stubble** that remains after grains, such as rice and wheat, have been harvested.
- Centre had completely **"decriminalised" stubble burning** in the Air Quality Commission Act.

Effects

The burning of stubble has both positive and negative consequences.

Positive:

- Cheaper and easier than other removal methods
- Helps to combat pests and weeds
- Can reduce nitrogen tie-up

Negative:

- Loss of nutrients.
- Pollution from smoke Including greenhouse gases and others that damage to the ozone layer.
- Damage to electrical and electronic equipment from floating threads of conductive waste.
- Risk of fires spreading out of control.

Government Initiatives:

- **The Galvanising Organic Bio-Agro Resources Dhan (GOBAR-DHAN) scheme launched in 2018.**
- **The National Policy on Biofuels** related to offtake agreements and financing instruments was also launched.
- **'SATAT' scheme** on Compressed Bio Gas (CBG) encourages entrepreneurs to set up CBG plants, produce & supply CBG to Oil Marketing Companies (OMCs) for sale as automotive & industrial fuels.
- Task forces made recommendations on farm waste to **advanced biofuels.**

HAIDERPUR WETLAND IN UTTAR PRADESH IS NEW RAMSAR SITE

Recently Haiderpur wetland in the Uttar Pradesh became **47th Ramsar site** of India.

Ramsar sites

- Ramsar Convention on Wetlands of International Importance is an international treaty for the conservation and sustainable utilization of **wetlands**.

o Ramsar sites are wetlands considered to be of **international importance**.

o It recognizing the fundamental ecological functions of wetlands and their **economic, cultural, scientific, and recreational value**.

- **Aim**: To develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the maintenance of their ecosystem.

- It **defines wetland as** areas of marsh, fen, peatland or water, whether natural or artificial, Permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres".

Three pillars of the Convention

- Ensuring the **conservation and wise use of wetlands** it has

designated as Wetlands of International Importance,

- Including as far as possible the wise use of all wetlands in national environmental planning,

- Consulting with other Parties about implementation of the Convention, especially in regard to transboundary wetlands, shared water systems, and shared species.

Montreux Record

- It is a register of wetland sites on the List of **Ramsar wetlands of international importance** where changes in ecological character have occurred or are likely to occur as a result of technological developments, pollution or other human interference.

- It is maintained as part of the List of **Ramsar wetlands of international importance**.

- At present **Keoladeo National Park, Rajasthan** and **Loktak Lake, Manipur** are the two Indian sites listed under it.

"MORE CYCLONES IN ARABIAN SEA IN RECENT YEARS"

The frequency of "very severe cyclonic storms" has increased in recent years over the Arabian Sea.

Cyclone Intensification in Arabian Sea:

- **Ocean warming** is the major reason for increased number of cyclones in Arabian Sea

o The **Arabian Sea** is one of the **fastest warming basins** across the global oceans.

o A **52%** increase was noticed in the **frequency of cyclones over**

the Arabian Sea between 2001 and 2019.

- The **intensity and duration** for which a cyclonic storm lasts over the Arabian Sea is on a **rise**.

Cyclone:

- It is a **large-scale air mass** that rotates **around a strong centre of low atmospheric pressure.**

- It rotates **counter clockwise in the Northern Hemisphere** and **clockwise in the Southern Hemisphere** as

viewed from above (opposite to an anticyclone).

- Cyclones are characterized by **inward-spiralling winds** that rotate about a zone of low pressure.
- The process of cyclone formation and intensification is known as **Cyclogenesis.**

Conditions necessary for Tropical Cyclone:

-

- Sufficiently **warm sea surface** temperatures
- Atmospheric instability
- **High humidity** in the lower to middle levels of the troposphere
- Enough **Coriolis force** to develop a low-pressure centre
- A pre-existing **low-level focus** or disturbance
- **Low vertical wind shear**

CENTRE ISSUES STANDARD OPERATING PROCEDURE FOR USE OF DRONE IN CROP PROTECTION

Government of India has released the standard operating procedure **(SOP) for drones** used for agricultural purposes recently.

- It will act as guidelines for all stakeholders while using **chemicals for pest and disease** control.

Guidelines:

- **Operators are required** to obtain a Unique Identification Number (UIN) and Unmanned Aircraft Operator Permit (UAOP) from Civil Aviation before any operation.
- **Local authorities** will have to be intimated before operation and all safety precautions have to be followed.
- The drones must have the capability to handle variable payload (depleting tank).
- **The nozzle system** should be attached in a manner that the spray swath is continuous when sprayed from the minimum permitted height above the uniformly distributed crop.

- **Pesticide companies** have to submit phytotoxicity studies for spraying through drones.
  - Phytotoxicity describes the **adverse effects on plant growth**, physiology caused by a chemical substance such as fertilizers, herbicides, heavy metals, or nanoparticles.

Benefits of using Drone in Agriculture:
Helps improve productivity

- Benefit of drones in farming is the ability to meet the **population's growing demands**.
- Drone technology has helped farmers overcome obstacles checking the crops in the field.
- The technology can give a live feed making them far more precise and efficient.

Helps reduce pollution

- Drones in farming can help the farmers know where to apply the pesticides evenly as too much of it can cause health issues.

Lower analysis costs

- Drones let farmers **scan large plots** in one flight and provide

much more than the satellite imagery.

- They are beneficial, as it helps them monitor their fields precisely.

Increases employment opportunities

- The technology gives plenty of **employment opportunities** to people in rural areas.
- Agriculture is the primary source of income for a significant part of India's rural population

Adapts to changing climate

- o

- Farmers are massively affected by **climate change**; it creates obstacles in their productivity making it hard for them to cultivate properly.
- **Irrigation** is the most critical concern farmers face with droughts.
- o Drones equipped with the right sensors can let farmers know which part of their fields require more water.

STUDY SHOWS THAT AWAY FROM HUMAN TOUCH, TROPICAL FORESTS CAN REGENERATE IN 20 YEARS

As per the new study, tropical forests in the absence of human touch can regrow rapidly.

Highlights:

- Scientists discovered that tropical forests have the potential to regrow almost fully if left untouched by humans for about 20 years.
- The regrow can be achieved by the natural process of **secondary succession**.
- The study was conducted using a technique called chrono sequence on 12 specific criteria such as soil, plant function, ecosystem structure, and biodiversity.
- o A chrono sequence describes a **set of ecological sites that share similar attributes but represent different ages.**

Ecological succession

- It is the **process of change in the species structure** of an ecological community over time.
- **Types of Succession:**

Primary succession

- It is the series of community changes that occur in an entirely new habitat that has never been colonized before.
- For example, a newly quarried rock face or dunes.

Secondary succession

- It is the series of community changes that take place in a previously colonized, but disturbed or damaged habitat.
- For example, after felling trees in a woodland, land clearance or a fire.

Stages of Ecological Succession
Nudation

- The process of succession begins with the formation of a bare area or nudation.
- The reasons involve, such as **oleanic eruption, landslide, flooding, erosion, deposition, fire, disease**, or other **catastrophic agency**.
- New lifeless bare areas are also created by man, for example, walls, stone quarrying, burning,

digging, flooding large land areas under reservoirs, etc.

Invasion:

- The invasion is the arrival of the **reproductive bodies** or **propagules** of various organisms and their settlement in the new or bare area.
- **Hants** are the first invaders (pioneers) in any area because the animals depend on them for food.

Competition and reaction

- Numbers of individuals of a species increase due to multiplication and all aggregate at the limited place, the **competition for space and nutrition is started among them.**

- Individuals of a species also compete with individuals of other species that may enter the area.

