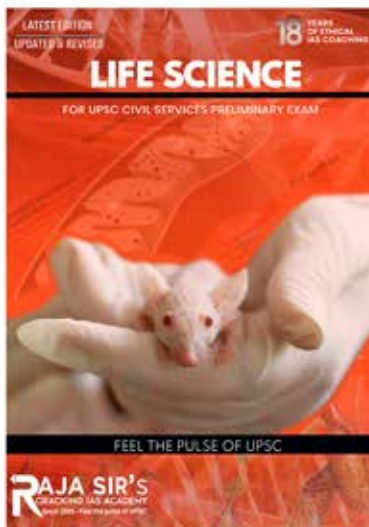


MONTHLY CURRENT AFFAIRS



GS- 3- MAINS SPECIAL

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Supreme Court rules it can directly grant divorce to couples under Article 142

Under Hindu Marriage Act, 1955, the procedure to obtain a divorce by mutual consent is laid down. Section 13B (1) states that both.....

Cough syrups for export to be tested from June 1

Cough syrup exporters will have to undertake testing of their products at specified government laboratories from June 1 before getting permission for the outbound

India, Russia said to suspend talks to settle trade in rupees

India and Russia have halted efforts to settle bilateral trade in rupees, after months of negotiations failed to convince Moscow to keep rupees in its coffers. This would be a major setback for Indian importers of

Only six religion options make it to next Census form

Despite demands from several communities to be counted as a separate religion, the next Census will only count Hindu,.....

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POLITY

Supreme Court rules it can directly grant divorce to couples under Article 142

On Monday, a constitution or five-judge bench of the Supreme Court held that it can exercise its powers under Article 142 of the Constitution to **directly grant a decree of divorce to consenting parties**

Getting a divorce under the Hindu Marriage Act (HMA)

- Under Hindu Marriage Act, 1955, the procedure to obtain a divorce by mutual consent is laid down. Section 13B (1) states that both parties can file a petition for dissolution of their marriage by presenting a decree of divorce to the district court.
- Both parties seeking divorce have to wait between 6 to 18 months from the date on which they presented their petition to obtain the divorce decree. The six-month period is given so that the parties have ample time to withdraw their plea.
- However, if there is no possibility of reconciliation, it would be meaningless to prolong the agony of the parties to the marriage

Currently, If the parties wish to opt for a divorce more expeditiously, they can approach the Supreme Court under Article 142 for the dissolution of their marriage.

Article 142

- Article 142 provides **discretionary power to the Supreme Court** as it states that the SC in the exercise of its jurisdiction **may pass such decree or make such order as is necessary for doing complete justice** in any cause or matter pending before it.
- In the early years of the evolution of **Article 142**, the general public and the lawyers both lauded the SC for its efforts to **bring complete justice to various deprived sections** of society or to protect the environment.
 - The Cleansing of Taj Mahal and justice to many undertrials is a result of the **invocation of this article only**.
- *Cases of Judicial Overreach:*
 - In recent years, there have been several judgments of the Supreme Court wherein it has been foraying into areas which had long been forbidden to the judiciary by reason of the **doctrine of 'separation of powers'**, which is part of the **basic structure of the Constitution**. One such example is:
 - **The ban on the sale of alcohol along national and state highways:** While the notification by the central government prohibited liquor stores along National Highways only, the Supreme Court put in place a ban on a distance of 500 metres by invoking Article 142.
 - Additionally, and in the absence of any similar notification by

any of the State governments, the court extended the ban to State highways as well.

- Such judgments have created uncertainty about the discretion vested in the court to invoke **Article 142** where even fundamental rights of individuals are being ignored.

iGoT Karmayogi Portal & Revamped e-HRMS 2.0 portal

- Mission Karmayogi or National Programme for Civil Services Capacity Building (NPCSCB).
- Mission Karmayogi aims to prepare Civil Servants for the future by making them more creative, constructive & innovative through transparency and technology.
- This unique programme will help to lay the foundation for civil servants in the country.
- There will be more focus on 'on-site learning' in complementing "off-site learning".
- *Objectives:*
 - The stated aim of Mission Karmayogi is to provide a mechanism to continuously build capacity, update the talent pool, and provide equal opportunities for personal and professional growth and esteem of government officials at all levels.
 - Karmayogi seeks to shift the focus from rule-specific to role-specific.
 - The Mission will help training the officers to meet the challenges of the society.
 - It aims at building future-ready civil service with the right attitude, skills & knowledge, aligned to the vision of New India.
 - The endeavour is also to end the culture of working in the silos and to overcome the multiplicity of training curriculum because of the institutions spread all over the country.
 - It will improve the Human Resource management practices in the Government and will use scale & state of the art infrastructure to augment the capacity of Civil Servants.
- *Executing Bodies:*
 - It will be steered by four new bodies.
 - The new entities will be a Prime Minister's Public Human Resources Council, a Capacity Building Commission, a Special Purpose Vehicle (SPV) that will own and operate the digital assets and technological platform for online training, and a Coordination Unit, which will be headed by the Cabinet Secretary.

India slips in press freedom index, ranks 161 out of 180 nations

India's ranking in the 2023 World Press Freedom Index has slipped to 161 out of

180 countries, according to the latest report released by the global media watchdog **Reporters Without Borders (RSF)**.

Neighbors

In comparison, Pakistan has fared better when it comes to media freedom as it was placed at 150, an improvement from last year's 157th rank. In 2022, India was ranked at 150.

Sri Lanka also made significant improvement on the index, ranking 135th this year as against 146th in 2022.

Norway, Ireland and Denmark occupied the top three positions in press freedom, while Vietnam, China and North Korea constituted the bottom three.

Reporters Without Borders (RSF)

Reporters Without Borders (RSF) comes out with a global ranking of press freedom every year. RSF is an international NGO whose self-proclaimed aim is to defend and promote media freedom. Headquartered in Paris, it has consultative status with the United Nations. ”.

Freedom of Press in India

- The Constitution, the supreme law of the land, guarantees **freedom of speech and expression under Article 19**, which deals with 'Protection of certain rights regarding freedom of speech, etc.
- Freedom of press is not expressly protected by the **Indian legal system** but it is impliedly protected under **article 19(1) (a) of the constitution**, which states - "All citizens shall have the right to freedom of speech and expression".
- In 1950, the Supreme Court in **Romesh Thappar v. State of Madras** observed that freedom of the press lay at the foundation of all democratic organisations.
- However, **Freedom of press is also not absolute**. It faces certain restrictions under **Article 19(2)**, which are as follows-
 - Matters related to interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign States, public order, decency or morality or in relation to contempt of court, defamation or incitement to an offence.

Stop caste survey immediately, High Court tells Bihar govt.

The Patna High Court ordered a stay on the caste-based survey being conducted by the Nitish Kumar government.

Advocate said the Bihar government was misusing the contingency fund and the

right to conduct such surveys was beyond the State's jurisdiction.

State, said the survey was being conducted to make plans for public welfare.

Data security concerns

The petitioners have made out a prima facie case against the continuation of the caste-based survey. There is also the question raised of data integrity and security, which has to be more elaborately addressed by the State

Prima facie, HC of the opinion that the State has no power to carry out a caste-based survey, in the manner in which it is fashioned now, which would amount to a census, thus impinging upon the legislative power of the Union Parliament

- **Census:**
 - The origin of the Census in India **goes back to the colonial exercise of 1881.**
 - Census has evolved and been used by the government, policymakers, academics, and others to capture the Indian population, access resources, map social change, **delimitation exercise**, etc.
 - However, as early as the 1940s, W.W.M. Yeatts, Census Commissioner for India for the 1941 Census, had pointed out that **“the census is a large, immensely powerful, but blunt instrument unsuited for specialized inquiry.”**
- **First Caste Census as SECC (Socio-Economic and Caste Census):**
 - SECC was **conducted for the first time in 1931.**
 - SECC is meant to canvass every Indian family, both in rural and urban India, and ask about their:
 - **Economic status**, so as to allow Central and State authorities to come up with a range of indicators of deprivation, permutations, and combinations of which could be used by each authority to define a poor or deprived person.
 - It is also meant to ask every person their **specific caste name** to allow the government to **re-evaluate which caste groups** were economically worst off and which were better off.
 - SECC has the **potential to allow for a mapping of inequalities at a broader level.**
- **Difference Between Census & SECC:**
 - The Census provides a **portrait of the Indian population**, while the SECC is a tool to identify beneficiaries of state support.
 - Since the **Census falls under the Census Act of 1948**, all data are considered confidential, whereas according to the SECC website, “all the personal information given in the SECC is open for use by Government
 - departments to grant and/or restrict benefits to households.”

Centre invokes Article 355 in Manipur to ensure state security

- It is a **part of emergency provisions** contained in **Part XVIII of the Constitution** of India, **from Article 352 to 360**.
- It **empowers the central government to take all necessary steps to protect a state against internal disturbances and external aggression**.
- This article empowers the Centre to take necessary steps **to protect a state from any kind of threat, be it internal or external**.
- The provision is designed to **ensure that the government can act swiftly and decisively in the event of any disturbance** or threat to the peace and security of the country.
- **Exact definition:**
 - The exact definition of Article 355 in the Constitution of India is, **"It shall be the duty of the Union to protect every State against external aggression and internal disturbance and to ensure that the government of every State is carried on in accordance with the provisions of this Constitution."**

In partnership with MEA, the NCGG completed training programme of 58th batch of civil servants of Bangladesh

National Center for Good Governance (NCGG):

- It was **set up in 2014** by the Government of India as **an apex-level autonomous institution under the Ministry of Personnel, Public Grievances and Pensions**.
- It has been set up **to assist in bringing about governance reforms through studies**.
- The Centre **traces its origin to the National Institute of Administrative Research (NIAR)**, which was set up in 1995 by the Lal Bahadur Shastri National Academy of Administration (LBSNAA), the Government of India's topmost training institute for civil services. NIAR was subsequently rechristened and **subsumed into NCGG**.
- NCGG **deals with a gamut of governance issues** from local, state to national levels, across all sectors.
- The Centre is **mandated to work in the areas of governance, policy reforms, capacity building and training of civil servants** and technocrats of India and other developing countries.
- It **curates training courses for civil servants from India and other developing countries**.
- It **provides a platform for sharing existing knowledge** and proactively seeking out and developing ideas for their implementation in the government, both at the National & International levels.
- NCGG has been **extensively working in areas such as primary and elementary education, decentralized planning at district and block**

levels, capacity building of Panchayat Raj Institutions (PRIs), participatory models of learning and action, rural development, cooperatives, and public sector management, etc.

- NCGG is **governed by a Governing Body, under the Chairmanship of the Cabinet Secretary.**

High Court does not have power to direct changes to Scheduled Tribes List: CJI

- Chief Justice of India asked why a Constitution Bench judgment which clearly held that no court or State had the power to “add, subtract or modify” the Scheduled Tribes List was not “shown” to the Manipur High Court. “It is a Presidential power to designate a Scheduled Caste or Scheduled Tribe,” He said
- Manipur High Court, directed that the State government “shall consider the case of the petitioners for inclusion of the Meetei/Meitei community in the Scheduled Tribe list, expeditiously, preferably within a period of four weeks from the date of receipt of a copy of this order”.
- It is not open to State governments or courts or tribunals or any other authority to modify, amend or alter the list of Scheduled Tribes specified in the notification issued under clause (1) of Article 342, the Constitution Bench in *State of Maharashtra versus Milind* had held in November 2000.
- It had held that a notification issued under clause (1) of Article 342, specifying Scheduled Tribes, can be amended only by law to be made by Parliament.

Process

- *State Recommendation:*
 - The process to include tribes in the ST list begins with **recommendations from the respective State governments**, which are then **sent to the Tribal Affairs Ministry**, which reviews and sends them to the **Registrar General of India for approval.**
- *NCST Approval:* This is followed by the **National Commission for Scheduled Tribes (NCST)** approval **before the list is sent to the Cabinet for a final decision.**
- *President's Assent:* The **final decision rests with the President (under Articles 342).**
 - The **inclusion of any community in the STs comes into effect only after the President assents to a Bill** amending the Constitution (Scheduled Tribes) Order, 1950.

STs in India

- The **Constitution of India does not define** the criteria for recognition of STs. As per **Census-1931**, STs are termed as "**backward tribes**" living in the

"Excluded" and "Partially Excluded" areas.

- The **Government of India Act of 1935** called for the first time for **representatives of "backward tribes" in provincial assemblies.**
- *Constitutional Provisions:*
 - **Article 366(25):** It only **provides a process to define STs:** "STs means such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are **deemed under Article 342** to be Scheduled Tribes for the purposes of this Constitution."
 - **Article 342(1):** The President with respect to any State/UT (after consultation with the **Governor** in case of state) may **specify the tribes/tribal communities/part of or groups within tribes/ tribal communities as a Scheduled Tribe** in that State/UT.
 - **Fifth Schedule: It lays out provisions for the Administration and Control of Scheduled Areas and STs** in states other than 6 Schedule States.
 - **Sixth Schedule: Deals with the administration of the tribal areas** in Assam, Meghalaya, Tripura and Mizoram.
- *Statutory Provisions:*
 - Protection of Civil Rights Act, 1955 against Untouchability.
 - **Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989.**
 - **Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996.**
 - **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.**

Same-sex couples, live-in partners not included in surrogacy laws: Centre in SC

- The Centre in the Supreme Court has said that same-sex couples and live-in partners are not included in surrogacy and assisted reproduction laws to avoid 'misuse' and provide children a 'complete family'.
- It said though "the Supreme Court has decriminalised same-sex relations and live-in relations, neither any special provisions have been introduced with respect to same sex/live-in couples nor have they been granted any additional rights".
- The government said the inclusion of live-in and same-sex couples within the ambit of the Surrogacy Act would lead to "misuse". "It would be difficult to ensure a better future for the child born through surrogacy," it said.
- In a recent hearing of the same-sex marriage case, Chief Justice of India D.Y. Chandrachud, heading the Constitution Bench, had remarked that same-sex couples could offer as stable and loving a home, if not better, to children as heterosexual married parents.
- The response from the Centre is based on a petition filed by Chennai-based IVF specialist Arun Muthuvel, challenging several provisions of the Surrogacy Act, 2021 and the Assisted Reproductive Technology (Regulation) Act, 2021 as discriminatory and violative of the reproductive rights of women and an

impediment to the right to privacy.

Delhi vs Centre: the question is who has control over the bureaucrats

In July 2018 Constitution Bench of the Supreme Court advised the Centre, acting through the Lieutenant-Governor, and the Delhi government led by Chief Minister to follow the path of “collaborative federalism”.

“In collaborative federalism, the Union and the State Governments should express their readiness to achieve the common objective and work together for achieving it,” observed the Constitution Bench.

This Judgment had declared that the Delhi government had exclusive executive powers, except under Entries 1 (public order), 2 (police) and 18 (land) of the State List. It had cautioned the L-G to only intervene in matters “fundamental” to Delhi which could be escalated to the President.

Timeline of the Dispute

- *2017 Judgement:*
 - The Delhi High Court had, in its judgment 2017 **held that for administration purposes of the National Capital Territory (NCT), the Lieutenant Governor (L-G) is not bound by the aid and advice of the Council of Ministers in every matter.**
 - On appeal, the SC in 2017, referred the matter to decide the interpretation of **Article 239AA of the Constitution.**
- *2018 Judgement:*
 - A **five-judge Constitution bench had unanimously held that the L-G of Delhi is bound by the aid and advice of the elected government**, and both needed to work harmoniously with each other.
- *2019 Judgement:*
 - A two-judge Bench of the SC **delivered a split verdict on the question of powers of the Government of NCT of Delhi and Union government** over services and referred the matter to a three-judge Bench.
 - While one judge had ruled the Delhi government has no power at all over administrative services.
 - Another judge, **however, had said the transfer or posting of officers in top echelons of the bureaucracy (joint director and above) can only be done by the Central government** and the view of the L-G would prevail in case of a difference of opinion for matters relating to other bureaucrats.
- *2022 Case:*
 - The Centre on **27th April 2022 sought a reference to a larger Bench**, arguing that it **needed the power to make transfers and postings of officers in Delhi** on account of it being the national

- capital and the “face of nation”.
- The court agreed that the **limited question relating to the scope of the legislative and executive powers of the Centre and NCT of Delhi**, with respect to the term “services”, would need an authoritative pronouncement by a Constitution Bench in terms of **Article 145(3) of the Constitution**.
- *Arguments For:*
 - The Centre has **consistently maintained that because Delhi is the national capital** and the face of the country, **it must have control over administrative services**, which include appointments and transfers.
- *Counter-Arguments:*
 - The Delhi government has **argued that in the interest of federalism, the elected representatives must have power over transfers and postings**.
 - The Delhi government had also contended that the recent amendments to the **Government of National Capital Territory of Delhi (Amendment) Act, 2021, violate the doctrine of basic structure of the Constitution**.

Governance Model of New Delhi

- The **status of Delhi being a Union Territory under Schedule 1 of the Constitution** but christened the ‘National Capital Territory’ under Article 239AA.
- The **69th amendment to the Constitution of India** inserted Article 239AA, which declared the Union Territory of Delhi to be administered by a L-G who works on aid and advice of the elected legislative assembly.
 - However, the ‘aid and advice’ clause pertains only to matters on which the elected Assembly has powers under the **State and Concurrent Lists** with the exception of public order, police, and land.
- Further, the **Article 239AA also notes that L-G has to either act on the aid and advice** of the Council of Ministers, or he is bound to implement the decision taken by the President on a reference being made by him.
- Also, **Article 239AA, empowers the L-G to refer a difference of opinion on ‘any matter’** with the Council of Ministers to the President.
- Thus, this dual control between L-G and the elected government leads to a power tussle.

Home Ministry prepares Model Prisons Act 2023 to replace British-era law

- The government had earlier decided to review and revise the colonial-era outdated Prison Act in tune with contemporary modern-day needs and correctional ideology.
- The Model Prison Act, 2023 may serve as a guiding document for the States, and for adoption in their jurisdiction.

- Union Home Ministry had assigned the task of revision of the Prisons Act, 1894 to the Bureau of Police Research and Development.
- The Bureau prepared a draft after holding wide-ranging discussions with State Prison authorities, correctional experts, and others.
- It has been prepared with the objective of holistically providing guidance and addressing the gaps in the existing Prisons Act.