Stabilization or climax:

- Stabilization is the stage when the final terminal community **becomes more or less stabilized for a longer period** and it can maintain itself in the equilibrium or steady-state with the climate of that area.
- This last serai stage is **mature, self-maintaining, self-reproducing** through development stages, and relatively permanent.
- The vegetation is tolerant of the environmental conditions it imposed upon itself.

WORLD'S COLDEST REGIONS HAVE BEEN ON FIRE IN 2021, EVEN IN WINTER: COPERNICUS

Recently **Copernicus Atmosphere Monitoring Service (CAMS)** have recently found that some of the coldest regions of the world have been on fire in, indicating an influence of a changing climate.

Copernicus Programme

- It is the **European Union's Earth observation programme**.
- Managed by the European Commission in partnership with the European Space Agency (ESA), the EU Member States and EU agencies.
- **Aim:** To achieve a global, continuous, autonomous, high quality, wide range Earth observation capacity.

Highlight

- Wildfires around the world emitted 1.76 billion tonnes of carbon in 2021.
- o This is the equivalent of 6.45 billion tonnes of **carbon dioxide.**
- o It was 148 $ more than the total fossil fuel emissions of the European Union.
- The wildfires mostly occurred in Siberia, North America, North Africa and the Mediterranean.

What is Wildfire?

- It is an unplanned, unwanted, uncontrolled fire in an area of combustible vegetation starting in rural areas and urban areas.

Causes

- Human Causes
- o Burning Debris
- o Unattended Campfires
- o Cigarettes

- Natural causes
- Lightning
- Volcanic Eruption

Consequences of wildfires

- **Loss of valuable timber resources**
- Forest fires cause indispensable loss to **timbe**r and deteriorate its quality.
- Valuable timber species like teak, sal, chir, deodar, sheesam, rosewood etc. are adversely affected by fire.
- **Impact of forest fire on eco system**
- The most damaging impact of forest fire on ecosystem is very evident in the **Himalayas**.
- The hills existing between the heights of 1000 to 1800 meters are dominated by pine forests and seem to be more fire prone.
- **Degradation of water catchments areas resulting into loss of water**
- After forest fire, soil moisture is decreased and litter decomposition becomes almost negligible, which creates a possibility of forest fire in future.
- **Loss of wildlife habitat and depletion of wildlife**
- The forest fires in Sankhuwasabha and Ilam in Nepal claimed red pandas, leopards as well as monkeys, deer, bear and other species.
- **Deteriorating Biological Environment**
- The burning of vegetation gives off not only carbon dioxide but also many other noxious gases.

- Such as **carbon monoxide**, **methane hydrocarbons**, **nitric oxide** and nitrous oxide that lead to global warming and ozone layer depletion.
- **Adverse impact on Health system**
- The forest fires in 1995 and 1999 in Himalayan states gutted the mountains with the smoke, resulting into loss of visibility to about 200 meters.
- **Threat to Life and Property**
- The forest fire directly causes loss of life as observed in Gwar village of Rudraprayag district in the year 2001, when four ladies were killed while harvesting grass near forest area.

Initiatives of India in Wildfire

- **National plan for forest fire management**
- **Aim:** To prepare a strong data base on forest fires and evolve an appropriate strategy to deal the forest fire situation in more effective manner.
- **Forest Fire Monitoring**
- FSI (Forest survey of India) has been monitoring forest fires across the country using inputs received from **MODIS satellite system**,
- MODIS satellite system is a joint collaboration of **NASA** and University of Maryland.
- **Aim of MODIS:** To improve understanding of global dynamics and processes occurring on the land, in the oceans, and in the lower atmosphere.

- **Incident Command System**
- o The Government of India in 2003 adopted the **Incident Command System (ICS)** in the country as practiced in USA to address the critical gaps in disaster response mechanism of the country.

Suggestions

- The result and outcome of forest fire management projects in different countries must be published and made available for experience sharing and lesson learning.
- Holistic approach for **forest fire management**, including fire protection, planning, prevention, suppression and rehabilitation should be adopted.
- **All fire management** activities should be safe, cost effective and support sound natural resources management.
- Trained, well equipped, assessed and accredited personnel must be appointed.
- Fire management activities should be based upon good scientific studies and follow sound management principles.

2054 CASES REGISTERED FOR KILLING, TRAFFICKING OF WILD ANIMALS

Recently, data on illegal wildlife crime in India was made public by the Ministry of Environment Forest and Climate Change.

- The data was made available on the basis of cases registered by the Wildlife Crime Control Bureau and State Forest and Police Authorities.

Illegal wildlife trafficking in India

- Illegal wildlife trade is one of the largest forms of transnational organized crime.
- It is the illegal practice of exchanging animals and plants for personal gain.

Causes:

- **Lack of adequate legislation to prohibit illegal trading**
- o The fines range from ten thousand rupees to twenty-five thousand rupees, with seven to ten years of imprisonment.
- o Due to inadequate prosecution, the majority of the poachers are acquitted.
- o The conviction of a poacher for three years was seen as a rare sentence in India.
- **Harvesting:**
- o It is the practice of eliminating a species that has become overpopulated to restore ecological equilibrium.
- o The majority of animals are wind up on the black market.
- **Transferring of Illegal trade items into legal markets:**
- o The majority of illegally trafficked wildlife is marketed in legal markets.
- o It leads to an increase in demand resulting in more poaching.
- **Huge money on offer:**
- o Illegally sold goods command a high price on European marketplaces

o Vicious loop of greed has been a constant fuel for the poaching industry.
- **Undocumented species:**
o Thousands of undocumented species are sold legally on the international market.
- **The diverse demand and usage**
o It is used in medicines and to make a carpet and rug.
o Majority of illegally obtained parts are meant for the international market and has no direct demand in India.

Current scenario of wild life trafficking in India:
- **2054 cases were registered** and **3,836 accused** were arrested for killing or illegal trafficking of wild animals between **2018 and 2020.**
- **601 cases were registered** and **1231 arrests** in 2020.

Operations by Wildlife Crime Control Bureau (WCCB):
- **Save Kurma**
o Aim- to focus on the **poaching, transportation and illegal trade** of live turtles and tortoises.

- **Operation Turtshield**
o Aim- to tackle the **illegal trade of live turtles.**
- **Operation Soft gold**
o Aim- to tackle **illegal trade in Shahtoosh shawls** (made from Chiru wool).
- **Operation Lesknow**
o Aim- to gain attention towards the **illegal wildlife trade.**
- **Operation Clean Art**
o Aim- to drag attention towards **illegal wildlife trade in Mongoose hair brushes**.
- **Operation Birbil**
o Aim- to curb **illegal trade in wild cat** and wild bird species
- **Operation Wildnet**
o Aim- to focus on **increasing illegal wildlife trade over internet** using social media platforms.
- **Operation Freefly**
o Aim- To focus on **illegal trade of live birds**.
- **Operation Wetmark**
o Aim- to ensure **prohibition of sale of meat** of wild animals in wet markets across the country.

BUXA TIGER RESERVE CONFIRMS PRESENCE OF BIG CAT AFTER 23 YEARS; HERE'S HOW THIS HAPPENED

The forest department has confirmed the presence of Royal Bengal Tiger in Buxa Tiger Reserve.

Buxa tiger reserve:
- **Location-** Alipurduar district of West Bengal.
- **Legal Status-**
o It was declared as 15th tiger reserve in 1983.

o It got the status of National Park in 1992.
- **Climatic Condition:** It is classified as the Moist Tropical Forest.

Flora:
o The Terai Eco-System is a part of the reserve.

o The main trees are **sal, champa, gamhar, simul and chikrasi**.

Fauna:

o **Major species-** Royal Bengal Tiger, Leopard, Elephant, Hyaena, Oriental Pied Hornbill.

- **Major rivers**: Sankosh, Raidak, Jayanti, Churnia, Turturi, Phashkhawa, Dima and Nonani.

Corridor:

o **Buxa-Titi (via Torsa):**

▪ It connects Rangamati Reserve Forest area of Buxa Tiger Reserve with Titi Reserve Forest.

o **Buxa-Titi (via Beech and Bharnabari Tea estate):**

▪ It connects Bharnabari Reserve Forest of Buxa Tiger Reserve and Titi Reserve Forest situated south of Dalsingpara tea estate by passing through Bharnabari tea estate and Beech tea-estate.

o **Nimati-Chilapata (Buxa-Chilapata):**

▪ It maintains elephant movement between Buxa Tiger Reserve and Jaldapara Wildlife Sanctuary.

o **Buxa-Ripu at Sankosh (Sankosh):**

▪ It is a contiguous forest that connects Buxa Tiger Reserve of West Bengal with the Ripu Reserve Forest of Kochugaon Forest Division, Assam.

- **Landmarks-**

o **Manas National Park** lies on east of Buxa Tiger Reserve.

▪ It is an international corridor for Asian elephant that migrates between India and Bhutan.

GROWING ENVIRONMENTAL FOOTPRINT OF PLASTICS DRIVEN BY COAL COMBUSTION

Nature Sustainability published the report on carbon footprint of plastic driven by coal combustion.

Highlights:

- Plastic production accounted **for 96 per cent of the particulate matter** health footprint.
- Impact of plastic on climate and health is greater due to the increased use of coal.
- The **global carbon footprint of plastic doubled** since 1995, reaching two billion GtCO2-tonnes of carbon dioxide equivalent (CO2e) in 2015.
- **China, Indonesia and South Africa**, were among the major drivers of the increasing carbon footprint from plastics.

- **High-income regions**, such as the European Union and the United States, contributed substantially to the increasing global carbon footprint of plastics.
- **Nearly 75 per cent of particulate matter-related** health impacts were caused in China, India, Indonesia and other Asia.

Plastic Waste Management Amendment Rules, 2021

- **The manufacture, import, stocking, distribution, sale and use** of single-use plastic commodities shall be prohibited with effect from the 1st July, 2022.
- **The thickness** of plastic carry bags has been **increased from**

- o **fifty microns to seventy-five microns** with **effect from 30th september 2021**.
- o 120 microns with **effect from the 31st December, 2022.**
- The ban will not apply to **commodities made of compostable plastic.**
- **The plastic packaging waste,** which is not covered under

the phase out of identified single use plastic items, shall be collected and managed in an environmentally sustainable way through the **Extended Producer Responsibility of the Producer, importer and Brand owner** (PIBO), as per **Plastic Waste Management Rules, 2016.**

GREAT INDIAN BUSTARD HABITAT: GOVT URGES SC TO MODIFY ORDER ON UNDERGROUND CABLES

The Centre has urged the Supreme Court to modify its directions to put all transmission cables in the habitat of the **Great Indian Bustard (GIB)** underground.

National Bustard Recovery Plans

- Ministry of Environment and Forest & Climate change (MoEF&CC) has developed the National Bustard Recovery Plans.
- **Objective-**
- o to check the dwindling numbers of the endangered Great Indian Bustard and Lesser Florican.
- o to protect the habitat of the Great Indian Bustard (GIB).

Need for modification:

Great Indian Bustard (Ardeotis nigriceps):

- It is one of the **heaviest flying birds** in the world.
- It is the **state bird of Rajasthan**.
- **Habitat-** dry grasslands and scrublands on the Indian subcontinent
- **Physical Features:**
- o Long legs and a long neck.
- o Male and female are of same size.
- o **Male-**

- ▪ Black feathers on the top of the head.
- ▪ whitish neck
- ▪ Brown wings highlighted by black and grey markings.
- o **Female-**
- ▪ Smaller black crown on the top of the head.
- **Food-** grass seeds, insects, small rodents and reptiles.
- **Protection Status:**
- o **IUCN Red List:** Critically Endangered
- o **CITES**: Appendix I
- o **CMS:** Appendix I
- o **Wildlife (Protection) Act, 1972**: Schedule I

Threats:

- o Electrocution with power transmission lines.
- o Irrigation and farming technology.
- o Mining.
- o Hunting and Poaching.
- o Habitat Loss.

Conservation Efforts:

- **Project Great Indian Bustard-**
- o **When**- World Environment Day.
- o **Initiated by-** Rajasthan Government

- **Aim**- To provide secure breeding enclosures in areas outside protected areas.
- **Conservation breeding facility in Desert National Park**
  - **Established by**- Rajasthan government and Wildlife Institute of India (WII).

CLIMATE CHANGE INFLICTING INFECTIOUS DISEASES ON KIDS: STUDY

Study was conducted by the Department of Science and Technology-Mahamana Center of Excellence in Climate Change Research, BHU.

Highlights:
- Climate change **driven by anthropogenic activities** is challenging the gains in public health.
- **India**, particularly, ranks high in the list of climate-vulnerable countries in the world.
- Globally, it is estimated that **children** are to bear most of the **burden of disease due to climate change.**
- **The higher risk associated with children** is due to the combination of physiological vulnerability as well as the risk of exposure.
- **Climate parameters like** temperature, humidity, rainfall, solar radiation, and wind speed were significantly associated with the infectious diseases.
  - Disease like gastrointestinal diseases, respiratory diseases, vector-borne diseases, skin diseases in children are common.
- Climate parameters accounted for **9-18% of the total infectious disease cases**.
  - Non-climate parameters account for the rest.
- Upper respiratory tract infection (mostly cold and flu) and gastrointestinal infections (mainly diarrhea) **constitute 78% of the disease burden.**
- Due to socio-economic condition and modified climatic conditions, children are also suffering from **stunting, wasting, and underweight conditions**.

MODI GOVT PROPOSES AMENDMENT TO WILDLIFE PROTECTION ACT, PLANS BETTER USE OF PROTECTED AREAS

Recently Government has proposed an amendment to Wildlife Protection Act, 1972.
- **Reason**- For better implementation of Convention on International Trade in Endangered Species of Wild Fauna and Flora (**CITES**).

Wildlife Protection Amendment bill
- **Aim:** to provide for the protection of wild animals, birds and plants and to **ensure the ecological and environmental security** of the country.

Objectives:
- To include the aspects of **conservation and management of wildlife**.

- To **rationalise and amend** the schedules for better care of seized live animals.
- To **list out** wildlife species for the purposes of clarity and disposal of seized wildlife parts and products.
- To **enable control** of **invasive alien species**.
- To **allow for transfer or transport of live elephants** by person having ownership certificates.
- To **insert a new Chapter VB** in the principal Act for regulation of international trade in endangered species of wild fauna and flora.
- To **allow state boards for wildlife** to constitute standing committees

Wildlife Protection Act, 1972

- **Aim:** to take measures in enforcement of the convention.

- Animals are classified into **two parts**:
  o Species listed in Schedule I and Part II of Schedule II;
  o Species listed in Part I of Schedule II, Schedule III, and Schedule IV,
  o The protection and penalties are based on the list.

Need for Amendment:

- The Act has only two levels of protection for animals.
- The segregation of protected animals or species in four schedules may not be appropriate and may cause **confusion** and be **difficult for the public to understand**.

Key Fact

- India is a **party to the Convention on International Trade in Endangered Species** (CITES) of Wild Fauna and Flora.