Features:

- Some salient features of the new Model Prisons Act include provision for security assessment and segregation of prisoners, and individual sentence planning.
- Grievance redressal, prison development board, attitudinal change towards prisoners, provision of separate accommodation for women prisoners, and transgender are some of the other features.
- There is also a provision for use of technology in prison administration with a view to bring transparency in prison administration.
- The new Act will focus on vocational training and skill development of prisoners and their reintegration into the society.

T.N.'s spurious liquor toll rises to 17

Alcoholic beverages are made by **fermentation of sugary and starchy substances**, followed by distillation to increase alcohol concentration. The active ingredient in them is **ethyl alcohol or ethanol**.

Illicit liquor (Hooch):

- Any alcoholic beverage made under unlicensed conditions is called illicit liquor. Usually, sub-standard raw material is used, often this is spiked with other chemicals.
- The term hooch is popular slang for illicit liquor. The origin of the term hooch is said to come from the Hoochinoo Indians of Alaska.

What makes it poisonous?

- Under unregulated conditions, **methanol or methyl alcohol** can be produced with the desired ethanol.
- Sometimes, industrial methyl alcohol or **denatured spirit (mixture of ethanol and methanol)** is added by illicit brewers to save costs and in the mistaken belief that it'll increase potency.
- Methyl alcohol is extremely toxic — 10 ml can cause blindness and 30 ml can cause death within 10 to 30 hours. It is like ethyl alcohol in taste and smell.

Treatment:

- **Ethyl alcohol and fomepizole are used as antidotes**, inhibiting the metabolizing of methyl alcohol so that it passes through urine. Advanced treatment requires **haemodialysis** to remove toxic substances from the bloodstream.

Alcohol prohibition in India

- Alcohol prohibition is in ****the states of **Bihar, Gujarat, Mizoram, and Nagaland**. All other Indian states and union territories permit the sale of alcohol.
- The **directive principles of state policy (DPSP)** in the constitution of India (**article 47**) state that "the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health".The Directive Principles are not-justiciable rights of the people but fundamental in the governance of the country. It shall be the duty of the State to apply these principles in making policy laws per Article 47. As Per Article 38, state and union governments, as duty, shall make further detailed policies and laws for implementation considering DPSPs as fundamental policy.
- **National prohibition was advocated by Mahatma Gandhi, as well as by many Indian women**. Prohibition in the states of India that have implemented the policy has led to lower rates of drinking among men, as well as a decreased incidence of violence against women.

Dry Days in India

- Dry Days in India are specific days when the sale of alcohol is prohibited in the states which otherwise allow the sale and consumption of alcohol.
- Dry Days are fixed by the respective state government. Most Indian states observe dry days on major religious festivals/occasions depending on the popularity of the festival in that region.
- **National holidays such as Republic Day (26 January), Independence Day (15 August) and Gandhi Jayanti (2 October) are usually dry days throughout India**. Dry days also depend on the establishment selling alcohol. For example, generally, 5-star hotels do not have to observe all the dry days that liquor stores and small bars may have.
- **Dry days are also observed on and around voting days. National dry days also occur during the Election Commission of India-ordained voting and result days.**

Bihar

- On 26 November **2015, Bihar Government** announced that alcohol would be banned in the state from 1 April 2016. The government officially declared the total ban on 5 April 2016 on all types of liquor, its Sale [and consumption] of any type of alcohol in hotels, bars, clubs, and any other place.
- Violating the law carries a penalty of 5 years to 10 years imprisonment. On 30 September 2016 PatnaHigh Court ruled that the ban is "illegal, impractical

- and unconstitutional".
- Although even before the High Court order came, the Bihar government had announced a new stringent law on 2 October 2016.
 - As per **the new liquor law**, those found indulging in unlawful import, export, transport, manufacture, possession, sale, intoxicant, or liquor could attract a minimum of 10 years of jail term which may extend to imprisonment for life besides a minimum fine of Rs 1 lakh which may extend to Rs 10 lakh.
 - On 3 October 2016, the Bihar government approached the Supreme Court of India challenging the High Court order.
 - The Supreme Court Bench headed by Chief Justice T. S. Thakur agreed to give an urgent hearing on the matter and on 7 October 2016, much to the relief of the government, the bench stayed the high court order. "Ban on liquor and fundamental rights do not go together," the SC bench said.
 - The act brought in stricter measures, with all Sections in the act being non-bailable and the police being allowed to assume that manufacturing of alcohol was ongoing if utensils containing a mix of jaggery or grapes are found. Under the law, only special courts constituted under Bihar Special Courts Act can try the cases. It also empowered authorities to confiscate properties upon whose premises liquor is either consumed or stored.

Socio-economic effects in Bihar

- Within a year of prohibition, the number of murders and gang robberies decreased by 20%. The number of riots fell by 13% and traffic accidents were reduced by 10%.
- For the economy, spending per household rose: an increase in sales of milk by 10%, cheese by 200%, two-wheeled vehicles by 30%, and electrical appliances by 50%.
- In villages, brick houses are gradually taking the place of more rudimentary cottages since state Prohibition came into effect. At the same time, substance abuse has increased significantly due to liquor being hard to access.

Gujarat

- Bombay State had prohibition between 1948 and 1950, and again from 1958. Gujarat has a sumptuary law in force that proscribes the manufacture, storage, sale and consumption of alcoholic beverages.
- The legislation has been in force since 1 May 1960 when Bombay State was bifurcated into the states of Maharashtra and Gujarat. **Bombay Prohibition Act, 1949 is still in force in Gujarat state**, however, there is licensing regime in Maharashtra with granting licenses to vendors and traders.
- **Gujarat is the only Indian state with a death penalty for the manufacture and sale of homemade liquor that results in fatalities.** The legislation is titled the Bombay Prohibition (Gujarat Amendment) Act, 2009. The legislation was prompted by numerous deaths resulting from the consumption of methyl alcohol.
- Predictably, smuggling and illicit sale of alcohol are very common. "Folder" is a slang term of unknown origin, used in Gujarat to refer to a bootlegger who

delivers alcohol on-demand.

Permits

- Foreigners and visitors from other parts of India can apply online for a permit. There are 35 stores across the state including nine in Ahmedabad that sell liquor on production of a physical copy of the permit. Once the permit expires, users are to hand-over the unconsumed liquor to the district collector.

Public Interest Litigation

- Five petitions, including Public Interest Litigation (PIL), have been filed before the Gujarat High Court challenging the prohibition law in the state. Most petitioners have raised concern that prohibition law violates Right to Privacy and are seeking relaxation on consumption in privacy.

Mizoram

- **The Mizoram Liquor Total Prohibition Act, 1995** banned sale and consumption of alcohol effective from 20 February 1997. In 2007, the MLTP Act was amended to allow the wine to be made from guavas and grapes, but with restrictions on the alcohol content and the volume possessed. It is illegal to transport these products out of the state.
- Mizoram repealed the prohibition on 10 July 2014, a period of 17 years after it had been imposed. On that date, the state Legislative Assembly passed the Mizoram Liquor (Prohibition and Control) Act, 2014 (MLPC Act), replacing the MLTP Act. The Presbyterian Church had organised mass prayers in all member churches across the state twice that year opposing the repeal of prohibition.
- The Mizoram Liquor (Prohibition and Control) Act, 2014 was repealed on 20 March 2019 with the Mizoram Liquor Prohibition Act, 2019, it was a legislation promised by the Mizo National Front. Rules are yet to be notified for the ban in the state.

Nagaland

- **The Nagaland Liquor Total Prohibition Act, 1989 (NLTP Act)** banned the sale and consumption of alcohol in 1989. Enforcement of the ban is lax and Indian Made Foreign Liquor is readily available. Authorities generally turn a blind eye towards illegal sales. Reports have stated that some police officials themselves engage in bootlegging. The Congress party has termed prohibition a "total failure" and has pleaded for it to be revoked.
- The excise department had earned around ₹600 lakh (equivalent to ₹50 crore or US\$6.6 million in 2020) prior to prohibition. It earned about 10 lakh (US\$13,000) annually in NLTP Act-related fines as of June 2014. It is estimated that there were about 500 illegal liquor bars in Dimapur, the largest city in the state, as of August 2014. Alcohol is also smuggled in from

neighbouring Assam.

Why is Turkey likely to hold a second election on May 28 to elect its President?

- *Erdogan has got more votes than his challenger, why hasn't he won already?*
- Turkey does not have a system like India, where the candidate with the most votes is declared elected, irrespective of what percentage of the total vote she gets.
- A presidential candidate in Turkey must win at least 50% of the votes cast to be declared elected — and neither of them appear to have achieved that magic percentage.
- According to Turkish election law, in a situation where no candidate gets 50% of the vote, the top two candidates will face each other in a direct contest in a runoff election that will be held.
- (In 2018, the last time the presidential election was held, there had been no need for a runoff as Erdogan, with 53% of the vote, had won outright against three other candidates in the first round. The next candidate had won 31% of the vote.)

Telecom Bill should be finalised by July

- The Indian Telecommunication Bill, a draft version of which was released late last year for public comment, should ideally take its final form by July
- The primary focus [for the Bill] is that the telecom sector in India should be globally benchmarked, should be a sunrise sector, should have lot of scope for innovation, a simple regulatory framework, and user protection has to be the prime focus

Fraudulent connections

- Minister of Railways, Communications, Electronics and Information Technology was announcing the release of the **Sanchar Saathi portal**, a website that brings together initiatives the government has already released, such as TAF COP, a system for users to find out how many SIM cards are registered in their name, and the Central Equipment Identity Register (CEIR), a system that lets people who lose their phone or have it stolen remotely block the handset for use on Indian telecom networks.
- Using **ASTR**, a facial recognition system rolled out by the Department of Telecommunications for detecting individuals who register more than 9 mobile connections (the maximum allowed), the government was able to detect many fraudulent SIM registrations.
- Over 40,000 points of sale offering such registrations were blacklisted, the government indicated in a background note, with West Bengal accounting for

over a quarter of the banned vendors.

231 stolen antiquities returned to India in last 9 years

Antiquity

- **The Antiquities and Art Treasures Act, 1972**, implemented on April 1, 1976, defined “antiquity” as “any coin, sculpture, painting, epigraph or other work of art or craftsmanship; any article, object or thing detached from a building or cave; any article, object or thing illustrative of science, art, crafts, literature, religion, customs, morals or politics in bygone ages; any article, object or thing of historical interest” that **“has been in existence for not less than one hundred years.”**
- For “manuscript, record or other document which is of scientific, historical, literary or aesthetic value”, this duration is **“not less than seventy-five years.”**

Indian laws

- In India, **Item-67 of the Union List, Item-12 of the State List, and Item-40 of the Concurrent List** of the Constitution deal with the country's heritage.
- Before Independence, an Antiquities (Export Control) Act had been passed in April 1947 to ensure that “no antiquity could be exported without license.” In 1958, The Ancient Monuments and Archaeological Sites and Remains Act was enacted.
- Then in 1971, Parliament saw an uproar over the theft of a bronze idol from Chamba and some important sandstone idols from other places.
- This, along with the UNESCO convention, prompted the government to enact The **Antiquities and Art Treasures Act, 1972 (AATA)**, implemented from April 1, 1976.
- The AATA states-
 - It shall not be lawful for any person, other than the Central Government or any authority or agency authorised by the Central Government in this behalf, to export any antiquity or art treasure.
 - No person shall, himself or by any other person on his behalf, carry on the business of selling or offering to sell any antiquity except under and in accordance with the terms and conditions of a licence.”
- **This licence is granted by the Archaeological Survey of India (ASI).** After the AATA was implemented, the Centre asked traders in antiquities and art objects to declare their possessions of antiquities by June 5, 1976, and individual owners by July 5, 1976.

Stalemate over sharing of Krishna water to continue

With no resolution in sight over sharing of the Krishna river water between Telangana and Andhra Pradesh after the bifurcation, the stalemate is set to continue in the next water year, beginning June 1.

Telangana has made its stand, at the recent meeting of the Krishna River Management Board (KRMB) that it would not agree for the 34:66 (Telangana :Andhra Pradesh) ratio 'forced' upon it since the bifurcation for one more year.

Inter-State River Disputes in India

- The Inter-State River Water Disputes are **one of the most contentious issues** in Indian federalism today.
 - The recent cases of the **Krishna Water Dispute, Cauvery Water Dispute** and the Satluj Yamuna Link Canal are some examples.
- Various **Inter-State Water Disputes Tribunals have been constituted so far, but they had their own problems.**
- **Constitutional Provisions:**
 - **Entry 17 of the State List** deals with water i.e., water supply, irrigation, canal, drainage, embankments, water storage and hydro power.
 - **Entry 56 of the Union List empowers the Union Government** for the **regulation and development of inter-state rivers and river valleys** to the extent declared by Parliament to be expedient in the public interest.
 - **According to Article 262**, in case of disputes relating to waters:
 - **Parliament may by law provide for the adjudication** of any dispute or complaint with respect to the use, distribution or control of the waters of, or in, any inter-State River or river valley.
 - Parliament may, by law, provide **that neither the Supreme Court nor any other court shall exercise jurisdiction** in respect of any such dispute or complaint as mentioned above.

What is the Mechanism for Inter-State River Water Disputes Resolution?

- **As per Article 262**, the Parliament has enacted the following:
 - **River Board Act, 1956:** This empowered the GoI to **establish Boards for Interstate Rivers and river valleys** in consultation with State Governments. To date, **no river board has been created.**
 - **Inter-State Water Dispute Act, 1956:** In case, if a particular state or states approach the Centre **for the constitution of the tribunal**, the Central Government should try to resolve the matter by consultation among the aggrieved states. In case, **if it does not work, then it may constitute the tribunal.**
 - **Note:** Supreme Court shall not question the Award or formula given by tribunal, but it can question the working of the tribunal.
- The **Inter-State Water Dispute Act, 1956** was amended in 2002, to include the major **recommendations of the Sarkaria Commission.**

- The amendments mandated a **one-year time frame to set up the water disputes tribunal** and also a **3-year time frame to give a decision.**

Krishna River

- It is the 3rd-longest river in India, after the Ganges and Godavari, and the 4th-largest river in terms of water inflows and river basin area after the Ganges, Indus and Godavari.
- The total length of the river is about 1,400 kilometres and it falls in the Bay of Bengal.
- The Krishna Basin **extends over Andhra Pradesh, Maharashtra and Karnataka**
- The **river is bordered by;**
 - The Balaghat range in the north.
 - The Eastern Ghats in the South and the East.
 - The Western Ghats in the West.
- It rises from the Western Ghats in the Satara district of Maharashtra near Mahabaleshwar.
- It is the major source of irrigation in Maharashtra, Karnataka, Telangana and Andhra Pradesh
- **Left Bank tributaries** - Bhima, Dindi, Peddavagu, Musi, Paleru, Munneru.
- **Right Bank tributaries** Kudali (Niranjna) Venna, Koyna, Panchganga, Dudhaganga, Ghataprabha, Malaprabha, Tungabhadra.
- **The largest tributary of the Krishna River is the Tungabhadra River**, but the longest tributary is the Bhima River.
- The important types of soil found in the Krishna basin are black soils, red soils, laterite and lateritic soils, alluvium, mixed soils, red and black soils and saline and alkaline soils.
- The Krishna-Godavari delta **is known as the "Rice Granary of India."**
- Krishna river basin is **rich in mineral deposits** such as oil & gas, coal, iron, limestone, dolomite, gold, granite, laterite, uranium, diamonds, etc. The following are the few noted deposits:
- Important **dams on Krishna River:**
 - Basava Sagar Dam
 - Nagarjuna Sagar Dam
 - Srisailem Dam
 - Prakasham Barrage

Education Ministry holds meet on PARAKH aimed at unifying 60 school Boards

- The Education Ministry organised a workshop in New Delhi on Monday with the aim of unifying a network of 60 school examination Boards of various States and Union Territories under one umbrella.
- The workshop will study school assessments, examination practices and equivalence of Boards across the country.

- The main component of this plan is PARAKH, the National Assessment Centre, which has been set up as an organisation under the National Council of Educational Research and Training (NCERT).

PARAKH

- PARAKH has been launched as part of the implementation of the **National Education Policy (NEP)-2020** that envisaged a standard-setting body to advise school boards regarding new assessment patterns and latest research, and promote collaborations between them.
- It will act as a **constituent unit of the NCERT**.
- It will also be tasked with **holding periodic learning outcome tests like the National Achievement Survey (NAS)** and State Achievement Surveys.
- It will work on **three major assessment areas**: large-scale assessments, school-based assessment, and examination reforms.
- *Objective:*
 - **Uniform Norms & Guidelines:** Setting norms, standards and guidelines for student assessment and evaluation for all recognized school boards of India.
 - **Enhance Assessment Pattern:** It will encourage and help school boards to shift their assessment patterns towards meeting the skill requirements of the 21st century.
 - **Reduce Disparity in Evaluation:** It will bring uniformity across the state and central boards which currently follow different standards of evaluation, leading to wide disparities in scores.
 - **Benchmark Assessment:** The benchmark assessment framework will seek to put an end to the emphasis on rote learning, as envisaged by the **National Education Policy (NEP) 2020**.
- *Significance:*
 - **Removes Disparity in College Admission:**
 - It will help tackle the problem of students of some state boards being at a disadvantage during college admissions as compared to their peers in CBSE schools.
 - **Innovative Evaluation:**
 - It will develop and implement the technical standards for the design, conduct, analysis and reporting of tests at all levels of school education.
 - **Holistic Approach:**
 - PARAKH further aims to facilitate an inclusive, participatory and holistic approach to education, which takes into consideration field experiences, empirical research, stakeholder feedback, as well as lessons learned from best practices.
 - **Progressive Shift:**
 - It is a progressive shift towards a more scientific approach to education.
 - The prescribed structure will help to cater to the ability of the child – stages of cognitive development as well as social and

physical awareness.

Update NPR to enumerate self during next Census

- If citizens want to exercise the right to fill the Census form on their own rather than through government enumerators, they will have to first update their National Population Register (NPR) details online.
- The NPR, first put together in 2010 and updated in 2015, already has the details of 119 crore people.
- Census 2021, which has been postponed indefinitely, will be the first digital Census giving citizens an opportunity to “self-enumerate” as and when it is conducted.