NHAI INKS MOU WITH NCC TO REUSE PLASTIC WASTE COLLECTED BY CADETS IN BUILDING ROADS

Recently, National Cadet Corps (NCC) and National Highways Authority of India (NHAI) has signed a Memorandum of Understanding to reuse plastic wastes collected by NCC Cadets during **Puneet Sagar Abhiyan.**

- **Aim:** To propagate the message of the Importance of clean seashores

and beaches amongst the local population.

- **Plastic wastes** collected is planned to be handed over to NHAI which can use in **road construction** across the country.

REINTRODUCED GHARIALS THRIVING IN BEAS RESERVE: EXPERTS

After successfully reintroducing the Gharial in the rivers of Punjab 50 years ago, wildlife officials are expecting the breeding of the crocodilians to start in the new few years.

'Gharial reintroduction in the Beas Conservation Reserve' project

- It is a programme of the **Punjab government.**
- **Aim-** To establish a breeding population of gharial in the rivers of Punjab.
- **40-50% of the released gharials** are sighted.

Gharial (Gavialis gangeticus)

- They are one of the **largest members of the crocodilian** family.
- It is also **known as the gavial** or the fish-eating crocodile.
- Gharial derives its name from **ghara**, an Indian word for pot because of a **bulbous knob** (narial excrescence) present at the end of their snout.
- It is regarded as **most efficient fish catcher**.
- **Habitat:** They prefer **deep, clear, fast-flowing waters and steep, sandy banks** of Ganges and Brahmaputra.

Features:

- **Extremely elongated**, narrow **snouts** known as nasal boss.
- o Their **snouts contain sensory c ells** that can detect vibrations of prey in the water.
- **Uniform** sharp **teeth**, **Long**, well-muscled **neck** and Thick, **powerful tail**
- They are **covered with smooth**, non-overlapping scales.
- They **regulate their body tempe rature by basking** in the **sun**.

Threats:

- Hunting
- Land near rivers is used for agriculture and grazing.
- Construction of Dams
- Illegal use of fish nets

Conservation Status:

- **IUCN-** Critically Endangered.
- **Convention on International Trade in Endangered Species (CITES)-** Appendix I

- **Wildlife (Protection) Act 1972-** Schedule I

Conservation Efforts-
Reintroduction Programme:

- Kukrail Gharial Rehabilitation Centre in Lucknow:
- o Established- 1978
- o **Aim:** to protect the endangered gharials of the north Indian rivers.
- **National Chambal Sanctuary**
- o Set up in 1979 as a riverine sanctuary in Madhya Pradesh

Beas Conservation Reserve:

- It covers an **185km stretch of the river Beas**.
- **Legal Status:**
- o It was declared a **conservation reserve** by the government of Punjab in 2017.
- o The reserve was declared a **Ramsar site** in 1971.
- **Features:**
- o It is the only host to **Indus River Dolphin**.
- o Other threatened species are endangered masheer, the hog deer, the fishing cat, and the vulnerable smooth-coated otter.
- **Environmental Concern:** Urban as well as domestic pollution.

River Beas:

- It is one of the **eastern tributaries** of **Indus** River.
- **Origin**- Rohtang La
- It **rises in the Himalayas** and flows to Sutlej River of Punjab.
- It is **one of the five rivers** that give the Punjab ("Five Rivers") its name.
- o Other four rivers are- Chenab, Jhelum, Sutlej and Ravi.

- The origins of the name are often connected with **Veda Vyasa**, author of Mahabharata.

INDIAN DESERT CAT SPOTTED IN M.P.'S PANNA TIGER RESERVE

Recently, an Indian desert cat has been spotted for the first time in Madhya Pradesh's **Panna Tiger Reserve.**

Indian Desert Cat

- Indian Desert Cat is an **African wildcat subspecies.**
- **Habitat:** Occurs from the eastern Caspian Sea north to Kazakhstan, into western India, western China, and southern Mongolia.
  - o **In India:** inhabits the Thar Desert and is associated with the scrub desert.
- **IUCN Red list:** Least Concern

Physical appearance

- Its fur is **light sandy, and small rounded spots cover** its upper body.
- The hairs **along the spine are usually darker**, forming a dark grey, brownish band.
- The forehead has a **pattern of four well-developed black bands**.

Panna Tiger Reserve

- **Established**: 1981
- **Location:** Panna and Chhatarpur districts, Madhya Pradesh.
- The **Ken River** flows in the vicinity.
- It is situated at a point where the continuity of the Tropical and subtropical dry broadleaf forests belt is broken.
  - o Beyond this, the Upper Gangetic Plains moist deciduous forests of the great Indo-Gangetic Plain begins.
  - o This area is the **northernmost tip of the natural teak forests** and the easternmost tip of the natural 'Kardhai' Anogeissus pendula forests.
- **Fauna:** Tiger, leopard, chital, chinkara, nilgai, sambhar and sloth bear.
- **Flora:** Tendu, Achar, Seja Mahua, Saja, Salai, Bel and others.

HIMALAYAN GLACIERS ARE MELTING AT FURIOUS RATE, NEW STUDY SHOWS

New research shows that the vast ice sheets around Himalaya shrank 10 times faster in the past 40 years than during the previous seven centuries.

Highlights:

- **South Asia region is highly affected** due to Avalanches, flooding and other effects of the accelerating loss of ice.
- It threatens the livelihood, agriculture and human life.

- **Melting glaciers contributes to sea-level rise**, glacial ice loss in the Himalayas also adds to the threat of inundation.
- As the glaciers continue to shrink, the **availability of water for irrigation and drinking water** could drop steeply.

Reasons for melting

- **Regional climate factors**, such as shifts in the South Asian monsoon, may have a role.

- **Ice loss from glaciers and polar ice sheets** results from rising global temperatures caused by greenhouse-gas emissions from the burning of fossil fuels.
- Research also viewed that **human activity** as a cause of rising global temperatures.

Glacier

- A glacier is a **persistent body of dense ice** that is constantly moving under its own weight.
- **A glacier forms** where the accumulation of snow exceeds its ablation over many years, often centuries.
- **On Earth, 99% of glacial ice** is contained within vast ice sheets (also known as "continental glaciers") in the **polar regions**.
- **Glacial ice is the largest reservoir of fresh water on Earth**, holding with ice sheets about 69 percent of the world's freshwater.

Types of glaciers

Mountain glaciers

- These glaciers develop in **high mountainous regions**, often flowing out of icefields that span several peaks or even a mountain range.
- The **largest mountain glaciers** are found in Arctic Canada, Alaska, the Andes in South America, and the Himalaya in Asia.

Valley glaciers

- Commonly **originating from mountain glaciers** or icefields.
- These glaciers spill down valleys, **looking much like giant tongues**.
- Valley glaciers may be very long, often flowing down beyond the snow line, sometimes reaching sea level.

Tidewater glaciers

- These are valley glaciers that **flow far enough to reach out into the sea**. In some locations, tidewater glaciers provide breeding habitats for seals.

Piedmont glaciers

- Piedmont glaciers occur **when steep valley glaciers spill into relatively flat plains**, where they spread out into bulb-like lobes.
- **Malaspina Glacier in Alaska** is one of the most famous examples of this type of glacier, and is the **largest piedmont glacier** in the world.

Hanging glaciers

- When a **major valley glacier system retreats and thins**, sometimes the tributary glaciers are left in smaller valleys high above the shrunken central glacier surface. These are called **hanging glaciers.**
- If the entire system has melted and disappeared, the empty high valleys are **called hanging valleys.**

Cirque glaciers

- Cirque glaciers are named for the **bowl-like hollows** they occupy, which are called cirques.
- They are found **high on mountainsides and tend to be wide** rather than long.

Rock glaciers

- Rock glaciers are **combinations of ice and rock**.

- Although these glaciers have **similar shapes and movements as regular glaciers**, their ice may be confined to the glacier core, or may simply fill spaces between rocks.

- Rock glaciers may form **when frozen ground creeps downslope**.
- They may also accumulate ice, snow, and rocks through avalanches or landslides.

THAR DESERT EXPANDING FAST WITH LAND DEGRADATION

A study was undertaken by the Central University of Rajasthan as part of an assessment of the environmentally sensitive areas within the framework of the UN Convention to Combat Desertification.

Findings:
- The degradation of land is **posing a threat to the Thar desert ecology.**
- Sandstorms from the desert will travel as far as the National Capital Region (NCR) in the years to come.
- The gradual destruction of the Aravali ranges leads to the **expansion of Thar desert** in western Rajasthan.
- **Sandstorms will become intense** with the erosion of the Aravali hills, which act as a '**natural green wall**' between the desert and the plains.

Thar Desert

The Thar Desert is also known as **the Great Indian Desert.**
- It is a **large arid region** in the northwestern part of the Indian subcontinent that covers an area of 200,000 km².
- It forms a natural boundary between **India and Pakistan.**
- **Population Density:** It is the most densely populated desert in the world, having a human population density of over 80 people per km².

Location:
- o The northeastern part of the Thar Desert lies between the Aravalli Hills.
- o The desert stretches:
- To Punjab and Haryana in the north.
- To the Great Rann of Kutch along the coast.
- To the alluvial plains of the Indus River in the west and northwest.

Climate
- o The climate in Thar is **arid and subtropical.**
- o The mean average temperature varies from a minimum of 24 degrees C to 26 degrees C in summer to 4 degrees C to 10 degrees C in winter.
- o The average annual rainfall of the region varies from 100 to 500 mm.
- (new point) It is distributed very erratically, occurring mostly between July and September.
- **Flora:** Vachellia jacquemontii, Balanites roxburghii, Ziziphus zizyphus, Ochthochloa
- **Fauna:** Blackbuck, chinkara, and Indian wild ass.

Land Degradation
- Land degradation is a process in which the **value of the biophysical environment is**

affected by a combination of human-induced **processes** acting upon the land.

- It can be termed as the loss of the productive capacity of the soils for present and future use.
  - It is a global challenge that affects everyone through food insecurity, higher food prices, climate change, **environmental hazards**, and the loss of biodiversity and ecosystem services.

Current scenario of land degradation in India

- In India currently, **97.85 million hectares (mha) of land**, which is equal to an area 2.5 times the size of India's largest state Rajasthan has already been degraded.
  - Of this, 3.32 mha an area 22 times the size of Delhi has been added in the 15 years between 2003-05 and 2018-19.
- Rajasthan accounts for almost **22 % of the degraded land in the country**.
  - It reclaimed almost 388,000 ha, an area roughly 2.6 times the size of Delhi.
- **Uttar Pradesh has 285,665** hectares area (ha) and **Telangana has 19,974** (ha)

together reclaimed degraded land twice the size of Delhi during the period.

Causes of Land Degradation

- **Deforestation:**
  - Forests help bind up soil particles with the help of **roots of vegetation**. Therefore, cutting of forests will affect the soil adversely.
- **Excessive Use of Fertilizers and Pesticides:**
  - Excessive use of fertilizers is causing an imbalance in the number of certain nutrients in the soil, which imbalance adversely affects the vegetation.
- **Salination:**
  - An increase in the concentration of soluble salts in the soil is called **salination**. India has about six million hectares of saline land.
- **Poor Drainage of Soil:**
  - Salts dissolved in irrigation water accumulate on the **soil surface** due to inadequate drainage, especially during the flood.
- **Desertification:**
  - It is a destruction of the biological potential of land which leads to ultimately to desert-like conditions.

GLOBAL WARMING TO IMPOSE HEAVY LABOR PRODUCTIVITY LOSSES ON INDIA, A STUDY POINTS OUT, SUGGESTING GREATER CLIMATE CHANGE ADAPTATION MEASURES

A new report has been released by the International Labour Organization based on a study led by Duke University researchers.

Key Findings:
Loss in productivity losses

- An **increase in heat stress** will lead to **global productivity losses** equivalent to 80 million full-time jobs ($1.6 trillion) 2030.
- India, China, Pakistan and Indonesia will experience the biggest losses overall.

- **India showed the largest heat exposure impacts** on heavy labour among South Asian countries.
- Critical jobs, such as **agricultural and construction work** will be the most affected.

Adverse impact of heat stress

- Global warming will make **heat stress and extreme weather events more common.**
  o Heat stress refers to heat received in excess of that which the body can tolerate without suffering physiological impairment.
  ▪ Heat is an **occupational safety and health hazard.**
  ▪ It **increases workers' occupational risks** and vulnerability leading to **heat stroke** or even death.
- Heat stress is projected to **reduce total working hours** worldwide by 2.2 % and global GDP by US$2,400 billion in 2030.
  o The countries that are most affected by heat stress will have **higher rates of working poverty, informal employment and subsistence agriculture**.
- Heat stress **exacerbates inequality** and contributes to the displacement of people
- Heat stress could **widen gender gaps** in the world of work.
  o It makes the **working conditions worse for the many women** employed in subsistence agriculture.

- Heat stress may also result in the **displacement of large number of agricultural people**.

Uneven impact of heat stress

The impact of heat stress is **unevenly distributed** geographically.

- **Southwest Asia, South Asia and Africa** experience greater per-capita labour losses.
- The **European subregions** are expected to experience a **smaller impact**.
- **Tropical and subtropical regions are at higher risk** of heat stress.

Suggestions

- **Appropriate policies, technological investments** and behavioural changes are required.
  o Efforts to **improve the capacity of workplaces** to adapt to rising temperatures are necessary.
  o Enforcement of occupational safety and health standards are necessary to **improve early warning systems** for heat events.
- A sectoral response to heat stress in agriculture and construction should include **technological improvements, skills development and awareness raising.**
  o **Smart urban planning** could help mitigate heat stress on construction sites in large cities.
- Promote **social dialogue tools**, such as collective agreements to design and implement policies for dealing with heat stress.

CLIMATE CRISIS HAS COST INDIA 5 MILLION HECTARES OF CROP IN 2021

Recently, around 36 mha agricultural area was affected due to **hydro-meteorological calamities** since 2016.

Highlights

- India lost **5.04 million hectares** (mha) crop area to cyclonic storm, flash floods, floods, landslides and cloudbursts in 2021.
  - In 2021, **Cyclone Tauktae** and **Cyclone Yaas** wreaked in several states such as Odisha, West Bengal and Karnataka.
  - In July, floods in Maharashtra damaged standing crops.
  - In November, rainfall caused huge loss of life and property in south Indian states of Andhra Pradesh, Tamil Nadu, Kerala, and Karnataka.
- In 2020, huge swarms of **locusts** ate away standing crops in states like Rajasthan and Madhya Pradesh.
- The average food prices (after adjusting for inflation) in the 11 months of 2021 are the highest in 46 years.

Suggestion

- There should be **integration** with the programmes undertaken by different ministries, sectors and global processes.
- The **risk management** measures have to be holistic and must provide social protection for all citizens, especially the poor and vulnerable.
- A task forces for vulnerability assessment, planning and monitoring for income generation, agriculture, water management should be created to tackle climate change.
- Investing in **integrated farming systems** practiced by small farmers, will promote food security as well as help absorb climate shocks and seasonal stresses.
- Need informed participation and women's leadership in the **decentralised** and **inclusive governance system.**

MICROPLASTIC DISCOVERED IN "PRISTINE" HIGH-ALTITUDE PYRENEES MOUNTAIN AIR

A recent study to understand the **spread of microplastics** in environment was conducted at the **Pic du Midi** Observatory in the **French Pyrenees Mountain range**.