The Census is conducted in two phases.

- The first phase — the **houcelisting operations and housing census** — is to be conducted with simultaneous updating of NPR.
- **Population enumeration** is the second and the main phase, which collects details on key social and economic parameters.
- According to a collection of reports released by Home Minister, “self-enumeration for Census will be provided to only those households that have updated the NPR online”. “During self-enumeration in NPR, Aadhaar / mobile number is mandatorily collected,” the report said.
- The Office of the Registrar of General of India (ORGI), which conducts the Census, has developed a “self-enumeration (SE)” portal which is presently available in English only. The yet-to-be-launched mobile-friendly portal will allow users to register the mobile number in the NPR database, self-enumerate and fill the details under houcelisting operations.

New Parliament to house sceptre that symbolised transfer of power in 1947

- Prime Minister Narendra Modi will install the *Sengol*, a sceptre given by the British to India’s first Prime Minister Jawaharlal Nehru to represent the transfer of power in 1947, in the new Parliament building.
- Sengol — derived from the Tamil word “Semmai”, meaning “Righteousness”, according to an official document — the sceptre is a “significant historical” symbol of Independence as it signifies the transfer of power from the British to the Indians
- It was originally used to mark the handing over of power from one king to another during the Chola dynasty in Tamil Nadu.

Why was the Sengol given to Nehru?

- According to the official document, just before Independence, Lord Mountbatten, the last Viceroy of India, asked Nehru about “the ceremony that

should be followed to symbolise the transfer of power from British to Indian hands”.

- The soon-to-be prime minister went to consult C Rajagopalachari, the last Governor-General of India, who told him about a ceremony performed during the Chola dynasty, in which the transfer of power from one king to the other was sanctified and blessed by high priests.
- The five-foot-long intricately carved, unbending gold-plated silver sceptre, with a finial of Nandi (bull deity), was specially commissioned by the then Thiruvavaduthurai *Adheenam* (pontiff) and was handed over to Nehru.
- The *Sengol* ceremony seemingly took place minutes before India's first Prime Minister Jawaharlal Nehru hoisted the National Flag and made his famous “Tryst with destiny” speech on August 15, 1947. It had been kept at his Prayagraj residence-turned-museum till now.
- It was found to have been widely reported in Indian and foreign media at that time including in the *Time* magazine along with photographs.

Manipur tribal body calls for separation of hill areas in the State

- A tribal leaders' forum in Manipur has sought the “total separation” of the hill areas inhabited by the indigenous people, primarily those belonging to the Kuki-Chin-Zomi-Mizo group, from the State.
- The ITLF further sought protection against two armed radical Meitei groups — **Arambam Tenggol** and **Meitei Leepun** — in the border areas of the tribal habitations by neutral forces. Holding these groups responsible for the killing of tribal people and the destruction of their houses, the forum said they needed to be stopped.

All-in-one policy plan to spread insurance in India

- If India's insurance regulator's plans fructify, households across the country could soon be able to get an affordable single policy that covers health, life, property and accident, get their claims settled within hours, and even secure value-added services at the time of buying a policy.
- In an ambitious bid to expand the poor insurance penetration in the country, the Insurance Regulatory and Development Authority (IRDA) is devising a new affordable bundled product to give citizens protection against multiple risks, and seeking to expedite claim settlements by linking death registries onto a common industry platform.
- These initiatives are part of a broader overhaul — including legislative amendments to attract more investments through differentiated licences for niche players similar to the banking sector — with an eye on making insurance “available, affordable and accessible” to all citizens with a “gram panchayat- to district- to State-level’ approach.

'UPI-like moment'

- They are striving to create an “UPI-like moment” in insurance through a plan worked out with general and life insurance firms that they termed “Bima Trinity”
- A new Bima Sugam platform will integrate insurers and distributors onto one platform to make it a one-stop shop for customers, who at a later stage can pursue service requests and settlement of claims through the same portal.

IRDAI

Insurance Regulatory and Development Authority of India is constituted by an act of parliament. The Authority is a ten-member body, specified in section 4 of the IRDAI Act of 1999, consisting of

- a Chairman;
- five whole-time members;
- four part-time members;

All of the appointments are done by the Government of India.

Aim of IRDAI

- Ensuring fair treatment for policyholders and defending their interests.
- To promote the insurance industry's rapid and orderly expansion (including annuity and superannuation payments), which will benefit the general public, as well as supply long-term finance for the economy's rapid expansion.
- To take action when such standards are not sufficient or are not adequately applied.
- To ensure that the industry operates with the appropriate level of self-regulation in accordance with prudential regulation rules.
- To establish, encourage, oversee, and uphold high standards for the competence, moral character, and financial stability of those it regulates.
- To ensure prompt resolution of legitimate claims, to stop insurance fraud and other wrongdoing, and to set up efficient grievance redressal mechanisms.
- To encourage fairness, openness, and lawfulness in financial markets that deal with insurance, and to create a solid management information system to impose strict requirements for the financial soundness of market participants.

Objective of IRDA

- The IRDA's primary goal includes fostering competition to boost consumer choice and lower prices while maintaining the market's financial stability in order to increase customer satisfaction. The primary objective of the IRDA is:
- To safeguard the policyholder's interests and ensure fair treatment.
- To effectively regulate the insurance sector and guarantee its healthy financial standing.

- Establishing regulations on a regular basis to make sure the sector runs well.

Powers, and Functions of IRDAI

- Section 14 of the IRDAI Act, 1999 lays down the duties, powers, and functions of IRDAI.
- Issue a certificate of registration to the applicant, renew, alter, withdraw, suspend, or terminate such registration.
- Safeguarding the interests of policyholders in matters pertaining to policy assignment, insurable interest, payment of insurance claims, policy surrender value, and other terms and conditions of insurance contracts.
- Specifying the necessary credentials, moral standards, and practical training for insurance intermediaries and agents.
- Encouraging efficiency in the management of the insurance industry.
- Charging fees and other amounts in order to carry out the objectives of this Act.
- Governing insurance firms' financial investments.
- Rules governing the preservation of the solvency margin.
- Resolution of conflicts involving intermediaries or insurance intermediaries and insurers.
- Monitoring the activities of the Tariff Advisory Committee.
- Contacting insurers, intermediaries, insurance intermediaries, and other organizations associated with the insurance business to request information, inspect, inquire, and undertake investigations, including audits.
- Control and regulation of the rates, benefits, terms, and conditions that insurers may offer in relation to general insurance business if the Tariff Advisory Committee has not done so in accordance with section 64U of the Insurance Act of 1938 (4 of 1938).

IRDAI in Health Insurance Business

- The apex authority, the IRDA, is in charge of establishing new regulations and standards for health insurance in the country.
- The Insurance Regulatory and Development Authority of India (IRDAI) has been continuously working to lessen the compliance burden of all the regulated organizations as part of its promotion of ease of doing business for insurance companies.

The following are the new IRDA guidelines that the regulator has released for health and mediclaim insurance in 2020:

- If the policyholder has renewed the policy for eight years without interruption or lapse, the insurer cannot deny a claim. The moratorium period will be used to refer to this time frame. Except in cases of fraud or when the claim is brought against a policy exclusion, the insurer cannot appeal the denial of the claim to the IRDA.
- With the advent of digitization, the medical industry has evolved, and one can now contact a doctor online. The IRDA has requested that insurance

- companies include telemedicine consultations in their insurance policies.
- The insurance provider is responsible for paying interest on the claim amount if the insurer delays the claim. It should guarantee that the claim is settled within 30 to 45 days following the policyholder's last document submission.

IRDAI on Ease of Living of Senior Citizens

- IRDAI has relaxed the requirements for submitting a separate proposal form for taking Immediate Annuity products from National Pension Scheme (NPS) earnings in this direction to make life easier for elderly persons.
- In the existing situation, NPS retirees submit an exit form to NPS and a proposal form to insurers at the time of superannuation.
- Additionally, in order to encourage the adoption of technology, insurers have been urged to use Aadhaar-based authentication for the validation of life certificates, such as Jeevan Pramaan, a Government of India project on biometric-enabled digital services.

Only six religion options make it to next Census form

- Despite demands from several communities to be counted as a separate religion, the next Census will only count Hindu, Muslim, Christian, Buddhist, Sikh and Jain as options.
- Nature-worshipping Adivasis in Jharkhand, Chattisgarh and Odisha have been campaigning to include their Sarna faith as a separate religion, while Karnataka's Lingayats have been making a similar demand.
- Though respondents can write the name of any other religion, no separate code will be provided.

Digital Census

- The next Census is also set to be the first digital Census, where respondents will have the option to fill in the questionnaire from the comfort of their own home.
- The 31 questions for the first phase — Houselisting and Housing Schedule — were notified on January 9, 2020. As many as 28 questions have been finalised for the second phase — the Population Enumeration — but are yet to be notified.

Directory to reduce bias

It has codes in respect of Relationship to Head, Mother Tongue and Other Languages Known, Occupation, Nature of Industry, Trade or Service, Birth Place/Place of last residence and Scheduled Caste/Scheduled Tribe (SC/ST) etc. "Data processing of these descriptive responses required human intervention to codify into required data format as per the tabulation plan... It also involved risk to data bias and errors because of diverse judgement of enumerators and the persons

codifying the response as well,” the report said.

Sarna religion:

- Sarnaism is a religious belief based on worship at Sarna, the sacred groves in the Chota Nagpur Plateau region in Jharkhand, West Bengal, Bihar, Chhattisgarh and Odisha.
 - The **highest number of followers of the Sarna religion is in Jharkhand**, followed by West Bengal.
- According to local belief, a village deity resides in the sarna, where sacrifice is offered twice a year.
 - Their belief system is alternatively known as "**Sarna Dharma**", or "Religion of the Holy Woods".
- The followers of **Satanism** worship a village deity as the protector of a village called Gaon khunt, Gram deoti, Singbonga, or by other names by different tribes.
 - The Supporters also worship Dharti ayo or Chalapachho Devi, the mother goddess identified as the earth or nature.
- The **main festival of Sarnaism is Sarhul, a festival in which devotees worship their ancestors.**
- The National Commission for Scheduled Tribes (NCST) has suggested that the Sarna religion be accorded an independent category in the religion code of the Census of India.
 - Several tribal organisations and Christian missionaries are demanding a distinct census code for Sarnaism.
- The followers of the Sarna faith believe in “Jal, Jungle, Zameen” and its followers pray to the trees and hills while believing in protecting the forest areas.
- Nearly 50 lakhs tribal in the entire country put their religion as ‘Sarna’ in the 2011 census, although it was not an officially recognised religion.
 - While many follow the Hindu religion, some have converted to Christianity.
- Recently, the **Jharkhand government convened a special session and passed a resolution to send the Centre a letter to recognise the Sarna religion and include it as a separate code in the Census of 2021.**

ECONOMY

ED acts against Byju's; Indore court fines Shah Rukh Khan over firm's ad

The Enforcement Directorate (ED) on Saturday (April 29) **carried out searches on premises linked to edtech firm Byju's**. The searches came in connection with alleged foreign exchange violations by the firm the agency is probing.

Byju's has allegedly remitted abroad over Rs 9,700 crore of the Rs 28,000 crore it received as Foreign Direct Investment (FDI) since 2011, and suspected irregularities in this are being probed.

The District Consumer Disputes Redressal Commission in Indore in Madhya Pradesh on April 26 issued an order against a Byju staffer and actor Shah Rukh Khan for alleged "fraudulent behaviour" and "unfair trade practice" on the complaint of a woman who enrolled for coaching to become an Indian Administrative Service (IAS) officer, PTI reported.

Directorate of Enforcement (ED)

- The **Directorate of Enforcement (ED)** is a multi-disciplinary organization mandated with investigation of offences of **money laundering** and violations of **foreign exchange laws**.
 - It functions under the **Department of Revenue of the Ministry of Finance**.
- As a **premier financial investigation agency of the Government of India**, the Enforcement Directorate functions in strict compliance with the Constitution and Laws of India.

Genesis of ED

- The origin of this Directorate goes back to 1 May, 1956, when an **'Enforcement Unit'** was **formed in the Department of Economic Affairs** for handling Exchange Control Laws violations under **Foreign Exchange Regulation Act (FERA), 1947**.
 - It was headquartered in Delhi, headed by a **Legal Service Officer as the Director of Enforcement**.
 - It had two branches – at Bombay and Calcutta.
- In the year 1957, this Unit was **renamed as 'Enforcement Directorate'**, and another branch was opened at Madras (now Chennai).
- In 1960, the **administrative control of the Directorate was transferred** from the Department of Economic Affairs **to the Department of Revenue**.
- With the passage of time, FERA 1947 was repealed and replaced by FERA, 1973.
 - With the onset of the process of economic liberalisation, FERA, 1973, which was a regulatory law, was repealed and in its place, a new law viz. the **Foreign Exchange Management Act, 1999 (FEMA)** came into

operation w.e.f. 1 June 2000.

- Further, in tune with the **International Anti Money Laundering regime**, the **Prevention of Money Laundering Act, 2002 (PMLA)** was enacted and ED was entrusted with its enforcement w.e.f. 1 July 2005.

Structure of ED

- **Hierarchy:** The Directorate of Enforcement, with its headquarters at New Delhi, is **headed by the Director of Enforcement**.
 - There are **five regional offices at Mumbai, Chennai, Chandigarh, Kolkata and Delhi** headed by Special Directors of Enforcement.
 - The Directorate has **10 Zonal offices** each of which is **headed by a Deputy Director** and **11 sub Zonal Offices** each of which is headed by an **Assistant Director**.
- **Recruitment: Recruitment of the officers is done directly** and by drawing officers from other investigation agencies.
 - It comprises officers of **IRS** (Indian Revenue Services), **IPS** (Indian Police Services) and **IAS** (Indian Administrative Services) such as **Income Tax officer, Excise officer, Customs officer, and police**.
- **Tenure:** In November 2021, the President of India promulgated two ordinances allowing the **Centre to extend the tenures of the directors** of the **Central Bureau of Investigation (CBI)** and the Enforcement Directorate **from two years to up to five years**.
 - The **Delhi Special Police Establishment (DSPE) Act, 1946** (for ED) and the **Central Vigilance Commission (CVC) Act, 2003** (for CV Commissioners) have been amended to give the government the power to keep the two chiefs in their posts for **one year after they have completed their two-year terms**.
 - The chiefs of the Central agencies **currently have a fixed two-year tenure**, but **can now be given three annual extensions**.
 - However, no further extension can be granted after the completion of a period of five years in total including the period mentioned in the initial appointment.

Statutory Functions of ED

The statutory functions of the Directorate include **enforcement of following Acts:**

- **COFEPOSA:** Under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA), this Directorate is **empowered to sponsor cases of preventive detention** with regard to contraventions of FEMA.
- **Foreign Exchange Management Act, 1999 (FEMA):** It is a civil law enacted to consolidate and amend the laws relating to facilitate external trade and payments and to promote the orderly development and maintenance of foreign exchange market in India.
 - **ED has been given the responsibility to conduct investigation** into suspected contraventions of foreign exchange laws and regulations, to

adjudicate and impose penalties on those adjudged to have contravened the law.

- **Prevention of Money Laundering Act, 2002 (PMLA):** Following the recommendations of the **Financial Action Task Force (FATF)** India enacted PMLA.
 - The ED has been entrusted with the responsibility of **executing the provisions of PMLA by conducting investigation** to trace the assets derived from proceeds of crime, to provisionally attach the property and to **ensure prosecution of the offenders** and **confiscation of the property** by the Special court.
- **Fugitive Economic Offenders Act, 2018 (FEOA):** Lately, with the increase in the number of cases relating to **economic offenders taking shelter in foreign countries**, the Government of India introduced the **Fugitive Economic Offenders Act, 2018 (FEOA)** and **ED is entrusted with its enforcement**.
 - This law was enacted to **deter economic offenders from evading the process of Indian law** by remaining outside the jurisdiction of Indian courts.
 - Under this law, the ED is mandated to **attach the properties of the fugitive economic offenders** who have escaped from India warranting arrest and provide for the **confiscation of their properties** to the Central Government.

IRDAI asks insurance firms to lay down social media rules

The Insurance Regulatory and Development Authority of India (IRDAI) has asked insurance companies to lay down social media guidelines for their employees to ensure that no unverified or confidential information related to the organisation is disseminated to the public through these platforms.

The Information and Cyber Security Guidelines, issued by the IRDAI to all insurers, have a specific section on 'Acceptable usage of social media' — which states that the employees should be refrained from disseminating any unverified and confidential information on “any Blogs/Chat forums/Discussion forums/Messenger sites/Social networking sites”.

Media forums should not be used to report a complaint

IRDAI:

- It is an **autonomous** and **statutory body** established under the **IRDA Act 1999**.
- It is the apex body that **supervises and regulates the insurance sector** in India.
- **Objective:** To **protect the interests of policyholders**, to **regulate**, promote and ensure orderly growth of the **insurance industry** in India.

- **Nodal Ministry:** Ministry of Finance
- **Head Office:** Hyderabad.
- **Composition:** IRDAI is a **10-member body** a **Chairman, five full-time members**, and **four part-time members appointed by the Government of India.**
- **Functions:**
 - To have a fair **regulation of the insurance industry** while ensuring financial soundness of the applicable laws and regulations.
 - **Frame regulations** periodically so that there is no ambiguity in the insurance industry.
 - **Registering and regulating insurance companies;**
 - Protecting policyholders' interests;
 - **Licensing and establishing norms** for insurance **intermediaries;**
 - Promoting professional organizations in insurance;
 - Regulating and **overseeing premium rates** and terms of non-life insurance covers;
 - **Specifying financial reporting norms** of insurance companies;
 - **Regulating investment of policyholders' funds** by insurance companies;
 - Ensuring the **maintenance of solvency margin** by insurance companies;
 - Ensuring insurance coverage in rural areas and of vulnerable sections of society.