Highlights:

- Scientists sampled air 2,877 meters above sea level. The study found that all **samples contained microplastics**.
- The particles were able to travel such distances because they were able to **reach great altitudes.**
- The study found Microplastic in the **Mediterranean Sea and the Atlantic Ocean**.

Microplastics?

- Microplastics are **small pieces of plastic**, less than 5 mm in length, that occur in the environment as a consequence of plastic pollution.

- They are present in a **variety of products** from cosmetics to synthetic clothing to plastic bags and bottles.
- Many of these products readily enter the environment in wastes.

Properties:

- Microplastics consist of **carbon and hydrogen atoms** bound together in polymer chains.
- Other chemicals such as **phthalates, polybrominated diphenyl ethers** are also present in microplastics.

Types:
Primary

- **Examples:** Microbeads found in personal care products, plastic pellets used in industrial manufacturing, and plastic fibers used in synthetic textiles.

Secondary

- Secondary microplastics form due to the **breakdown of larger plastics**.
  o This happens when larger plastics undergo weathering through exposure to wave action, wind abrasion, and ultraviolet radiation from sunlight.

Impact of Microplastics:
On Environment:

- Microplastics are not **biodegradable**.
- In oceans alone, **annual plastic pollution** from all types of plastics was 4 million to 14 million tons in the early 21st century.
- Microplastics are a **source of air pollution**, occurring in dust and airborne fibrous particles.
- They have been found lodged in the **digestive tracts and tissues** of various invertebrate sea animals
- **Fish and birds** are likely to ingest microplastics floating on the water surface.
- **The ingestion** can cause aquatic species to have less energy to carry out life functions, leading to neurological and reproductive toxicity.

On Humans:

- They have been detected in drinking water and food products, including seafood and **table salt.**
- Scientists have also detected microplastics in **human tissues and organs**.

Initiatives to Tackle Microplastics:

- **United Nations Environmental Programme** engaged more than 100 countries in educational campaigns to reduce harmful impacts of microplastics.
  o **Aim**: Raising awareness of plastics pollution and encouraging reuse and recycling of plastics.
- **The European Commission** has launched an initiative that aims to tackle microplastics unintentionally released into the environment.
  o It will focus on labelling, standardization, certification and regulatory measures for the main sources of these plastics.
- In 2015 the United States passed the **Microbead-Free Waters Act**, which prohibits the manufacture and distribution of rinse-off cosmetics products that contain plastic microbeads.

SAJNEKHALI WILDLIFE SANCTUARY BY GOVERNMENT OF WEST BENGAL TO PROTECT PLANTATIONS AFTER CYCLONE YAAS

Nets put up inside the Sajnekhali Wildlife Sanctuary by Government of West Bengal to protect plantations after Cyclone Yaas are blocking paths of wild animals.

Sajnekhali Wildlife Sanctuary:

- The sanctuary is situated in the northern part of the **Sundarbans delta** in West Bengal, India.
- It was set up as a sanctuary in 1976.
- It is located at the confluence of the **Matla and Gumdi rivers.**
- **Flora:** Mangrove scrub, forest and swamp.
- **Fauna**: Water fowl, pelican, spotted deer, rhesus macaques, wild boar, tigers, water monitor lizards, fishing cats, olive ridley turtle, and migratory birds.

TIGER SURVEY: CENSUS WORK COVERS 400 SQ KM IN CHHATTISGARH'S MAOIST TERRITORY

The tiger census in Indravati Tiger Reserve will be soon carried out.

Highlights of the survey:

- It is the first-time tiger counting will be carried in a Maoist-affected area.
- The connectivity between **Tadoba Tiger Reserve and Indravati Tiger Reserve** makes an important tiger habitat in central India.

Indravati Tiger Reserve:

- **Location:** Bijapur district of Chhattisgarh, India
- It is one of the three tiger reserve in the state along with **Achanakmar Tiger reserve, Udanti- Sitanadi Tiger Reserve.**
- The reserve was formerly known as **Kutru National Park.**
- The reserve had reserve had three tigers in 2018-19.

- **Major river passing through the reserve**- Indravati
- **Legal Status:**
  o **National Park-** 1981
  o **Tiger Reserve**- 1983
- **Vegetation**- Southern tropical moist mixed deciduous forests and Dry evergreen forests
- **Flora-** teak, lendia, salai, mahua, tendu, semal, haldu, ber and jamun.
- **Fauna-** tiger, leopard, striped hyena, wolf, wild buffalos, sloth bear, fox, hare, common langur, flying squirrel, chital, sambar, barking deer, nilgai, wild boar and gaur.
- **Corridor:** It has connectivity with several tiger reserves, viz. Kawal (Telangana), Tadoba (Maharashtra) and Kanha (Madhya Pradesh).

COUNTING THE COST 2020: A YEAR OF CLIMATE BREAKDOWN

UK charity Christian Aid in its report **Counting the cost 2020: a year**

of climate breakdown identifies 15 of the most destructive climate disasters of the year.

Highlights:

- **Upward trend in disasters** reflects the effects of **man-made climate change.**
- The most expensive disaster in 2021 was **hurricane Ida,** which lashed the eastern United States.
- Disasters costing several billion dollars include flooding in Canada, a late spring freeze in France that damaged vineyards, and a **cyclone in India and Bangladesh.**
- **Cyclone Amphan was one of the strongest** storms on record in the Bay of Bengal**.**
  - o It was also the costliest tropical cyclone of the year.
- **Four of the ten** costliest events occurred in Asia.
- **The intensity of cyclones** hitting the countries **around the North Indian Ocean** has been increasing over the last decades.
- **Geographical situation and socio-economic conditions** make the littoral states of the Bay of Bengal among the most vulnerable regions to climate change.

Most expensive, chronologically:

- **Australia bushfires** (Australia, $5 billion)
- **Locust swarms** (East Africa, $8.5 billion)
- **Windstorms Ciara and Alex** (Europe, $5.9 billion)
- **Cyclone Amphan** (India, Sri Lanka, Bangladesh, $13 billion)
- **Atlantic Hurricane season** (US, Central America, $40 billion)
- **China floods** (China, $32 billion)
- **India floods** (India, $10 billion)
- **Kyushu floods** (Japan, $5 billion)
- **Pakistan floods** (Pakistan, $1.5 billion)
- **US West Coast fires** (US, $20 billion)

Recommendations

- **To prevent further disasters,** countries must urgently cut greenhouse gas emissions.
- Richer countries need to provide **more funding to support vulnerable communities** living in poorer countries to help them **adapt and build resilience to the impacts of climate change**.
- All Governments must **invest in the energy transition** to renewables.
  - o Richer countries should support developing countries so they can leapfrog the fossil fueled development path taken by richer countries.
- A **fund to address the loss and damage** caused by climate change needs to be set up by the end of COP27.

KEN-BETWA RIVER INTERLINKING: CORE FOREST AREA OF PANNA TIGER RESERVE WILL COME UNDER WATER, WARNS STUDY

A study says the Ken-Betwa River Interlinking (KBRIL) Project will lead to the submergence of a major portion of the core area of the Panna Tiger Reserve.

The Ken-Betwa River Interlinking (KBRIL) Project:

- KBRIL aims to **transfer surplus water from the Ken** river (Madhya Pradesh) to the Betwa river(Uttar Pradesh).
- A dam, called **Dudhan dam**, will be made.
- KBRIL will help to irrigate the drought-prone **Bundelkhand region**.
- It is designated as the **National Project**.
  - If a project gets designated as **National Project,** then the Union government will share 90 % cost of the project and the State government will only share 10% cost.
  - In the KBRIL project, the Union government will share 90% cost and the rest 10% will be shared by Uttar Pradesh and Madhya Pradesh together.
- It is estimated that the project may submerge around 58 KM sq area (10%) of the critical tiger habitat (CTH) area of the Panna Tiger Reserve (PTR).