DPIIT UNDERTAKING THIRD-PARTY ASSESSMENT OF STARTUP INDIA SEED FUND SCHEME

- It is a flagship scheme **launched in April 2021 under the Startup India**
- **Aim: Financial assistance to startups for proof of concept, prototype development**, product trials, market entry, and commercialization.
- It is **implemented with effect from 1st April 2021 for the period of 4 years** with a corpus of **945 crores.**
- **Nodal Department: Department for Promotion of Industry and Internal Trade (DPIIT)**, under the Ministry of Commerce & Industry.
- **Funding:**
 - An **Experts Advisory Committee (EAC) has been created** by DPIIT to **execute** and monitor the **SISFS.**
 - The **EAC will select eligible incubators** who will be **provided grants of up to Rs 5 Crores** each.
 - In turn, the **selected incubators will provide startups with up to Rs 20 lakhs** for validation of Proof of Concept, prototype development, and product trials to startups.
- **Eligibility criteria for Startups:**
 - A **startup recognized by DPIIT incorporated not more than 2 years ago** at the time of application.
 - The **startup must have a business idea** to develop a product or a

service with a market fit, viable commercialization, and scope of scaling.

- The **startup should be using technology in its core product or service**, or business model, or distribution model, or methodology to solve the problem being targeted.
- Startup **should not have received more than Rs 10 lakh of monetary support under any other Central or State Government scheme**.
- **Shareholding by Indian promoters in the startup should be at least 51%** at the time of application to the incubator for the scheme.

Vivad Se Vishwas scheme aimed to provide relief to MSMEs comes into force

- The scheme was announced in the Union Budget 2023-24
- The scheme is modelled on a similar 'Sabka Vishwas Scheme' for indirect taxes announced in 2019.
- The scheme provides for settlement of disputed tax, interest, penalty etc. and grant immunity from any proceeding for prosecution for any offence under the Income-tax Act in respect of matters covered in the declaration.
- Under the scheme, Ministries have been asked to refund performance security, bid security and liquidated damages forfeited/ deducted during the COVID-19 pandemic. Certain relief has also been provided to MSMEs debarred for default in execution of contracts during the COVID-19 period.
- The Ministry of Finance, through this scheme, decided to give following additional benefits to eligible MSMEs, affected during the COVID-19 period:
 - 95% of the performance security forfeited shall be refunded.
 - 95% of the Bid security shall be refunded.
 - 95% of the Liquidated Damages (LD) deducted shall be refunded.
 - 95% of the Risk Purchase amount realized shall be refunded.
 - In case any firm has been debarred only due to default in execution of such contracts, such debarment shall also be revoked, by issuing an appropriate order by the procuring entity.
 - However, in case a firm has been ignored for placement of any contract due to debarment in the interim period (i.e. date of debarment and the date of revocation under this order), no claim shall be entertained.
 - No interest shall be paid on such refunded amount.

India, Russia said to suspend talks to settle trade in rupees

- India and Russia have halted efforts to settle bilateral trade in rupees, after months of negotiations failed to convince Moscow to keep rupees in its coffers
- This would be a major setback for Indian importers of cheap oil and coal from Russia who were awaiting a rupee payment mechanism to help lower

- currency conversion costs.
- With a high trade gap in favour of Russia, Moscow believes it will end up with an annual rupee surplus of over \$40 billion if such a mechanism is worked out and feels rupee accumulation is 'not desirable'
 - The rupee is not fully convertible and India's share of global exports of goods is just about 2%. These factors reduce the necessity for other countries to hold rupees.
 - India started exploring a rupee settlement mechanism with Russia soon after the invasion of Ukraine. Most trade is in dollars but an increasing amount is being done in currencies like the UAE dirham.

CBIC rolls out automated scrutiny module for GST returns

- This module will enable the officers to carry out scrutiny of GST returns of Centre Administered Taxpayers selected on the basis of data analytics and risks identified by the system.
- The module shows the discrepancies with the return to the tax officer and provides the tax officer with a way to interact with the taxpayer through the GSTN Common Portal for communication of discrepancies.
- The implementation of this Automated Return Scrutiny Module has commenced with the scrutiny of GST returns for financial year 2019-20.

Cabinet gives approval for fertilizer subsidy of ₹1.08 lakh crore for kharif

- With fertilizer prices continuing to remain high due to global factors — such as a fall in production and hiked logistics costs, especially due to the Ukraine situation — the Centre expects this year's fertilizer subsidy to cross ₹2.25 lakh crore. Accordingly, the Union Cabinet on Wednesday approved a ₹1.08 lakh crore subsidy for the ongoing kharif or monsoon season
- Out of this, ₹38,000 crore will subsidise **phosphatic and potassic (P&K)** fertilizers, while ₹70,000 crore will go toward the **urea** subsidy.
- Mr. Mandaviya told journalists that the Centre would ensure that the prices of urea and **diammonium phosphate (DAP)** would remain unchanged during the season. At present, the subsidised rate of urea is ₹276 per bag and the price of DAP is ₹1,350 per bag. The decision will benefit about 12 crore farmers, the Minister added.
- **Fertiliser:**
 - **A fertiliser** is a natural or artificial substance **containing chemical elements (such as Nitrogen (N), Phosphorus (P) and Potassium (K))** that improve **growth and productiveness of plants.**
 - There are **3 basic fertilisers** in India - **Urea, DAP and Muriate of Potash (MOP).**
- **Subsidy on Urea:**
 - In India, **urea is the most produced, imported, consumed and**

physically regulated fertiliser of all. It is subsidised only for agricultural uses.

- The Centre **pays a subsidy** on urea to fertiliser manufacturers on the basis of cost of production at each plant and the units are required to sell the fertiliser at the government-set Maximum Retail Price (MRP).
 - The **MRP** of urea is currently **fixed at Rs 5,628 per tonne.**
- **Subsidy on Non-Urea Fertilisers:**
 - The MRPs of **non-urea fertilisers are decontrolled or fixed by the companies.**
 - But the government has, in **recent times**, and especially with the **global price surge post the Russia-Ukraine war, brought these fertilisers under the control regime.**
 - All Non-Urea based fertilisers are regulated under **Nutrient Based Subsidy (NBS) Scheme.**
 - **Examples of non-urea fertilisers** - DAP and MOP.
 - Companies **do not sell DAP at more than Rs 27,000 per tonne.**

Ministry of Finance Calls for Tender to List and Partially Disinvest IREDA

Indian Renewable Energy Development Agency (IREDA):

- It was set up as a **specialized non-banking finance agency for the renewable energy sector.**
- It is a **Public Limited Government Company** established as a **Non-Banking Financial Institution in 1981.**
- REDA has been **notified as a "Public Financial Institution" under section 4 'A' of the Companies Act, 1956** and registered as Non-Banking Financial Company (NBFC) with Reserve Bank of India (RBI).
- It is formed **for promoting, developing and extending financial assistance for setting up projects relating to new and renewable sources** of energy and energy efficiency/conservation.
- **Objectives:**
 - To give **financial support to specific projects and schemes** for generating electricity and/ or energy through new and renewable sources and conserving energy through energy efficiency.
 - To **maintain its position as a leading organization to provide efficient and effective financing in renewable energy** and energy efficiency/ conservation projects.

Tata Consumer Products to delist GDRs from June 23

- It is a **foreign currency-denominated negotiable financial instrument issued by a depository bank.**

- GDRs are certificates issued by a **depository bank**, which **purchases foreign company shares and deposits them in the account.**
- GDRs are commonly **used to raise capital from international investors** through public stock offerings or private placement.
- **Purpose:**
 - **Indian companies can only get their shares listed on foreign exchanges through Global Depository Receipts (GDR).**
 - GDRs **help Indian companies get foreign funds** and gain access to international capital.
 - The **depository bank is the intermediary** that acts as the **custodian of the shares** issued by the Indian company.
- The **depository bank can convert GDRs into shares and trade them** on the domestic stock exchanges.
- GDRs are **instruments denominated in foreign currencies.** The shares are **denominated in the deposit receipt issuer's local currency.**
- The **value of a GDR depends on the value of the underlying share.**
- GDRs are **issued to investors throughout the country** since they can be denominated as multiple forms of freely convertible currency.
- **Only companies with a three-year sound financial record can get access to GDRs.**
- Thus, **Indian companies should get clearance from the Ministry of Finance and Foreign Investment Promotion Board (FIPB) to obtain GDRs.**

Sebi proposes tighter norms for alternate investment funds

Alternative Investment Funds (AIFs):

- It is a special investment category that **differs from conventional investment instruments.**
- AIF is any **fund established in India which is a privately pooled investment vehicle that collects funds** from sophisticated investors, both Indian or foreign, for investing.
- It **pools funds from investors and invests them under different categories of investments as specified by the SEBI** for the benefit of investors.
- These investment vehicles **adhere to the SEBI (Alternative Investment Funds) Regulations, 2012.**
- AIFs can be **formed as a company, Limited Liability Partnership (LLP), trust, etc.**
- It is an investment **option for high rollers, including domestic and foreign investors** in India.
- **Generally, institutions and high net worth individuals invest in AIF** as it needs a high investment amount.
- **Categories Of AIF:**
 - **Category I AIFs:**
 - They can **invest in start-ups, early stage ventures, social ventures**, SMEs and sectors which the government or

- **regulators consider as socially or economically desirable.**
- They include **venture capital funds like angel funds, SME Funds, social venture funds**, infrastructure funds and such other AIFs as may be specified.
- **Category II AIFs:**
 - They are those which are **not classified under Category I or Category III.**
 - They **do not undertake leverage or borrowing other than to meet day-to-day operational requirements** and as permitted in the regulations.
 - Various types of funds such as **real estate funds, debt funds, private equity funds, funds for distressed assets**, etc. are registered as Category II AIFs.
- **Category III AIFs:**
 - They are **funds which employ complex or diverse trading strategies and may employ leverage** including through investment in listed or unlisted derivatives hedge funds, PIPE Funds, etc. are registered as Category III AIFs.
- **Category I and II AIFs are required to be close ended and have a minimum tenure of three years. Category III AIFs may be open ended or close ended.**

EBRD pledges more support for Ukraine with capital boost

European Bank for Reconstruction and Development (EBRD):

- It is an **international financial institution** with the mandate to **promote transition towards a sustainable, open market economy** and to **foster innovation.**
- The EBRD was **created in April 1991 to help Eastern European and ex-Soviet countries transitioning into democracies** by developing free-market economies after the fall of communism.
- **Headquarters: London**
- It **provides project financing mainly for private enterprises**, usually together with other commercial lending partners, **in countries that are committed to, and apply, democratic principles.**
- It also **works with public partners to support privatisation, restructuring and improvement of municipal services.**
- It **prioritizes support for countries in Central and West Asia, and North Africa.**
- It focuses on **advancing developmental goals in finance and policy reform.**
- The organization also **promotes environmentally sustainable development and gender equality** and promises to be fully transparent.
- **Membership:** It is **publicly owned by shareholders in 69 countries. India became the EBRD's 69th shareholder when it joined the Bank in July**

2018.

Ministry of Civil Aviation organises curtain raiser event for 'Wings India 2024'

Wings India 2024:

- Ministry of Civil Aviation (**MoCA**), **Airport Authority of India (AAI)** and Federation of Indian Chambers of Commerce and Industry (**FICCI**) are organizing the upcoming edition of 'Wings India 2024'.
- The **Asia's largest** commercial, general, and business aviation event to be held in January 2024 **at Begumpet Airport, Hyderabad, India.**

Federation of Indian Chambers of Commerce and Industry (FICCI):

- It was **established in 1927** as **non-government, not-for-profit organization.**
- It is the largest and **oldest apex business organisation in India.**
- It serves its members from the **Indian private and public corporate sectors and multinational companies.**
- It is the **voice of India's business and industry.** From influencing policy to encouraging debate, engaging with policy makers and civil society, it articulates the views and concerns of industry.

Airport Authority of India (AAI):

- It was constituted by an **Act of Parliament** and came into being on 1st April **1995 by merging** erstwhile National Airports Authority and International Airports Authority of India.
- It is responsible for **creation development and management of Air Cargo Terminals** for processing of international air cargo at **international and domestic airports in India.**

RBI withdraws ₹2000 note from circulation, to remain legal tender

Legal Tender:

- It is a **type of currency or medium of exchange.**
- It is money that is **valid and acceptable for the settlement of debts** which **must be recognized when issued.**
- Almost every **country uses its national currency as legal tender.**
- Creditors are lawfully responsible for accepting legal tender for the repayment of debt that they have availed.
- Legal tender is **constituted by a law that specifies the object to be utilised as legal tender and the organisation that is commissioned to create** and issue the same to the public such as the Reserve Bank of India.

- In India, the **authentic legal tender of the Reserve Bank of India consists of coins and notes**. The creditors are supposed to accept them as a payment towards the debt.

Amid reports of shortage, FSSAI to hold surveillance on milk and milk products

Aimed at curbing adulteration of milk and milk products, in both organised and unorganised sectors in all the districts of the States and Union Territories, the Food Safety and Standards Authority of India (FSSAI) will conduct nationwide surveillance this year.

The sector also continues to grapple with the hit it took during COVID-19 and more recently the lumpy skin disease (which caused the death of 1.9 lakh cattle) and fodder inflation at 30%.

FSSAI conducted a milk survey in selected 12 States [which included 10 States where the lumpy skin disease was prevalent]. The administration of antibiotics/veterinary drugs in affected animals and spraying insecticides in the sheds may result in residual contamination in milk.

In order to ascertain the safety of milk, the presence of antibiotics, pesticide residues and heavy metals were assessed in the samples collected. The outcome of the survey revealed that the milk sold in the selected 12 States is largely safe for consumption

FSSAI

- Food Safety and Standards Authority of India (FSSAI) is an autonomous statutory body established under the Food Safety and Standards Act, 2006 (FSS Act).
- **Ministry of Health & Family Welfare**, Government of India is the administrative Ministry of FSSAI.
- **Headquarters:** Delhi.
- FSS Act, 2006 consolidates various acts & orders that had earlier handled food related issues in various Ministries and Departments, such as–
 - Prevention of Food Adulteration Act, 1954
 - Fruit Products Order, 1955
 - Meat Food Products Order, 1973
 - Vegetable Oil Products (Control) Order, 1947
 - Edible Oils Packaging (Regulation) Order 1988
 - Milk and Milk Products Order, 1992
- These were repealed after commencement of FSS Act, 2006.
- FSSAI was consequently established in 2008 but work within the Food Authority effectively began in 2011 after its Rules and key Regulations were notified.

- This marked a shift from a multi-level to a single line of control with focus on self-compliance rather than a pure regulatory regime.

7 Key Processes

- Set standards of food products
- Develop safe food practices
- License food businesses
- Ensure compliance through inspections
- Test food for standards
- Train and build capacity
- Citizens Outreach

Functions

- Framing of regulations to lay down the standards and guidelines of food safety.
- Granting FSSAI food safety license and certification for food businesses.
- Laying down procedure and guidelines for laboratories in food businesses.
- To provide suggestions to the government in framing the policies.
- To collect data regarding contaminants in foods products, identification of emerging risks and introduction of rapid alert system.
- Creating an information network across the country about food safety.
- Promote general awareness about food safety and food standards.

FSSAI Legislative Framework

- Highlights of the Food Safety and Standard Act, 2006
 - The Act aims to establish a single reference point for all matters relating to food safety and standards, by moving from multi-level, multi-departmental control to a single line of command.
 - The Act established **FSSAI and the State Food Safety Authorities** for each State.
- Highlights of Food Safety and Standards Rule, 2011. The Rules provides for:
 - The **Food Safety Appellate Tribunal** and the Registrar of the Appellate Tribunal, for adjudication of food safety cases.
- Highlights of Food Safety and Standards Regulations 2011
 - It covers Licensing and Registration, **Packaging and Labelling** of Food Businesses, Food Product Standards and **Food Additives** Regulation.
 - It prohibits and restricts on sales or approval for **Non-Specified Food and Food Ingredients**, such ingredients may cause harm to human health.
 - It provides for Food Safety and Standards on Organic Food and regulates **Food Advertising**.

Structure of FSSAI

- The FSSAI comprises of a Chairperson and twenty two members out of which

- one – third are to be women.
- The Chairperson of FSSAI is appointed by the Central Government.
- The Food Authority is assisted by Scientific Committees and Panels in setting standards and the Central Advisory Committee in coordinating with enforcement agencies.
- The primary responsibility for enforcement is largely with the State Food Safety Commissioners.

Challenges and Shortcomings Faced by FSSAI

- The “petty **manufacturers**, retailers and hawkers” are exempted from FSSAI ambit. These segments greatly contribute to unorganised food sector and due to its low prices, most of the population prefer food consumption from these segments.
- **Lack of infrastructure** such as food testing laboratories. There are only 87 National Accreditation Board for testing and calibration Laboratories (NABL) accredited Labs, where as there are more than 1500 private labs in India.
- Shortage of qualified manpower and functional food testing equipment in state food laboratories and referral laboratories resulted in deficient testing of food samples.
- There is an acute shortage of licensing and enforcement officers in the states which severely affected food safety measures.
- The body has been only prescriptive in nature and failed to ensure safety, quality and hygiene in food industry.
- There are only 377 products mentioned in the FSSAI regulations – whereas other countries have over 10,000 standards. Moreover, the list is not regularly reviewed.
- FSSAI is highly underfunded to monitor the widening ambit of food laws. Also, there are no standard practices for food inspection, the process being mostly discretionary.
- Cumbersome and lengthy approval procedures have delayed the pre-launch approvals for products from the FSSAI for over a year.
- Consignments of imported food products often remain stuck at the ports awaiting clearance by the FSSAI – sometimes due to small issues like labelling of the packages not conforming to arbitrary norms specified by the FSSAI, which differ from the widely accepted global standards.
- Differences of opinion between the food regulator and the food processing ministry also handicap the FSSAI functioning.
- According to a CAG Report, FSSAI is yet to frame regulations and guidelines to govern different procedures.
- The CAG also found that "licenses were issued on the basis of incomplete documents in more than 50 per cent of cases, checked in Audit".

Landmark cases

- Nestle India Limited Maggi Case: The maggi noodles were reported with excess lead unfit for human consumption and FSSAI prescribed for ban.
- Cadbury India: It was reported that worms were found in Cadbury's Dairy

Milk. The FSSAI declared packaging was not proper or airtight and made it mandatory to change the packaging.

PM calls upon CMs to work as 'Team India'

- Prime Minister, while addressing the eighth Governing Council meeting of NITI Aayog on Saturday, said the Centre and the States would have to work as "Team India" to realise the objective of a "**Viksit Bharat (Developed India)**" in 2047.
- He urged the States and Union Territories to work with the NITI Aayog so that the country could take a quantum leap towards achieving its vision for "**Amritkaal**".
- PM said NITI Aayog was taking up multiple initiatives for strengthening cooperative and competitive federalism like the **Aspirational Districts Programme (ADP)** and **Aspirational Blocks Programme (ABP)**. Both the programmes showcased the power of working together as Centre, States and districts, and the impact of data-driven governance in improving the lives of common citizens at the grassroots.

NITI Aayog's Governing Council

- It is the **premier body trusted with developing a shared vision of national priorities and strategies** with the active involvement of States and Union Territories.
- It is a platform **to discuss inter-sectoral, inter-departmental and federal issues**.
- It comprises:
 - The Prime Minister of India.
 - Chief Ministers of all the states and union territories with the legislature.
 - Lt Governors of other UTs.
 - Ex-Officio Members, Vice Chairman, NITI Aayog, Full-Time Members, NITI Aayog.
 - Special Invitees.

India's growth momentum likely to sustain in FY24: RBI

- India's growth momentum is likely to sustain in 2023-24 in an atmosphere of easing inflationary pressures, the Reserve Bank of India (RBI) said in its Annual Report 2022-23.
- The central bank noted that the economy will be supported by sound macroeconomic policies, softer commodity prices, a robust financial sector, and new growth opportunities stemming from global realignment of supply chains.

- However, it said that slowing global growth, protracted geopolitical tensions and a possible upsurge in financial market volatility following new stress events in the global financial system could pose downside risks to growth.
- “It is important, therefore, to sustain structural reforms to improve India’s medium-term growth potential,” the central bank said in the report.
- Amid strong global headwinds, the Indian economy is expected to have grown by 7% in real GDP in 2022-23, the RBI said. Agriculture and allied activities were resilient in FY23, with sectoral gross value added (GVA) seen posting growth of 3.3%, it said.

INTERNATIONAL RELATIONS

SCO Ministers meet today to discuss economic ties

- Stepping up economic cooperation, including discussing national currency payments for mutual trade, will be on the agenda for the Shanghai Cooperation Organisation (SCO)
- The proposal, which comes in the wake of the Ukraine war and sanctions imposed on Russia, which is one of the founder members of the organisation, came from Central Asian members, said sources, indicating that “initial discussions” had begun between the eight-member group
- India is already in bilateral discussions with Russia on using national payments, third-country payments and other means over circumventing unilateral sanctions imposed by the U.S. and the European Union, and is part of the BRICS (Brazil, Russia, India, China, South Africa) grouping that is also discussing a multilateral payment mechanism.
- While traditionally, security and terrorism used to dominate the SCO's agenda, but during its presidency, India is bringing on the table issues of economic and cultural cooperation between the members as well
- The sources said that the SCO Foreign Ministers will discuss the induction of **Iran and Belarus** as full members at their meeting, and will forward their applications to the summit.
- India, that has no ties at a political level with co-member Pakistan, and strained ties with SCO founder China due to the military stand-off at the Line of Actual Control (LAC) three years ago, as well as a member of U.S.-led groupings like the Quad which have been criticised by SCO co-founder Russia, India's position is appreciated as a “balancing” force.
- India is able to play such a versatile role, as a member of different groupings such as Quad (U.S.-India-Japan-Australia), G-20, BRICS, in IBSA (India-Brazil-South Africa) and the SCO. This shows that India's role is appreciated and India is seen as a balancing force

UN Official To Visit Russia This Week For Diplomatic Push To Revive Black Sea Grain Deal

- It was **set up to resume vital food and fertilizer exports from Ukraine** to the rest of the world.
- It was **brokered between Russia and Ukraine by the United Nations and Turkey**.
- The initiative **allowed exports of grain, other foodstuffs, and fertilizer**, including ammonia, **to resume through a safe maritime humanitarian corridor** from three **key Ukrainian ports: Chornomorsk, Odesa, and Yuzhny/Pivdennyi**, to the rest of the world.
- **Joint Coordination Centre (JCC):**
 - A **JCC was established to monitor** the implementation of the

- Initiative.
- JCC Centre is **hosted in Istanbul** and **includes representatives from Russia, Türkiye, Ukraine, and the United Nations.**
- The **UN acts as the Secretariat for the Centre.**
- **Procedure:**
 - **Vessels wishing to participate** in the Initiative **will undergo inspection off Istanbul** to ensure they are empty of cargo.
 - **They then sail through** the maritime humanitarian corridor **to Ukrainian ports to load.**
 - The **corridor is monitored 24/7** to ensure the safe passage of vessels.
 - **Vessels on the return journey will also be inspected** at the inspection area off Istanbul.

Black Sea:

- It is an **inland sea between Eastern Europe and Western Asia.**
- It is **bound by Ukraine** to the north and northwest, **Russia** and **Georgia** to the east, **Turkey** to the south, and **Bulgaria** and **Romania** to the west.
- It **links to the Sea of Marmara through the Strait of Bosphorus** and then **to the Aegean through the Strait of Dardanelles.**

Pakistan and China vow to press ahead with CPEC

A day after India criticised the China-Pakistan Economic Corridor (CPEC), the Foreign Ministers of Pakistan and China on Saturday expressed their firm commitment to continue their cooperation on the multi-billion dollar infrastructure projects. This came at the 4th edition of the Pakistan-China Strategic Dialogue

- CPEC is a **3,000-km long route of infrastructure projects connecting China's northwest Xinjiang Uygur Autonomous Region and the Gwadar Port** in the western province of Balochistan in Pakistan.
- It is a **bilateral project between Pakistan and China**, intended to promote connectivity across Pakistan with a network of highways, railways, and pipelines accompanied by energy, industrial, and other infrastructure development projects.
- It **will pave the way for China to access the Middle East and Africa from Gwadar Port, enabling China to access the Indian Ocean** and in return China will support development projects in Pakistan to overcome the latter's energy crises and stabilising its faltering economy.
- CPEC is a part of the **Belt and Road Initiative.**
 - The BRI, **launched in 2013**, aims to link Southeast Asia, Central Asia, the Gulf region, Africa and Europe with a network of land and sea routes.

CPEC's Implications for India

- **India's Sovereignty:** India has continuously opposed the project since it passes through the **Pakistan-occupied Kashmir territory of Gilgit-Baltistan** – a claim opposed by Pakistan.
 - The corridor is also perceived to be an **alternative economic road link for the Kashmir Valley lying on the Indian side of the border**.
 - Most key players in the Indian state of Jammu and Kashmir, have expressed optimism about the project.
 - There have been calls by local business and political leaders to declare Kashmir on both sides of the **Line of Control (LoC)** a '**Special Economic Zone**'.
 - However, a well-connected Gilgit-Baltistan that attracts industrial development and foreign investment**, if CPEC proves a success, will further consolidate the region's perception as internationally recognised Pakistani territory**, diminishing India's claim over the 73,000 sq km piece of land which is home to more than 1.8 million people.
- **Chinese Control Over Trade Via Sea:** Major US ports on the East Coast depend on the **Panama Canal** to trade with China.
 - Once CPEC becomes fully functional, **China will be in a position to offer a 'shorter and more economical' trade route** (avoiding travel through the entire Western Hemisphere) to most North and Latin American enterprises.
 - This **will give China the power to dictate the terms by which the international movement of goods will take place** between the Atlantic and the Pacific oceans.
- **Chinese String of Pearls:** China has been **increasing its presence in the Indian Ocean with the 'String of Pearls' ambition:** A term coined by the Americans and often used by Indian defence analysts to refer to a Chinese game-plan of encircling India through a network of airfields and ports.
 - With an **existing presence in Chittagong port** (Bangladesh), **Hambantota port** (Sri Lanka), **Port Sudan** (Sudan), Maldives, Somalia and Seychelles, a control of Gwadar port establishes complete dominance of the Indian ocean by the Communist nation.
- **Emergence of Pakistan as an Outsourcing Destination:** It is poised to speed up Pakistan's economic progress.
 - **Pakistani exports**, mainly in the textile and construction material industry, **compete directly with those of India in the US and UAE** – two of the top three trading partners of both countries.
 - With the supply of raw material from China becoming easier, **Pakistan will be suitably placed to become a regional market leader in these sectors** – mainly at the cost of Indian export volumes.
- **Stronger BRI and Chinese Dominance in Trade Leadership:** China's BRI project that focuses on the trade connectivity between China and the rest of Eurasia through a network of ports, roads and railways has been often seen as China's plan to dominate the region politically. **CPEC is one giant step in the same direction.**
 - A China that is more accepted and integrated with the rest of the global

economy will have a better say in the **United Nations** and with individual nations, which may prove to be bad news for an India aspiring to acquire a permanent seat at the UN Security Council.

Xi Jinping to host first meet with all Central Asia leaders

Chinese President will host a two-day summit with the leaders of five Central Asian nations as China moves to increase its influence in the region.

Leaders of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan are expected to attend the China-Central Asia Summit from May 18 to 19

The summit in the historic city of Xi'an on the ancient Silk Road is the first of its kind since the establishment of formal relations 31 years ago, according to the ministry, and will focus on strengthening economic and diplomatic ties with Beijing.

China has invested billions of dollars to tap natural gas reserves in Central Asia.

Rail links connecting China to Europe criss-cross the region and are key to the success of Mr. Xi's trillion-dollar global infrastructure project, the Belt and Road Initiative.

C5s, Russia, China and West

- *Heavily Dependent on Russia:*
 - The region is heavily reliant on Russia, which is also the **main provider of security through the CSTO (Collective Security Treaty Organisation)**.
 - However, the CSTO's unity is weakening, and the **conflict in Ukraine** has raised **concerns about the consequences of Russia's security** relationship with Central Asia.
 - In 2022 **Kyrgyzstan cancelled a CSTO military exercise** that was to be held on its territory last year, and **none of the five Central Asian countries have openly taken Russia's side** in the conflict.
 - Nevertheless, Russia has increased its trade with the **region as it seeks to reduce its dependence on European imports**.
- *China's Increasing Engagement:*
 - China has been increasing its engagement with Central Asia, leading some to speculate that Beijing is taking advantage of Russia's preoccupation with Ukraine to expand its influence in the region.
 - While Russia may be concerned about Chinese expansion, there was no visible indication of this.
- *Seeking towards West:*
 - Central Asian countries are seeking to develop trade relations with the West, including the European Union and the United States.

- However, the region's **landlocked geography and limited transport infrastructure have hindered** this effort.

India's Stake in Central Asia

- *Cultural and Ancient Ties:*
 - The Silk Route connected India with Central Asia from the 3rd century BC to the 15th century AD. From the export of Buddhism to the lasting influence of Bollywood, India has **shared old and deep cultural ties with the region.**
- *Security:*
 - In December 2022, officials from Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan arrived in India for the **first India-Central Asia meeting of national security advisors.**
 - It highlighted the India-Central Asia relationship, emphasizing their common shared interests, such as stabilizing the **security situation in Afghanistan and reinforcing territorial integrity.**
 - India has also attempted to boost its security presence in the region by **renovating military bases in Tajikistan.**
 - If operational, the airbases would offer **India a strategic advantage against its two adversaries: China and Pakistan.**
 - Tajikistan is located close to the Wakhan Corridor, which connects Afghanistan and China, as well as **Pakistan Occupied Kashmir.**
- *Extended Neighborhood Policy:*
 - In 2022 India demonstrated its commitment to its **“Extended Neighborhood Policy (ENP),”** which calls to diversify its geopolitical partners and diplomatic goals, and its willingness to engage its Central Asian partners on a multitude of fronts.
 - The ENP was launched in 2014 and seeks to build a web of partnerships and economic cooperation with neighboring countries.
 - The policy emphasizes **India's commitment to promoting regional stability, peace, and prosperity** through mutually beneficial cooperation with its neighbors.
- *Shanghai Cooperation Organization (SCO):*
 - India joined **SCO**, as a full member in 2017.
 - SCO also includes Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan.
 - The grouping provides India with a forum to establish **security relationships with Astana, Bishkek, and Tashkent**, adding on to robust ties with Tajikistan.
- *Connectivity*
 - While India has trading ties with the C5, it is **hobbled by the absence of a land route to Central Asia**, with **Pakistan denying it passage** and **Afghanistan being uncertain territory** after the Taliban takeover.
 - The **Chabahar port in Iran** offers an alternative route, but it is not fully developed yet.

- There have been suggestions that **India should provide connectivity** for people and trade in **Central Asia through “air corridors”**, as it had done for Afghanistan.

UNHRC passes resolution on human rights abuses in Sudan amid worsening conflict

- It is an **inter-governmental body within the United Nations system**, which is responsible for **strengthening the promotion and protection of human rights** around the world.
- **Mandate:** To **promote “universal respect for the protection of all human rights** and fundamental freedoms for all” and “address situations of violations of human rights, including gross and systematic violations, and make recommendations thereon.”
- **Establishment:** It was **founded in 2006**. It **replaced** the former **United Nations Commission on Human Rights (UNCHR)**.
- **Functions:**
 - It **investigates allegations of breaches of human rights** in UN member states.
 - It **addresses important human rights issues** such as freedom of expression, women's rights, LGBT rights, and the rights of racial and ethnic minorities.
 - The UNHRC **works closely with the Office of the High Commissioner for Human Rights (OHCHR)**.
- **Membership:**
 - The Council is made up of **47 Member States**, which are **elected by UN General Assembly** through direct and **secret ballot**.
 - The Council's Membership is **based on equitable geographical distribution**. African and Asia-Pacific states have 13 seats each, Latin American and Caribbean states have 8 seats, Western European and other states have 7 seats, and Eastern European states have 6 seats.
 - **Members of the Council serve for a period of three years** and are **not eligible for immediate re-election** after serving two consecutive terms.

Shanghai Cooperation Organisation (SCO) Startup Forum 2023

- The engagement aimed at expanding the startup interactions amongst the SCO Member States, nurturing the spirit of innovation, generating more employment and encouraging young talent to build innovative solutions.
- The forum witnessed physical participation from SCO Member States including a delegation of government officials, private industry players, incubators and startups.
- This engagement focused on the spirit of collaboration and entrepreneurship.

- It aimed at promoting innovation development, particularly through the creation of common platforms and the facilitation of ideas and best practices among the SCO Member States.
- Various startup-to-startup bilateral meetings were conducted in promoting and achieving this agenda.
- In addition, the delegates also attended a workshop conducted by Startup India on the 'Role of Bilateral and Multilateral Engagements in developing startup ecosystem'.
- The workshop included an interactive session to understand various models of engagements that can be undertaken to develop closer ties between these nations and boost the startup ecosystem in SCO nations.
- Previously, Startup India had organized various initiatives for SCO Member states including:
 - SCO Startup Forum 2020: The SCO Startup Forum laid the foundation for multilateral cooperation and engagement for startups among the SCO Member States.
 - SCO Startup Forum 2021: The two-day Forum was held virtually through a customized platform representing the Indian culture in augmented reality. SCO Startup Hub, a single point of contact for the SCO startup ecosystem, was launched in this forum.
 - Focused Mentorship Program: A 3-month long virtual mentorship series 'Starting-Up' was organized for the nominated startups, to build capacity among the SCO Startup founders.

India-EU trade, technology council first meeting at Brussels on May 16

- The meeting will be co-chaired on the Indian side by the Ministers for External Affairs, Commerce and Industry, and Communications, Electronics, and Information Technology.
- Trade and Technology Council was launched by Prime Minister Narendra Modi and President of European Commission Ursula von der Leyen during Ms Leyen's visit to India in April last year.
- Both sides established three Working Groups under the Council.
- These are Working Group on Strategic Technologies, Digital Governance, and Digital Connectivity, Working Group on Green and Clean Energy Technologies, and Working Group on Trade, Investment and Resilient Value Chains.
- Meetings of the three Working Groups have also taken place leading to the Ministerial meeting in Brussels.

G-7 Hiroshima summit

- Leaders of seven of the **world's most powerful democracies** will gather this weekend for the Group of Seven summit in Hiroshima, the location of the

- world's first atomic attack at the end of World War II.
- From the emergence of crucial developing countries to security worries, including growing aggression from China, North Korea and Russia, here's a look at the G-7, who will attend and some of the key issues:

G-7 Summit

- The Group of Seven is an informal group of leading industrialised nations. It consists of Canada, France, Germany, Italy, Japan, the United Kingdom and the United States.
- This year is Japan's turn to host, but the presidency of G-7 summits revolves among the seven members. Two representatives of the European Union also join.
- As is customary in recent years, leaders from some non-G-7 countries and international organizations will also participate in some sessions. The leaders discuss a wide range of issues, including economic policy, security, climate change, energy and gender.
- The first summit was in 1975, when France hosted what was then a Group of Six meeting to discuss tackling a recession that followed an Arab oil embargo.
- Canada became the seventh member a year later. Russia joined to form the G-8 in 1998 but was expelled after Moscow's 2014 annexation of Crimea.

Hiroshima?

- Hiroshima is Kishida's hometown. His choice of venue underscores a determination to put nuclear disarmament and non-proliferation at the top of the agenda of this year's summit.
- A path to nuclear disarmament has appeared more difficult with Russia's recent nuclear weapon threats in Ukraine, as well as nuclear and missile development by China and North Korea.

Top issues

- G-7 leaders are expected to strongly condemn **Russia's war on Ukraine** while pledging their continuing support for Ukraine. Ukrainian President Volodymyr Zelenskyy will join the session via the internet.
- There will also be a focus on **Beijing's escalating threats against Taiwan**, the self-governing democratic island Beijing claims as its own, and ways to reduce Western democracies' economic and supply chain dependency on China.
- To address the rise of **Global South nations**, including many former colonies of Western powers with varied views on and ties to Russia and China, the G-7 will offer these countries more support in health, food security and infrastructure to develop closer ties

Quad leaders to meet tomorrow in Hiroshima, White House confirms

- The Quad leaders unequivocally condemned terrorism and violent extremism in all its forms and manifestations including cross-border terrorism.
- They also released the **ORAN Security Report** to support industry investment in open, interoperable and secure telecom platforms. **Quad Investors' Network** has been launched as a private sector-led platform to facilitate investments in strategic technologies.