Concerns related to the KBRIL project:

- Indirectly, the project will result in a **loss of more than 100sq km of CTH** of PTR.
  - The total area submerged due to the project would be around 86 sq km, of which 57sq km lies within PTR. It **means 65% of total submergence due to the project lies in PTR**.
- This would also result in the **loss of 2 million trees**, **habitat fragmentation, displacement**,

and **loss of connectivity due to the submergence**.

Ken and Betwa rivers:

- **Both**, the Ken and the Betwa river **are tributaries of the Yamuna River**.
- Both rivers drain the **Eastern Malwa plateau. Chambal river**, the largest tributary of Yamuna river drains the central part of the **Malwa plateau.**
  - **Ken river tributaries:**
    - Alona, Bearma, Sonar, Mirhasan, Shyamari, Banne, Kutri, Urmil, Kail and Chandrawal rivers.
    - Sonar river is the largest tributary of Ken.
  - **Betwa river tributaries:**
    - Jamni, Halali and Dhasan rivers

Panna National Park (PNP) and Panna Tiger Reserve (PTR):

- **Location:**
  - Panna and Chhatarpur districts, **Madhya Pradesh**.
  - Geographically, it is **located in the Vindhya hills of MP**.
- Panna National Park was **established in 1981.**
- **In 1994, a portion of PNP was declared as the 22nd Tiger reserve of India**.
- PNP was **Included in the list of Global Network of Biosphere Reserves** by the United Nations Educational, Scientific, and Cultural Organisation (UNESCO) in 2020.
  - The UNESCO has cited PTR as a critical tiger habitat.
- The **ken** river **flows from the park** from south to north.
  - **Animals:** Bengal tiger, Indian leopard, chital, chinkara, nilgai, S

ambar deer and sloth bear, rusty-spotted cat, Asian palm civet.
  o **Birds:** Bar-headed goose, crested honey buzzard, red-headed vulture, blossom-headed parakeet, changeable hawk-eagle, Indian vulture.

- Ken river and its tributary Shyamari River, flows in the park.
  o **Ken river is home for Gharial and Mugger**.
- **Sanctuaries part of PNP:**
  o Panna (Gangau) Sanctuary
  o Ken Ghariyal Sanctuary

BIHAR GOVT INITIATES STEPS TO STABILIZE POPULATION

Recently, the government of Bihar decided to **sterilize nilgais** to control their increasing population in the state.

Nilgai (bluebuck)

- Nilgai is the **largest Asian antelope.**
- **It** is native to the **Indian subcontinent.**
- **Physical Appearance:** sloping back, a deep neck with a white patch on the throat, a short mane of hair behind and along the back ending behind the shoulder.
- It is an **herbivorous animal** (plant-eater). They eat grass, leaves, buds, and fruits.
- It is a **diurnal (active during the day) animal** that usually lives in small herds, composed of animals of only one sex.

- It **releases a scent from the glands** on their feet to mark the place where they take a rest during the day.
- Nilgai lives 12 to 13 years in the wild and up to 21 years in captivity.

Conservation status

- **IUCN status:** Least Concerned
- **Wildlife protection act:** Schedule III

Distribution

- Nilgai occurs in **India, Nepal, and Pakistan.**
- Significant numbers occur in the **Terai lowlands in the foothills of the Himalayas.**
- Nilgai prefers areas with **short bushes and scattered trees in scrub** forests and grassy plains.

CROPLAND EXPANSION

As per recently published paper, cropland area across the world has been increased.

- Cropland is defined as **land used for annual and perennial herbaceous crops** for human consumption, forage (including hay) and biofuel.
- Perennial woody crops, permanent **pastures** and shifting cultivation are **excluded** from the definition.

- The cropland expansion is often explained as a **direct consequence** of the global **increase in food and energy requirements** due to continuing population growth.

Highlights of the Study:

- Cropland area across the world **increased by 9 per cent** and cropland net primary production (NPP) by 25 per cent from 2003-2019.

- The **largest cropland expansion** (34 per cent) was observed **in Africa.**
- Global per capita cropland area decreased by 10 per cent.

Impact of Cropland Expansion:

Positive Impacts:

- Cropland expansion results in **additional global crop production** and thereby satisfies the need of the global population.

Negative Impacts:

- Cropland expansion is the major cause of **global biodiversity loss** through the **loss and fragmentation of natural habitat.**

o It poses **major threats to** many common as well as **IUCN red-listed species.**

- Acceleration of cropland expansion has resulted in a significant **negative impact to tropical rainforests, leading to deforestation** and changes to **watershed hydrology** and water balance.
- Land-use intensification **threatens** multiple taxa of primarily farmland species **due to habitat homogenization, irrigation and high inputs of agro-chemicals.**

GOVT PLANNING TO BLEND 15 PER CENT GREEN HYDROGEN WITH PIPED NATURAL GAS

Government is planning to blend 15 per cent green hydrogen with piped natural gas (PNG) for domestic, commercial and industrial consumption.

Benefits of Blending

- Adding hydrogen to natural gas can significantly reduce **greenhouse gas** emissions.
- It improves **air quality** by reducing sulphur dioxide, oxides of nitrogen, and particulate emissions and displacing conventional gasoline or diesel fuels.
- It can improve the **carbon intensity** and sustainability of the final natural gas product delivered to consumers.
- Blending may also prove to be a viable means of delivering hydrogen produced in **remote locations** and extracting the

hydrogen downstream near end-use applications.

- The hydrogen and natural gas mixture is used in existing appliances for **heat and electricity** generation.

Challenges

Low energy density

- The energy density of hydrogen is around **33%** of that of natural gas's energy density.
- A **3%** blend of hydrogen blend in a natural gas pipeline would reduce the energy content that the pipeline transports by around **2%.**

Effect on product quality

- Variability in the volume of hydrogen blended into the natural gas stream would have an impact on the operation of equipment as only a **narrow range** of gas mixtures pass.

Risk of flames spreading

- Hydrogen burns **faster** than methane gas and the flame is also not bright while burning which could result in the risk of flame spread.

ODISHA RADIO-TAGS RESCUED INDIAN PANGOLIN

Recently, Odisha Forest and Environment Department have completed its first-ever radio-tagging of the Indian pangolin.

Indian pangolin

- Indian Pangolin is a large **anteater**.
- They are the **only mammals wholly-covered in scales** (made of keratin), used as protection from predators.
- They are nocturnal and spend most of their day among rocks or in their burrows.
- During the night they leave their **burrows** to search for food.
- They mainly eat ants and termites.

Physical Appearance:

- A terminal scale is present on the ventral side of the tail of the Indian Pangolin.
- Its sticky tongue, which is longer than its body, is specially adapted for reaching and lapping up **insects** in **deep crevices**.

- It has about **13 rows of moveable sharp scales** covering its body, which are shed periodically.

Distribution:

- It lives in **Bangladesh, Southern Nepal, Sri Lanka, India**.
- It inhabits rainforest, grasslands, and **barren hilly areas**.
- It can live in modified habitats, so long as there are plenty of **termites** and **ants**.

Conservation Status:

- **IUCN Status:** Endangered
  o IUCN status of Chinese and Sunda pangolins- **Critically endangered**
- **Wildlife Protection Act:** Schedule I

Conservation Challenges

- **Habitat degradation**
- **Human-wildlife conflict**
- **Fragmentation** of forest areas due to developmental projects and encroachment by villagers.
- **Poaching:** International trade: For its meat and scales in East and South East Asian countries, particularly China and Vietnam.