Quad

- Known as the 'Quadrilateral Security Dialogue' (QSD), the Quad is an **informal strategic forum comprising four nations, namely -- United States of America (USA), India, Australia and Japan**. One of the primary objectives of the Quad is to work for a free, open, prosperous and inclusive Indo-Pacific region.
- The group **met for the first time in 2007** on the sidelines of the **Association of Southeast Asian Nations (Asean)**. It is considered an alliance of maritime democracies, and the forum is maintained by meetings, semi-regular summits, information exchanges and military drills of all the member countries.

Formation of QUAD

- Since its establishment in 2007, the representatives for the four-member nations have met periodically**. Japanese Prime Minister Shinzo Abe was the first to pitch the idea for the formation of Quad in 2007.**
- In fact, its origins can be traced back to the evolution of **Exercise Malabar and the 2004 Tsunami** when India conducted relief and rescue operations for itself and neighbouring countries and was later joined by the US, Japan and Australia. Therefore, China issued formal diplomatic protests to the members of the Quad.

Principles of Quad

- The motive behind the Quad is to keep the strategic sea routes in the Indo-Pacific free of any military or political influence.
- It is basically seen as a strategic grouping to reduce Chinese domination. The core objective of the Quad is to secure a rules-based global order, freedom of navigation and a liberal trading system. The coalition also aims to offer alternative debt financing for nations in the Indo-Pacific region.

Russia says Ukrainian city of Bakhmut captured

Wagner Group:

- **What is it?** The Wagner Group also known as **PMC Wagner is a Russian paramilitary organization.**
- **Origin:** The group is believed to have been **founded in 2014 by a Russian veteran of the Chechen war** who so admired Hitler he named the group after Richard Wagner, the führer's favorite composer.
- The **skull is the symbol of the Wagner Group.**
- The organization first **came to the world's attention in 2014, fighting alongside Russian-backed separatists in the Donbas region of eastern Ukraine.**
- The organization has also been **active across Africa in recent years** — Libya, Sudan, Mozambique, Mali and the Central African Republic.
- Today there are **thought to be some 10,000 Wagner Group members.**
- The **S. government has called Wagner a "proxy force" of Russia's defense ministry.**

'führer'

- Führer, also **spelled Fuehrer means leader.**
- It is a **title used by Adolf Hitler to define his role of absolute authority.**
- As early as July 1921 **he had declared the Führerprinzip ("leader principle") to be the law of the Nazi Party.**

Prime Minister extols value of Pacific island nations at third FIPIC summit

- Small island nations of the Pacific Ocean are in fact "large ocean states", said Prime Minister Narendra Modi on Monday, highlighting the importance of the 14 members of the Forum for India Pacific Islands Cooperation (FIPIC). Mr. Modi spoke in favour of free and open Indo-Pacific region and focused on India's commitment to assist the development goals of the member-countries.
- The previous two meetings of the India-Pacific Islands Cooperation were held in November 2014 in Fiji, and August 2015 in Jaipur.

FIPIC

- Forum for India-Pacific Islands cooperation (FIPIC) is a multinational grouping developed in 2014 for cooperation between India and 14 Pacific Islands nations which include Cook Islands, Fiji, Kiribati, Marshall Islands, Micronesia, Nauru, Niue, Samoa, Solomon Islands, Palau, Papua New Guinea, Tonga, Tuvalu and Vanuatu.
- The first and second editions of the FIPIC took place in Fiji (2015) and Jaipur (2016). During the FIPIC Summits Prime Minister articulated India's desire to

- be a close partner of the Pacific Island nations and its readiness to work closely to advance their developmental agenda.
- To further enhance people-to-people contact, PM announced a Distinguished Visitors Programme under which eminent persons from these countries can visit India.
 - India would also welcome the visit of a Parliamentary delegation from the Pacific Island Countries to India.

India-Australia ties built on trust: Modi

Prime Minister Narendra Modi on Tuesday said the foundation of India-Australia relations lies in mutual trust and respect, as he along with his Australian counterpart Anthony Albanese addressed the Indian diaspora at a mega event here.

India- Australia Relations

- *Historical Perspective:*
 - Australia and India for the first time established diplomatic relations in the pre-Independence period, when the **Consulate General of India was first opened as a Trade Office in Sydney in 1941.**
 - India-Australia relations touched a **historic low** when the **Australian Government condemned India's 1998 nuclear tests.**
 - In 2014, Australia signed a **Uranium supply deal** with India, the first of its kind with a country that is a **non-signatory to the Nuclear Non-Proliferation Treaty**, in recognition of India's "impeccable" non-proliferation record.
- *Shared Values:*
 - Shared values of **pluralistic, Westminster-style democracies, Commonwealth traditions, expanding economic engagement, and increasing high-level interaction** have underpinned the India-Australia bilateral relationship.
 - Common traits, including **strong, vibrant, secular, and multicultural democracies, a free press, an independent judicial system,** and English language, serve as the foundation for closer co-operation.
- *People-to-people Ties:*
 - India is one of the top sources of skilled immigrants to Australia. As per the 2021 Census, around **9.76 lakh people in Australia reported their ancestry as Indian origin**, making them the second largest group of overseas-born residents in Australia.
- *Strategic Ties:*
 - In 2020, Prime ministers of both the countries elevated bilateral relationship from Strategic Partnership to **Comprehensive strategic Partnership** during **India-Australia Leaders' Virtual Summit.**
 - In 2021, the prime ministers of both the countries **met during COP26 at Glasgow.**
 - In 2022, there has been a **series of high-level engagements** and

exchange of ministerial visits in 2022 and in 2023 including India-Australia virtual summit and Foreign Ministers meet. Several key announcements were made during **2nd India-Australia Virtual Summit** including:

- **A Letter of Intent on Migration and Mobility Partnership Arrangement** to foster the exchange of skills.
- *Defence Cooperation:*
 - The **2+2 Ministerial Dialogue** took place in September 2021, and the Deputy Prime Minister and Defence Minister of Australia visited India in June 2022.
 - The **Mutual Logistics Support Agreement (MLSA)** was signed during the Virtual Summit in June 2020 to enhance defence cooperation.
 - **Joint military exercises:**
 - Australia will host the "**Malabar**" exercises in August 2023, with participation from India, Japan, and the US.
 - India has been invited to join the **Talisman Sabre exercises** in 2023.
- *China Factor:*
 - Australia-China ties became strained due to several reasons including Australia **banning Huawei from 5G network, call for enquiry into the origins of Covid-19 and Slamming china's human rights violations in Xinjiang and Hongkong.**
 - China responded by imposing trade barriers on Australian exports, and by cutting off all ministerial contact.
 - India is facing Chinese aggression along the border which has been highlighted by incidents such as **Galwan valley clash.**
 - Both Australia and India support a **rules-based international order** and they are seeking to forge regional institutions in the Indo-Pacific which are inclusive, promote further economic integration.
 - The countries' participation in **Quad** (India, Australia, US, Japan) is an example of their convergence of interests, based on shared concerns.
- *Multilateral Cooperation:*
 - Both are members of the **Quad, Commonwealth, Indian Ocean Rim Association (IORA), ASEAN Regional Forum, Asia Pacific Partnership on Climate and Clean Development**, and have participated in the **East Asia Summits.**
 - Both countries have also been cooperating as members of the Five Interested Parties (FIP) in the **World Trade Organization** context.
 - Australia is an important player in **Asia Pacific Economic Cooperation (APEC)** and supports India's membership of the organisation.
- *Economic Cooperation:*
 - **Economic Cooperation Trade Agreement (ECTA):**
 - It is the first free trade agreement signed by India with a developed country in a decade which entered into force in December 2022.

- **Reduction in Duties:**
 - It has resulted in an **immediate reduction of duty to zero on 96% of Indian exports to Australia** in value (that is 98% of the tariff lines) and **zero duty on 85% of Australia's exports (in value) to India.**
- **Supply Chain Resilience Initiative (SCRI):**
 - India and Australia are partners in the trilateral arrangement along with Japan which seeks to enhance the resilience of supply chains in the **Indo-Pacific Region.**
- **Bilateral trade:**
 - Australia is the **17th largest trading partner of India** and India is Australia's 9 largest trading partner.
 - Bilateral trade between India and Australia was **US\$ 27.5 billion in 2021**, there is potential for it to reach around **US\$ 50 billion in five years.**
- *Cooperation in Education Sector:*
 - The Mechanism for **Mutual Recognition of Educational Qualifications (MREQ)** was signed in March 2023. This will facilitate mobility of students between India and Australia.
 - Deakin University and University of Wollongong are planning to open campuses in India.
 - **More than 1 lakh Indian students are pursuing higher education degrees in Australian universities**, making Indian students the second largest cohort of foreign students in Australia.
- *Cooperation on Clean Energy:*
 - In February 2022, countries signed a **Letter of Intent on New and Renewable Energy** for cooperation to reduce the cost of renewable energy technologies, including ultra low-cost solar and clean hydrogen.
 - India announced Australian Dollars(AUD) 10 million for Pacific Island Countries under the **International Solar Alliance (ISA).**
 - Both the countries committed to USD 5.8 million to the **three-year India-Australia Critical Minerals Investment Partnership.**

Won't let anyone mar India-Australia ties, says PM

At a "joint press statement" event, Mr. Modi announced that India will open a new consulate in Brisbane, and said that the two sides have "decided to focus" on upgrading the Economic Cooperation and Trade Agreement (ECTA) to the level of a comprehensive economic cooperation agreement.

Economic Cooperation and Trade Agreement

- It is the first **Free Trade Agreement (FTA)** that India has signed with a major developed country in over a decade.
- The Agreement encompasses cooperation across the entire gamut of **bilateral**

economic and commercial relations between the two friendly countries, and covers areas like:

- Trade in Goods, Rules of Origin.
- Trade in Services.
- Technical Barriers to Trade (TBT).
- **Sanitary and Phytosanitary (SPS)** measures.
- Dispute Settlement, Movement of Natural Persons.
- Telecom, Customs Procedures.
- Pharmaceutical products, and Cooperation in other Areas.
- ECTA **provides for an institutional mechanism to encourage and improve trade** between the two countries.
- The ECTA between India and Australia **covers almost all the tariff lines dealt in by India and Australia respectively.**
 - India will benefit from **preferential market access provided by Australia on 100% of its tariff lines.**
 - This includes all the **labour-intensive sectors of export interest to India** such as Gems and Jewellery, Textiles, leather, footwear, furniture etc.
 - On the other hand, **India will be offering preferential access to Australia on over 70% of its tariff lines**, including lines of export interest to Australia which are primarily raw materials and intermediaries such as coal, mineral ores and wines etc.
- Under the agreement, **Indian graduates from STEM (Science, Technology, Engineering and Mathematics) will be granted extended post-study work visas.**
 - Australia will also set up a programme to grant visas to young Indians looking to pursue working holidays in Australia.

Significance

- It will provide **zero-duty access to 96% of India's exports** to Australia including shipments from key sectors such as engineering goods, gems and jewellery, textiles, apparel and leather.
- It will **boost bilateral trade in goods and services to USD 45-50 billion over five years**, up from around USD 27 billion, and generate over one million jobs in India, according to a government estimate.
- It will also **give about 85% of Australia's exports zero-duty access to the Indian market**, including coal, sheep meat and wool, and lower duty access on Australian wines, almonds, lentils, and certain fruits.

Free Trade Agreements

- It is a **pact between two or more nations to reduce barriers** to imports and exports among them.
- Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.
- The concept of **free trade is the opposite of trade protectionism or**

economic isolationism.

- FTAs can be categorised as Preferential Trade Agreement, **Comprehensive Economic Cooperation Agreement (CECA), Comprehensive Economic Partnership Agreement (CEPA).**

ENVIRONMENT

Climate change will lead to massive habitat loss for this signature subcontinental floodplains tree

- Hijol, or **Indian oak**, is a **medium-sized evergreen tree**.
- **Scientific Name: Barringtonia acutangula**
- **Common names: Hijal, Hijangal, Hendol, Stream Barringtonia, Itchy Tree.**
- **Distribution:**
 - It is native to **coastal wetlands in southern Asia and northern Australasia.**
 - This species grows on the **banks of freshwater rivers, the edges of freshwater swamps** and lagoons and on seasonally flooded lowland plains, **commonly on heavy soils.**
 - It is commonly **found in the Ganges-Brahmaputra-Meghna basin.**
- **Features:**
 - This plant is a **big tree** that grows to about **8–15 m high.**
 - Its **leaves are thick, smooth and oval in shape**, about 8–12 cm long and 4–5 cm wide, with reddish petioles about 0.5–1.0 cm long.
 - **Flowers are small, pink to red**, sub-sessile, and purple-red with **numerous stamens.**
- **Medicinal uses:**
 - Its **bark has tannin, which is useful for heart diseases.**
 - **Powder of seeds works as an expectorant** and is applied to cure the cough of children.
 - Tonic is prepared from leaves and roots. **Fish poison is also prepared from its roots.**

Meeting of Range Countries to strengthen conservation efforts for migratory birds and their habitats in the Central Asian Flyway (CAF)

- Central Asian Flyway (CAF) covers a large area of Eurasia between the Arctic and Indian Oceans.
- This flyway comprises several important migration routes of birds.
- Including India, there are 30 countries under the Central Asian Flyway.
- At the 13th meeting of the Conference of Parties (CoP) to the Convention on

Migratory Species (CMS), held at Gandhinagar in February, 2020, a resolution (UNEP/CMS/Resolution 12.11 (Rev.COP13) and Decision 13.46 were adopted inter-alia providing for establishing, by COP14, under the umbrella of CMS an institutional framework, under the leadership of India with the aim to agree on conservation action for migratory birds.

- With a view to fulfill its commitment, India is organizing two day online meeting on 6th -7th October 2021 with CAF Range Countries, anchored in Wildlife Institute of India.
- Approximately one in five of the world's 11,000 bird species migrate, some covering enormous distances.
- Conserving migratory birds requires cooperation and coordination along the entire flyway between countries and across national boundaries.

Cyclonic circulation likely to develop over southeast Bay of Bengal around May 6, says MeT department

- Cyclones are centres of low pressure surrounded by closed isobars and having increasing pressure outwards.
- As air enters an area of low pressure from all directions, the Coriolis Effect bends the direction of the wind to the right of its path.
- This creates a counter clockwise rotation around the low and convergence near the centre of the system. As the air collides near the centre it is forced aloft where divergence takes air away from the centre of the system.
- A Cyclone is a system of low level convergence and high level divergence with a rising column of air in the centre of the rotating air mass. If the upper air is not diverging then there cannot be a cyclone present.

Types:

- Temperate cyclones (caused in middle and high latitudes, thus does not occur in India)
- Tropical cyclones

Tropical Cyclones

- Cyclones developed in the regions between the Tropic of Cancer and Tropic of Capricorn, are called tropical cyclones.
 - The weather conditions of low latitudes, mainly rainfall regimes are largely controlled by tropical cyclones.
- Tropical cyclones usually develop in summer season in the vicinity of Inter-Tropical Convergence Zone (ITCZ) over warm ocean surface.
- Tropical cyclones are one of the mechanisms by which surface heat energy is redistributed from the equator to the poles.
- Tropical cyclones are known by various names in different parts of the world.
- In the North Atlantic Ocean and the eastern North Pacific they are called hurricanes, and in the western North Pacific around the Philippines, Japan,

- and China the storms are referred to as typhoons.
- In the western South Pacific and Indian Ocean they are variously referred to as severe tropical cyclones, tropical cyclones, or simply cyclones.
 - All these different names refer to the same type of storm.

Conditions

- Tropical cyclone is like a heat engine which is energized by latent heat of condensation. Generally, tropical cyclones are formed due to low pressure of thermal origin.
- The conditions favourable for the formation and intensification of tropical cyclone storms are:
 - Large sea surface with temperature higher than 27° C
 - Presence of the Coriolis force
 - Small differences in the vertical wind speed
 - A pre-existing weak- low-pressure area or low-level-cyclonic circulation
 - Upper divergence above the sea level system.
 - Having these conditions met is necessary, but not sufficient as many disturbances that appear to have favorable conditions do not develop.

Madhya Pradesh: 2000-year-old modern society unearthed from Bandhavgarh National Park

- It is located in the **Umariya district of Madhya Pradesh.**
- It is spread over the **Vindhya hills.**
- It was **declared a national park in 1968** and then became Tiger Reserve in 1993.
- It is **known for the Royal Bengal Tigers.** The **density of the tiger population** at Bandhavgarh **is the highest known in India** as well as in the world.
- The park **derives its name from the most prominent hillock in the area,** which was said to be given by Hindu Lord Rama to his brother Lakshmana to keep a watch on Lanka. Hence the name Bandhavgarh (Sanskrit: Brother's Fort).
- The national park **was the former hunting preserve of the Maharaja of Rewa.**
- **Topography:** Varies between **steep ridges, undulating forests and open meadows.**
- **Vegetation:** It is mostly of **dry deciduous type.**
- **Flora:**
 - The vegetation of Bandhavgarh is specially **filled with Sal forest in the valleys,** and **Bamboo stretches on the lower slopes** of the region.
 - Some of the most famous **floral species include Saj** (*Terminalia tomentosa*), **Dhaora** (*Anogeissus latifolia*), **Tendu, Arjun** (*Terminalia arjuna*), **Amla** (*Emblica officinalis*), **Palas** (*Butea monosperma*) etc.
- **Fauna:**

- The important **prey species consists of chital, sambhar, barking deer, nilgai**, chinkara, wild pig, chowsingha, langur and rhesus macaque.
- Dependent upon them are the **major predators like tiger, leopard, wild dog**, wolf and jackal.

NTCA experts visit KUNO to review status of Project Cheetah

- Discussions to bring the Cheetah back to India were initiated in 2009 by the Wildlife Trust of India.
- Under the 'Action Plan for Reintroduction of Cheetah in India', 50 cheetahs will be brought from African countries to various national parks over 5 years.
- Most suitable site - Kuno Palpur National Park (KNP) in Madhya Pradesh:
- Amongst the surveyed sites of the central Indian states, KNP has been rated the highest, because of its suitable habitat and adequate prey base.
- It is assessed to be capable of supporting 21 Cheetahs and is likely the only wildlife site in the country where villages have been completely relocated from within the park.
- Kuno also provides the possibility of harbouring four of India's big cats - tiger, lion, leopard and Cheetah, enabling them to coexist as they have in the past.
- The other sites recommended are - Nauradehi Wildlife Sanctuary, Madhya Pradesh; Gandhi Sagar Wildlife Sanctuary - Bhainsrorgarh Wildlife Sanctuary complex, Madhya Pradesh; Shahgarh bulge in Jaisalmer, Rajasthan; Mukundara Tiger Reserve, Rajasthan.
- As part of this project, 20 Cheetahs (8 from Namibia and 12 from South Africa) were introduced in the KNP (since last year) to establish a free-ranging population for the first time since their extinction in India 70 years ago.

Cyclone Mocha ?

- A low pressure area, a precursor to a cyclone, has formed over the south-eastern Bay of Bengal and this would likely morph into a cyclone tomorrow, the India Meteorological Department (IMD) said on Monday.
- Cyclone Mocha, though it is yet to be formally named so, is likely to rage along the Andaman and Nicobar Islands and head north towards Bangladesh and Myanmar.
- This is the first tropical cyclone that will be forming in the region this year.

What makes Bay of Bengal prone to cyclones

With a coastline of 7517 km, India is exposed to nearly 10 per cent of the world's tropical cyclones. Although cyclones affect the entire coast of India, the eastern coast is significantly more prone to cyclones as compared to the western coast.

NCRMP (National Cyclone Risk Mitigation Project) data show that about 58 percent

of the cyclones that are formed in the Bay of Bengal hit and cross the eastern coast while only 25 percent of the cyclones developing in the Arabian sea are seen approaching the western coast of India.

- The temperature of the sea surface and humidity are the most important factors responsible for the formation of cyclones. The average rainfall seen by the Bay of Bengal is very high and hence the probability of the formation of cyclones in this region is also correspondingly very high.
- Tropical depression is a predominant occurrence in the Indo-Gangetic plains and this natural phenomenon is highly responsible for the cyclone formation in the Bay of Bengal.
- Bay of Bengal witnesses an average temperature of 28 degree Celsius. Warm air and the fresh water pouring into the bay from the rivers in the region increase the surface temperature of the sea further resulting in tropical depression.
- Cyclonic winds from other water bodies are transferred by Bay of Bengal. The lack of landmass in the Bay of Bengal basin means that the cyclones occurring in the region do not weaken and easily move towards the eastern coastline.

Study on sludge finds high potential for use as fertilizer after treatment

- Sludge found in Indian sewage treatment plants (STP), set up to treat polluted water from the Ganga, found that most of it had “high potential” for use as fertilizer, but required treatment before it could be used unrestricted on farms or as a potential biofuel.
- One of the measures under this, “Arth Ganga” (economic value from Ganga), is to “monetise” and reuse treated wastewater and sludge. This means converting sludge — a thick residue that while rich in organic chemicals is also a repository of heavy metals, industrial effluents and bacterial contaminants — into usable products such as manure and bricks.
- Treated sludge can be classified as class A or B —
- class A being safe to be disposed of in the open and useful as organic fertilizer.
- Class B means that the sludge can be used in “restricted” agricultural applications, the edible parts of the crop not be exposed to the sludge-mixed soil, and animals and people not come into extensive contact.
- India does not yet have standards classifying sludge as class A or B.
- A study found that most of the sludge analysed after drying fell into the class B category. **Nitrogen and phosphorous** levels — the basic soil nutrients — were higher than those recommended by India’s fertilizer standards (FCO, 2009).
- However, **potassium** levels in some samples were less than recommended. The total organic **carbon** was more than 16%, again higher than FCO recommendations, but the degree of pathogens as well as heavy metal contamination was above the recommended standard.

- when we have data about the chemical characteristics of the sludge can we then ask developers to adopt practices on treatment and safe disposal of sludge.

Cyclone Mocha to intensify into severe cyclonic storm; IMD issues warning

- It is a **tropical cyclone** formed **over the southern Bay of Bengal**.
- The cyclone's **name 'Mocha' is suggested by Yemen** and was named after the Red Sea port city, which is known to have introduced coffee to the world.
- *Tropical Cyclone Formation*
 - A tropical cyclone is **formed only over warm ocean waters near the equator**.
 - Warm, **moist air rises up** and away from the ocean surface, **creating an area of low pressure**.
 - It **causes the air from surrounding areas with higher pressure to move towards the low-pressure area**.
 - This leads to the **warming up of air** and **causes it to rise above**.
 - **As the air rises & cools**, the **water in the air forms clouds**.
 - This **complete system of clouds and wind spins & grows**, along with the ocean's heat.
 - As the wind rotation speed increases, **an eye gets formed in the middle**.
- *Characteristics of a Tropical Cyclone:*
 - The **centre of a cyclone is very calm** and clear with **very low air pressure**.
 - The **average speed is 120 kmph**.
 - They have **closed isobars** which **leads to greater velocity**. Isobars are imaginary lines on a weather map that connect locations with equal atmospheric pressure.
 - They **develop over oceans and seas only**.
 - They **move from east to west** under the **influence of trade winds**.
 - They are **seasonal in nature**.
- Cyclones are classified **on the basis of wind** speed by the **Indian Meteorological Department (IMD)**:
 - **Depression**: Wind speeds of between **31–49 km/h**
 - **Deep Depression**: Between **50-61 km/h**
 - **Cyclonic Storm**: Between **62–88 km/h**
 - **Severe Cyclonic Storm**: Between **89-117 Km/h**
 - **Very Severe Cyclonic Storm**: Between **118-166 Km/h**
 - **Extremely Severe Cyclonic Storm**: Between **166-221 Km/h**
 - **Super Cyclonic Storm**: Above **222 Km/h**

'Highly Endangered' Sea Mammal Dugong Safely Released By Tamil Nadu

Fishermen

- The dugong (Dugong dugon), **also called the sea cow, is a herbivorous mammal.**
- **Scientific Name: Dugong dugon**
- **Distribution:**
 - They have a **broad but fragmented range** inhabiting the **warm coastal waters of the Indian and Pacific oceans.**
 - The **largest population** of sea cows is **found in the northern waters of Australia.**
 - The second largest population is **found in the Arabian Gulf.**
- Dugongs are **not considered migratory** but are **known to travel great distances** within their range in order **to find food.**
- **Habitat:** They generally **inhabit shallow waters**, remaining at depths of around 10 m.
- **Features:**
 - Dugongs range in length from about **2.2 to 3.4 metres** and **weigh 230 to 420 kg.**
 - It has a **tapered body** that ends in a **deeply notched tail or fluke.**
 - The **forelimbs are rounded flippers lacking nails**; there are **no hind limbs** nor any discernible neck.
 - They are **long-lived animals (up to 73 years).**
- **Conservation Status:**
 - **IUCN: Vulnerable**

Ntca Finds 9 Illegal Resorts In Tiger Reserve Limits

Biligiri Rangaswamy Temple Tiger Reserve (BRT):

- **Location:**
 - It is located in **Chamarajanagar district of Karnataka State.**
 - This unique Bio-geographical habitat is in the **middle of the bridge between the Western and Eastern ghats.**
- The tiger reserve **derives its name from 'BILIGIRI', the white rocky cliff** which has a temple of Lord 'VISHNU', locally known as 'Rangaswamy'.
- It was **declared as a Tiger Reserve in 2011.**
- **Vegetation:** The forests of BRT Tiger Reserve are **principally of dry deciduous type** and are **interspersed with moist deciduous**, semi-evergreen, evergreen and shola patches occurring at varying altitudes.
- **Flora:** The major species include: **Anogeissus latifolia, Dalbergia paniculata**, Grewia teliaefolia, Terminalia alata, Terminalia bellirica, Terminalia paniculata etc.
- **Fauna:** Animals including **tiger, elephant, leopard, wild dog, bison, sambar, spotted deer, barking deer**, four-horned antelope, sloth bear, wild boar, common langur, bonnet macaque, varieties of reptiles, birds, etc., are found

in the Tiger Reserve.

National Tiger Conservation Authority (NTCA)

- It is a **statutory body under the Ministry of Environment, Forest, and Climate Change (MoEFCC)**.
- It was **established in 2006 under Wildlife (Protection) Act 1972**.
- **Objectives:**
 - **Providing statutory authority to Project Tiger** so that compliance of its directives becomes legal.
 - **Fostering accountability of Center-State in management of Tiger Reserves** by providing a basis for MoU with States within the federal structure.
 - **Providing for an oversight by Parliament.**
 - **Addressing livelihood interests of local people** in areas surrounding Tiger Reserves.
- **NTCA Composition:**
 - **Minister in charge of MoEFCC (as Chairperson);**
 - **Minister of State in MoEFCC (as Vice-Chairperson);**
 - **three members of Parliament, the Secretary (MoEFCC),** and other members;

Ministry of Power and Ministry of Environment to develop Carbon Credit Trading Scheme for Decarbonisation

Carbon Markets

- Carbon markets are essentially a tool for putting a price on carbon emissions— they establish trading systems where carbon credits or allowances can be bought and sold.
- A carbon credit is a kind of tradable permit that, per United Nations standards, equals one tonne of carbon dioxide removed, reduced, or sequestered from the atmosphere.
- Carbon allowances or caps, meanwhile, are determined by countries or governments according to their emission reduction targets.
- A United Nations Development Program release this year noted that interest in carbon markets is growing globally, i.e., 83% of NDCs submitted by countries mention their intent to make use of international market mechanisms to reduce greenhouse gas emissions.

Two types of Carbon Markets:

- Compliance Market –
- These are set up by policies at the national, regional, and/or international level— are officially regulated.
- Entities in this sector are issued annual allowances or permits by

- governments equal to the emissions they can generate.
- If companies produce emissions beyond the capped amount, they have to purchase additional permit, either through official auctions or from companies which kept their emissions below the limit, leaving them with surplus allowances.
 - The market price of carbon gets determined by market forces when purchasers and sellers trade in emissions allowances.

Voluntary Market:

- These are markets in which emitters— corporations, private individuals, and others— buy carbon credits to offset the emission of one tonne of CO₂ or equivalent greenhouse gases.
- Such carbon credits are created by activities which reduce CO₂ from the air, such as afforestation.
- In a voluntary market, a corporation looking to compensate for its unavoidable GHG emissions purchases carbon credits from an entity engaged in projects that reduce, remove, capture, or avoid emissions.

IMD issues fourth heatwave alert for the Konkan region

The India Meteorological Department (IMD) has declared a heatwave in various regions of Maharashtra. This is the fourth heatwave alert for the Konkan region and the first in May

- **A heatwave is a period of abnormally high temperatures**, a common phenomenon in India during the months of **May-June and in some rare cases even extends till July**.
- **India Meteorological Department (IMD)** classifies heat waves according to regions and their temperature ranges. As per **IMD**, the number of heatwave days in India has increased from 413 over 1981-1990 to 600 over 2011-2020.
 - This **sharp rise in the number of heatwave days** has resulted **due to the increasing impact of climate change**.

Declaring a Heatwave

- The Heatwave is considered when the maximum temperature of a station reaches at least **40°C for Plains** and at least **30°C for Hilly regions**.
- If the **normal maximum temperature of a station is less than or equal to 40°C**, then an **increase of 5°C to 6°C** from the normal temperature is **considered to be heat wave condition**.
 - Further, an **increase of 7°C or more from the normal temperature** is considered a **severe heat wave condition**.
- If the **normal maximum temperature of a station is more than 40°C**, then an **increase of 4°C to 5°C** from the normal temperature is considered to be heat wave condition. Further, an increase of 6°C or more is **considered a**

severe heat wave condition.

- Additionally, if the **actual maximum temperature remains 45°C** or more **irrespective of normal maximum temperature, a heat wave is declared.**
- **In 2016, the National Disaster Management Authority (NDMA)** issued comprehensive guidelines to prepare national level key strategies for mitigating the impact of heatwaves.

Impacts of Heat Waves In India

- **Economic Impacts:** The frequent occurrence of heat waves also adversely affects different sectors of the economy.
 - For instance, **the livelihood of poor and marginal farmers is negatively impacted due to the loss of working days.**
 - Heatwaves also have an adverse impact on daily wage workers' productivity, impacting the economy.
- **Impact on Agriculture Sector: Crop yields suffer when temperatures exceed the ideal range.**
 - Farmers in **Haryana, Punjab and Uttar Pradesh** have **reported losses in their wheat crop** in the past rabi season. Across India, **wheat production could be down 6-7% due to heat waves.**
 - **Livestock is also vulnerable to heatwaves.**
 - Researchers at Cornell University estimate that, **by 2100, milk yields in India could drop by 25%** (against 2005 levels) in **arid and semi-arid dairy farming** due to increased heat stress.
- **Impact on Electricity Usage:** Naturally, heatwaves impact power load.
 - In the **North India**, the **average daily peak demand in April** was **13% higher than 2021** and **30% higher in May.**
- **Human Mortality: Mortality** due to heat waves occurs because of rising temperature, **lack of public awareness programmes**, and **inadequate long-term mitigation measures.**
 - According to a 2019 report of the Tata Centre for Development and the University of Chicago, by 2100, **annually, more than 1.5 million people will be likely to die due to extreme heat caused by climate change.**
 - The increased heat will lead to an increase in diseases like **diabetes, circulatory** and **respiratory conditions**, as well as **mental health challenges.**
- **Food Insecurity:** The **concurrence of heat and drought events are causing crop production losses and tree mortality.**
 - **The risks to health and food production** will be made more severe from the sudden food production losses exacerbated by heat-induced labour productivity losses.
 - **These interacting impacts will increase food prices**, reduce household incomes, and lead to malnutrition and climate-related deaths, especially in tropical regions.
- **Impact on Workers:** Workers in sectors like **agriculture and construction** will be severely impacted in 2030 because **India's large population depends**

- **on these sectors** for their livelihoods.
- **Weaker Sections to be Specifically Affected:** The climate science community has reported overwhelming evidence that extreme events such as heatwaves are likely to become more intense, more frequent and of longer duration in future unless **emissions of greenhouse gases** and **aerosols** are significantly cut globally.
 - It is important to remember that heatwaves in India, such as the current event, have the **potential to influence thousands of vulnerable and poor people** who **contributed very little to the climate crisis**.

Thawing permafrost in the Arctic could unlock toxic waste buried for decades

- With rising global temperatures, thawing permafrost is likely to destabilise thousands of industrial sites and linked contaminated areas in the Arctic, which could result in the spread of toxic substances across the region, according to a new study.
- **The Arctic** is far from an uninhabited and untouched region. It's dotted with countless industrial facilities such as oilfields and pipelines, mines and military bases. All this infrastructure is built on permafrost, which was once believed to be perennially stable and reliable.
- The toxic waste from these industrial facilities has been buried in the permafrost, on the assumption that it would stay locked away permanently. But danger looms as the planet continues to heat up.

Permafrost

- Permafrost is essentially any ground that stays frozen — 0 degree Celsius or lower — for at least two years straight. These permanently frozen grounds are often found in Arctic regions such as Greenland, Alaska (the United States), Canada, Russia and Eastern Europe.
- According to the National Aeronautics and Space Administration (NASA), permafrost is composed of “a combination of soil, rocks and sand that are held together by ice. The soil and ice in permafrost stay frozen all year long.” However, although the ground remains perennially frozen, permafrost regions aren't always covered with snow.
- Arctic is getting warmer nearly four times as fast as the rest of the planet due to **climate change**, permafrost is thawing rapidly, which could destabilise not only the industrial sites but also the contaminated areas. And once the destabilisation takes place, toxic substances would be unleashed across the region, threatening numerous species living there and the health of people who depend on them.
- Although the ground is frozen, permafrost regions are not always covered in snow.
- Permafrost is made of a combination of soil, rocks and sand that are held together by ice. The soil and ice in permafrost stay frozen all year long.

- Near the surface, permafrost soils also contain large quantities of organic carbon—a material leftover from dead plants that couldn't decompose, or rot away, due to the cold. Lower permafrost layers contain soils made mostly of minerals.
- A layer of soil on top of permafrost does not stay frozen all year. This layer, called the active layer, thaws during the warm summer months and freezes again in the fall.
- In colder regions, the ground rarely thaws—even in the summer.
- There, the active layer is very thin—only 4 to 6 inches (10 to 15 centimeters).
- In warmer permafrost regions, the active layer can be several meters thick

Consequences of thawing permafrost?

- According to experts, thawing permafrost can severely impact the planet. One of its most dangerous consequences is the release of greenhouse gases into the atmosphere.
- A 2022 report by NASA said, “Arctic permafrost alone holds an estimated 1,700 billion metric tons of carbon, including methane and carbon dioxide. That’s roughly 51 times the amount of carbon the world released as fossil fuel emissions in 2019.”
- Plant matter frozen in permafrost doesn't decay, but when permafrost thaws, microbes within the dead plant material start to break the matter down, releasing carbon into the atmosphere
- A pulse of carbon released from the permafrost to the atmosphere within the next hundred years, probably even sooner. It remains unclear how much of the carbon will be released from permafrost in the following years.
- Some of these “could be new viruses or ancient ones for which humans lack immunity and cures, or diseases that society has eliminated, such as smallpox or Bubonic plague.”

Sikkim Day: The story of Sikkim's integration with India

Sikkim day is annually celebrated on May 16, recalling the history of the former kingdom's integration with India in 1975.

Sikkim's history with the Chogyal royals

- The kingdom of Sikkim was established in 1642, when, according to one account, three Tibetan lamas consecrated **Phuntsong Namgyal** as the first ruler or Chogyal of Sikkim. The monarchy of the Namgyal dynasty was maintained for the next 333 years, until its integration with India in 1975.
- Sikkim's Chogyal dynasty was of Tibetan origin. Sandwiched between India and China, and often party to conflicts over land with Bhutan and Nepal, the British colonisation of India first led to a kind of formal relationship developing between the two states.
- The British saw Sikkim as a buffer state against China and against Nepal,

with whom they fought in the Anglo-Gorkha war of 1814-16, helping Sikkim secure a number of territories that Nepal had previously captured.