TEQUILA FISH RETURNED TO THE WILD IN MEXICO AFTER BEING DECLARED EXTINCT

Recently, Tequila fish species was successfully reintroduced to its habitat.

Tequila Fish:

- Tequila is a fish species from Mexico.

- The name **'tequila'**, is derived from **Tequila Volcano.**
- It is endemic to Ameca River basin in **west-central Mexico**.
- The species was considered extinct in 2003.

THOUSANDS OF THREATENED SEAHORSES KILLED EVERY YEAR AS BYCATCH IN PALK BAY

A recent study shows how seahorses, including Hippocampus kuda and H. trimaculatus, are affected by commercial fishing in Palk Bay.

- Palk Bay is a shallow water body between the southeast coast of India and Sri Lanka.

Hippocampus kuda

- It is also known as the common seahorse or **yellow seahorse**.
- **It** is widely distributed throughout the **Indo-Pacific region** in mangroves, coastal seagrass etc.

H. trimaculatus

- It is also known as a flat-faced seahorse or **three-spot seahorse**.
- Its natural habitat is **shallow seas.**
- **Found in** the **Indo-Pacific Ocean**.

BHAICHUNG, ANJU BOBBY GEORGE AMONG 7 NEW MEMBERS OF MISSION OLYMPIC CELL

Ministry of Youth Affairs and Sports included Baichung Bhutia and Anju Bobby George among seven former athletes in the Mission Olympic Cell recently.

Mission Olympic Cell:

- MOC is a body set up by the **Sports Authority of India**.
- **Aim**: To select athletes for financial assistance under the Target Olympic Podium Scheme (TOPS).
- **It focuses on** selection, exclusion and retention of athletes, coaches, training institutes that can receive TOPS assistance.

Functions of MOC:

- **To approve customized programs** for athletes chosen under the TOP Scheme.

- To recommend **financial disbursement** for the customized programs.
- Monitor and review progress of athletes in accordance with the training programs.
- **Take decisions** on sudden and unanticipated requirements/needs of athletes.
- Communicate regularly with the athletes on their progress, requirements and perspectives.
- **Ensure documentation**/contractual obligations of beneficiaries.

What is Target Olympic Podium Scheme (TOPS)?

- **TOPS** is a flagship program of the Ministry of Youth Affairs and Sports

- **Aim**: to provide **assistance to** India's **top athletes**.
- **Department of Sports** will identify athletes who are potential medal winners in 2020 / 2024 Olympics.

Provision of Assistance:

The selected athletes can seek assistance under the Scheme for the following:

- **Customized training** under reputed coaches at institutes having world-class facilities.
- **Participation** in international competition.
- Purchase of equipment.
- **Services of support staff,** Physical Trainer, Sports Psychologist, Mental Trainer and Physiotherapist etc.
- **An allowance** of Rs. 50,000 per month as an incentive.

ANTI-DOPING BILL INTRODUCED IN LS

Recently, Ministry of Youth Affairs and Sports introduced the National Anti-Doping Bill in Lok sabha.

Highlights:

- **Aim**: To create a statutory framework for tackling doping in sport and give greater powers to the country's doping watchdog.

Key features

Constitution of NADA

- The **National Anti-Doping Agency** (NADA) will conduct investigation, levying sanctions for Anti-Doping rule violations, disciplinary procedures to be adopted, sample collection and sharing of information.
- NADA will be headed by a **Director-General,** to be

appointed by the central government.

Objectives of NADA:

- To **implement anti-doping rules** and regulate dope control programme.
- To **promote education and research** and creating awareness about doping and its ill effects.

Functions of NADA:

- **To implement the anti-doping code** to achieve compliance by all sports organizations in the Country.
- To coordinate **dope testing program** through all participating stakeholders.
- To promote **anti-doping research** and education to

- inculcate the value of dope free sports.
- To adopt best practice standards and quality systems to enable effective implementation and continual improvement of the program.

National Board for Anti-Doping in Sports:

- The Bill establishes a **National Board for Anti-Doping in Sports** to make recommendations to the government on anti-doping regulation and compliance of international commitments on anti-doping.
- The Board will oversee the activities of the Agency and issue directions to it.
- It will consist of a chairperson and two members appointed by the central government.

Disciplinary and Appeal Panels:

- The Board will constitute a National Anti-Doping Disciplinary Panel for determining consequences of **Anti-Doping Rule Violations.**

- The Panel will consist of a chairperson and four Vice-Chairpersons and ten members (medical practitioners and retired eminent athletes).

National Anti-Doping Appeal Panel:

- The Board will also constitute a **National Anti-Doping Appeal Panel** to hear appeals against:
  o Refusal to grant therapeutic use exemption
  o **Imposition of consequences** for anti-doping rule violation
  o Any other decision as prescribed.

The Appeal Panel will consist of:

- A chairperson (a retired High Court judge)
- A Vice-Chairperson (a legal expert)
- Four members (medical practitioners and retired eminent athletes).

Dope Testing Laboratories:

- The existing National Dope Testing Laboratory will be deemed to be the principal dope testing laboratory.
- The central government will establish more National Dope Testing Laboratories.

WADA RESTORES NDTL ACCREDITATION

Recently, the National Dope Testing Laboratory (NDTL) has regained the World Anti-Doping Agency (WADA) accreditation.

- **The WADA accreditation** was suspended in August 2019, based on non-compliances which were observed during on-site assessment of the Laboratory.

What is Doping?

- The term "doping" refers to the **use of prohibited**

medications, drugs, or treatments by athletes with the intention of improving athletic performance.

Regulations:

- In 1967 the **International Olympic Committee** (IOC) banned doping.
- In 1999, the IOC led the initiative to form the **World Anti-Doping Agency** (WADA).

- WADA assists in setting the standard for other agencies and sports.
- According to the **World Anti-Doping Code** a substance or treatment constitutes doping if it meets two of the three following criteria:
  o It enhances performance
  o It presents a risk to the athlete's health
  o It is contrary to the spirit of the sport

National Dope Testing Laboratory (NDTL):

- NDTL is a premier analytical testing & research organization established under **Ministry of Youth Affairs and Sports.**
- **Aim:** To get permanently accredited by **International Olympic Committee** (IOC) and World Anti-Doping Agency (WADA) to do the testing for the banned drugs in human sports.
- It is one of the 32 WADA accredited laboratories in the world.

Objectives:

- To provide accurate & reliable testing services for **Dope testing of Human sports** to the satisfaction of clients
- To become an institution with high level of **research in drug** of abuse analysis in the country.
- To conduct **research in Bio-Chemistry**, Forensic science, Bio-technology, Chemistry & Pharmacology to innovate new methods for drugs of abuse analysis.
- To conduct research in drug of abuse and allied area under inter-disciplinary scheme to promote the interest of young talent.

World Anti-Doping Agency (WADA):

- WADA was established in 1999 as an **international independent agency.**
  o It is composed and funded by the sport movement and governments of the world.
- **Aim:** To lead a collaborative worldwide movement for doping-free sport.
- Its key activities include scientific research, education, development of anti-doping capacities, and monitoring of the **World Anti-Doping Code**.
  o World Anti-Doping Code is the document harmonizing anti-doping policies in all sports and all countries.

Objectives:

- To protect the **rights of all athletes** in relation to anti-doping, contributing to the integrity in sport.
- To maintain the highest **ethical standards** and avoid improper influences or conflicts of interests that would undermine independent and unbiased judgement.
- To develop policies, procedures and practices that reflect **justice, equity and integrity.**