- A formal protectorate was established over Sikkim through the **Treaty of Tumlong** in 1861, meaning the British had control over it but it was not officially under their rule and the Chogyals could continue holding onto power.
- Other official treaties followed: **The treaty of Titaliya** in 1817 gave the British authorities a number of commercial and political advantages in Sikkim. The **Calcutta Convention** of 1890 demarcated the border between Sikkim and Tibet, and was signed by Viceroy Lord Lansdowne and Qing China's Imperial Associate Resident in Tibet. The **Lhasa Convention** of 1904 affirmed the Calcutta Convention.

Independent India and Sikkim

- Sardar Vallabhbhai Patel and the constitutional adviser to the constituent assembly, BN Rau, wanted to integrate the state with India by having the then Chogyal Tashi Namgyal sign the Instrument of Accession.
- India's first Prime Minister, Jawaharlal Nehru, noted the unique situation in Sikkim. India was, during meetings with representatives between the two, of the view that it should take control of defence, external affairs and communication subjects for Sikkim. Until this was finalised, it was to sign a Standstill Agreement, keeping things as they were for the time being.
- Meanwhile, there was at least some demand within Sikkim to develop closer ties with India. Sikkim consisted of three communities, the Bhutias, Lepchas and Nepalis, of which the Nepalis formed the largest group. Three political parties, the Sikkim State Congress (SSC) led by a Bhutia man, the Praja Mandal (PM) that had Lepcha leadership and Praja Sudharak Samaj (PSS) was led by a Nepali, passed a resolution in December 1947 demanding a popular government, abolition of landlordism and accession to India.
- PM Indira Gandhi, recalled that she said "in very clear terms" that her father had made a mistake in not heeding the wishes of the people of Sikkim to merge with India.
- In 1950, the Indo-Sikkim Treaty was signed, making Sikkim an Indian protectorate. It would not be sovereign, as India controlled its defence, external affairs and strategic communications. It also secured exclusive rights to build infrastructure there and Sikkimese people would travel abroad with Indian passports. "Internal autonomy" was to be available to Sikkim. Additionally, a clause gave India overriding powers in cases of security threats.

How Sikkim joined India

- Sikkim's state council or assembly had some elected members and others nominated by the king. In the early years, it saw some political tussle over the representation for various communities, and the Chogyal's reluctance to let go of his control.
- The 1960s and 1970s would see several events change the course of Sikkim's

- status.
- The two states decided to alter existing wording to indicate a “permanent relationship” between them, but the Chogyal wanted further clarity on Sikkim’s independence.
 - Anti-monarchy protests grew in Sikkim in 1973, following which the royal palace was surrounded by thousands of protesters. Indian troops arrived after the monarch was left with no choice but to ask New Delhi to send assistance. Finally, a tripartite agreement was signed in the same year between the chogyal, the Indian government, and three major political parties, so that major political reforms could be introduced.
 - A year later, in 1974, elections were held, where the Sikkim Congress led by Kazi Dorji won. That year, a new constitution was adopted, which restricted the role of the monarch to a titular post. **A referendum was held in Sikkim in 1975**, where two-thirds of eligible voters took part. Here, 59,637 votes were cast in favour of abolishing the monarchy and joining India, with 1,496 voting against.
 - India’s Ministry of External Affairs introduced the Constitution (Thirty-Sixth Amendment) Bill in the Lok Sabha to recognise Sikkim as a state in the Union of India. This was passed in the Parliament and assented to by President Fakhruddin Ali Ahmed, coming into effect on May 16, 1975.

Monsoon to set in over Kerala on June 4

The monsoon is likely to set in over Kerala with a “slight delay” on June 4, the India Meteorological Department (IMD) said.

The IMD in April forecast a “normal” monsoon during the June-September season, though at 96% of the Long Period Average (LPA), it is at the lowest end of what the agency categorises as “normal rainfall.”

The major factor expected to cause diminished rains this year is the development of an El Nino, a cyclical phenomenon of warming in the Central Pacific.

Cyclone Mocha, that formed in the Bay of Bengal and landed in Myanmar, affected the progress of the monsoon system in the A&N Islands and is partly responsible for the expected delayed arrival over Kerala.

- **El Nino and La Nina** are complex weather patterns resulting from variations in ocean temperatures in the Equatorial Pacific Region. They are opposite phases of what is known as the **El Nino-Southern Oscillation (ENSO)** cycle.
 - The ENSO cycle describes the fluctuations in temperature between the ocean and atmosphere in the east-central Equatorial Pacific.
 - El Nino and La Nina episodes typically last nine to 12 months, but some prolonged events may last for years.
- **El Nino** is a climate pattern that describes the **unusual warming of surface waters** in the **eastern tropical Pacific Ocean**.

- It is the “warm phase” of a larger phenomenon called the El Nino-Southern Oscillation (ENSO).
- It occurs more frequently than La Nina.
- **La Nina, the “cool phase”** of ENSO, is a pattern that describes the **unusual cooling** of the tropical eastern Pacific.
 - La Nina events may last between **one and three years, unlike El Nino**, which usually lasts no more than a year.
 - **Both phenomena tend to peak during the Northern Hemisphere winter.**

El Nino

- El Nino was **first recognized by Peruvian fishermen** off the coast of Peru as the appearance of unusually warm water.
 - The Spanish immigrants called it **El Nino, meaning “the little boy”** in Spanish.
- El Nino soon came to describe irregular and intense climate changes rather than just the warming of coastal surface waters.
- The El Nino event is **not a regular cycle**, they are not predictable and occur irregularly at two- to seven-year intervals.
 - The climatologists determined that El Nino occurs simultaneously with the Southern Oscillation.
 - The Southern Oscillation is a change in air pressure over the tropical Pacific Ocean.
- When coastal waters become warmer in the eastern tropical Pacific (El Nino), the atmospheric pressure above the ocean decreases.
 - Climatologists define these linked phenomena as **El Nino-Southern Oscillation (ENSO)**.

Monitoring El Nino and La Nina

- Scientists, governments, and non-governmental organizations (NGOs) collect data about El Nino using a number of technologies such as **scientific buoys**.
 - A buoy is a type of an **object that floats in water** and is used in the middle of the **seas as locators or as warning points for the ships**. They are generally bright (fluorescent) in colour.
 - These buoys measure ocean and air temperatures, currents, winds, and humidity.
 - The buoys transmit data daily to researchers and forecasters around the world enabling the scientists to more accurately predict El Nino and visualize its development and impact around the globe.
- The **Oceanic Nino Index (ONI)** is used to measure deviations from normal sea surface temperatures.
 - The intensity of El Nino events varies from weak temperature increases (about 4-5° F) with only moderate local effects on weather and climate to very strong increases (14-18° F) associated with worldwide climatic changes.

Oceanic Nino Index (ONI)

- The **Oceanic Niño Index (ONI)**, is a measure of the departure from normal sea surface temperature in the east-central Pacific Ocean, is the standard means by which each El Nino episode is determined, gauged, and forecast.

Impact of El Nino

- In order to understand the concept of El Nino, it's important to be familiar with non-El Nino conditions in the Pacific Ocean.
 - Normally, **strong trade winds blow westward** across the tropical Pacific, the region of the Pacific Ocean located between the **Tropic of Cancer and the Tropic of Capricorn**.
- **Impact on Ocean:** El Nino also impacts ocean temperatures, the speed and strength of ocean currents, the health of coastal fisheries, and local weather from Australia to South America and beyond.
- **Increased Rainfall:** Convection above warmer surface waters brings increased precipitation.
 - Rainfall increases drastically in South America, contributing to coastal flooding and erosion.
- **Diseases caused by Floods and Droughts:** Diseases thrive in communities devastated by natural hazards such as flood or drought.
 - El Nino-related flooding is associated with increases in cholera, dengue, and malaria in some parts of the world, while drought can lead to wildfires that create respiratory problems.
- **Positive impact:** It can sometimes have a positive impact too, for example, El Nino reduces the instances of hurricanes in the Atlantic.
- **In South America:** As El Nino brings rain to South America, it brings droughts to Indonesia and Australia.
 - These droughts threaten the region's water supplies, as reservoirs dry and rivers carry less water. Agriculture, which depends on water for irrigation, is also threatened.
- **In Western Pacific:** These winds **push warm surface water** towards the western Pacific, where it borders **Asia and Australia**.
 - Due to the warm trade winds, the sea surface is normally about **0.5 meter higher** and **4-5° F warmer in Indonesia than Ecuador**.
 - The westward movement of warmer waters causes **cooler waters to rise up** towards the surface on the coasts of **Ecuador, Peru, and Chile**. This process is known as **upwelling**.
 - Upwelling elevates cold, nutrient-rich water to the euphotic zone, the upper layer of the ocean.

Previous El Nino Events:

- El Nino events of **1982-83 and 1997-98** were the **most intense** of the 20 century.
- During the **1982-83** event, sea surface temperatures in the eastern tropical Pacific were 9-18° F above normal.

- The El Nino event of **1997-98** was the first El Nino event to be **scientifically monitored from beginning to end.**
- The 1997-98 event produced drought conditions in Indonesia, Malaysia, and the Philippines. Peru and California experienced very heavy rains and severe flooding.
- The Midwest experienced record-breaking warm temperatures during a period known as **“the year without a winter.”**

La Nina

- La Nina means The Little Girl in Spanish. It is also sometimes called El Viejo, anti-El Nino, or simply "a cold event."
- La Nina events represent periods of **below-average sea surface temperatures** across the **east-central Equatorial Pacific.**
 - It is indicated by sea-surface temperature decreased by more than 0.9°F for at least five successive three-month seasons.
- La Nina event is observed when the **water temperature in the Eastern Pacific gets comparatively colder than normal,** as a consequence of which, there is a **strong high pressure over the eastern equatorial Pacific.**

The Conditions of La Nina.

- La Nina is caused by a build-up of **cooler-than-normal waters in the tropical Pacific,** the area of the Pacific Ocean between the Tropic of Cancer and the Tropic of Capricorn.
- La Nina is characterized by **lower-than-normal air pressure over the western Pacific.** These low-pressure zones contribute to increased rainfall.
- La Nina events are also associated with **rainier-than-normal conditions** over **southeastern Africa and northern Brazil.**
 - However, strong La Nina events are associated with catastrophic floods in northern Australia.
- La Nina is also characterized by **higher-than-normal pressure** over the **central and eastern Pacific.**
 - This results in decreased cloud production and rainfall in that region.
- **Drier-than-normal conditions** are observed along the **west coast of tropical South America,** the **Gulf Coast of the United States,** and the **pampas region of southern South America.**

Impact of La Nina

- **Europe:** In Europe, El Nino reduces the number of autumnal hurricanes.
 - La Nina tends to lead to **milder winters in Northern Europe** (especially UK) and colder **winters in southern/western Europe** leading to snow in the Mediterranean region.
- **North America:** It is continental North America where most of these conditions are felt. The wider effects include:
 - **Stronger winds along the equatorial region,** especially in the Pacific.
 - **Favourable conditions for hurricanes** in the Caribbean and central

- Atlantic area.
- **Greater instances of tornados** in various states of the US.
- **South America:** La Nina causes **drought in the** South American countries of **Peru and Ecuador**.
 - It usually has a **positive impact on the fishing industry** of western South America.
- **Western Pacific:** In the western Pacific, La Nina increases the **potential for landfall** in those areas most vulnerable to their effects, and especially into **continental Asia and China**.
 - It also leads to **heavy floods in Australia**.
 - There are **increased temperatures** in Western Pacific, Indian Ocean and off the Somalian coast.

ENSO and India

- **El Nino:** Strong El Nino events contribute to weaker monsoons and even droughts in India Southeast Asia.
- **La Nina:** The cold air occupies a larger part of India than the El Nino cold air.
- In the 'La Nina year', **rainfall associated with the summer monsoon** in Southeast Asia tends to be **greater than normal**, especially in **northwest India and Bangladesh**.
 - This generally **benefits the Indian economy**, which depends on the monsoon for agriculture and industry.
- It usually brings in **colder than normal winters** in India.
- La Nina influences the Indian subcontinent by piping in **cold air from Siberia and South China**, which interacts with the tropical heating to produce a north-south low-pressure system.
- The **cold air of La Nina** associated with this north-south trough **tends to extend much further south into India**.
 - This is remarkably different from the more northwest-southeast blast of cold air associated with El Nino.
 - The pressure pattern going north-south means lesser impact of western disturbances.
 - The **cold temperature can go down as far as Tamil Nadu**, but **may not affect the North East that much**.

SC transfers endosulfan case to Kerala HC for monitoring government's medical and palliative measures for victims

The Supreme Court transferred to Kerala High Court the responsibility of monitoring the measures taken by the State to provide medical and palliative care for victims of endosulfan contamination.

EndoSulfan

- Endosulfan is an **organochlorine insecticide** which was first introduced in

the 1950s and is commonly known by its **trade name Thiodan**.

Use of Endosulfan

- Sprayed on crops like **cotton, cashew, fruits, tea, paddy, tobacco etc.** for control of pests such as whiteflies, aphids, beetles, worms etc.

Impact of Endosulfan

- Environment
 - Endosulfan in the environment **gets accumulated in food chains** leading to higher doses causing problems.
 - If Endosulfan is **released to water**, it is expected to absorb to the sediment and may **bioconcentrate in aquatic organisms**.
- Humans And Animals
 - The endosulfan ingestion results in **diseases ranging from physical deformities, cancer, birth disorders and damage to the brain and nervous system**.

Ban on Endosulfan

- The **Supreme Court in India has banned the manufacture, sale, use, and export of endosulfan throughout the country**, citing its harmful health effects in **2015**.
- Endosulfan is listed under both **Rotterdam Convention on the Prior Informed Consent** and the **Stockholm Convention on Persistent Organic Pollutants**.

Rotterdam convention 1998

- The convention aims to **promote cooperation and responsibility** sharing measures amongst different countries dealing with trade in hazardous chemicals and pesticides.
- PIC, Prior Informed Consent is the main feature of the convention and is **legally binding on the party members**.
- PIC facilitates information exchange about nature and trade-related information amongst the party members.
- The Convention creates obligations for the implementation of the Prior Informed Consent (PIC) procedure.

Stockholm convention 2001

- The convention aims to reduce the concentration of persistent organic pollutants (POPs) which are chemical substances that not only remain in the atmosphere for longer periods but also possess the ability to bio-accumulate.
- The convention listed 12 POPs as **'dirty dozen'**.

U.S. approves of emergency vaccine use to save California condors

- U.S. officials have announced the emergency use of a bird flu (H5N1) vaccine to protect the California condor
- The deaths, all near the Arizona-Utah border, are alarming considering the world population of California condors was estimated at only 561 at the end of 2022.
- Bird flu has killed hundreds of millions of birds worldwide, with the virus largely spread by wild birds that transmit it to poultry.
- While scientists work on poultry vaccines, commercial flocks for now are protected by other measures such as segregation, USDA said.

California Condor

- California condor is the only surviving member of *Gymnogyps* genus. It is black in color with white patches on the underside of the wings. The head of the bird is largely bald.
- Its wingspan is three metres. The wingspan of California condor is the longest of any North American bird. It weighs up to 12 kilograms. It is the heaviest of the North American birds.
- The California Condor is a scavenger. It eats large amount of carrion (decaying flesh of humans and animals). The lifespan of California condor is 60 years. It is one of the longest living birds.
- The bird does not have a syrinx. The syrinx is a vocal organ at the base of trachea of a bird. They make only hissing sounds. These sounds can be heard only when a person is close to the bird.

Threats

- Their population declined mainly because of habitat destruction, poaching, poisoning and also due to agricultural chemicals (especially **DDT**).
- In 1987, only 27 birds were left on the earth. They were then bred at the San Diego Wild Animal Park through captive breeding. In 1991, they were then reintroduced into the wild. As of 2019, there are 518 California condors in the wild.

Habitat

- The California Condor lives in coniferous forest, shrublands and oak savanna. They are also found in large trees and cliffs. The travel range is a mature California Condor is 250 kilometre. Their flying speed is 90 kilometre per hour. They can reach 4.6 kilometres of height during their flight.

Urohidrosis in California Condor

- The Condors perform **urohidrosis** to reduce their body temperatures. The Urohidrosis is the habit of some birds to defecate (discharge feces) onto their

legs. This is a cooling mechanism.

Conservation

- The IUCN lists the California Condor as **Critically Endangered**. The California Condor conservation project is the one of the most expensive conservation projects in the history of the United States. It costed more than 35 million USD.

H5N1 Avian Influenza

- **Avian influenza** or bird flu refers to the disease caused by **infection with avian influenza Type A viruses**.
 - Infrequently, the **virus can infect mammals from birds**, a phenomenon called spillover, and rarely can spread between mammals.
- **H5N1, a subtype of avian influenza**, has the potential to infect other mammals such as **minks, ferrets, seals, domestic cats**, and others through contact with infected **birds, their faeces, or infected bird carcasses**.
- **Symptoms in Humans:**
 - Range from mild to severe influenza-like illnesses such as **fever, cough, sore throat, muscle aches, nausea, abdominal pain, diarrhea, vomiting**.
 - People can also develop severe respiratory illness (e.g., **difficulty breathing, pneumonia, acute respiratory distress, viral pneumonia**) and altered mental status, seizures etc.
- **Avian Influenza in India:**
 - In 2019, India has been declared free from **Avian Influenza (H5N1)**, which has also been notified to the **World Organization for Animal Health (OIE)**.
 - **However**, in December 2020 and early 2021, **outbreaks of avian influenza H5N1 and H5N8** were reported in **poultry in 15 states in India**.
- **Treatment:**
 - Evidence suggests that some **antiviral drugs** can reduce the duration of viral replication and improve prospects of survival, however ongoing clinical studies are needed.
- **Concerns:**
 - The widespread H5N1 outbreaks have substantial economic impact, **resulting in significant losses to the poultry industry** and threatening **food and vaccine security**, apart from **raising animal welfare and environmental concerns**.

Types of Influenza Virus

- There are four types of influenza viruses: **influenza A, B, C, and D**
- Influenza A and B are the two types of influenza that **cause epidemic seasonal infections nearly every year**.
- Influenza C mainly occurs in humans, but has been known to also occur in

- dogs and pigs.
- Influenza D is found mainly in cattle. It's not known to infect or cause illness in humans yet.

Avian influenza Type A Viruses

- Type A viruses are classified based on two proteins on their surfaces – **Hemagglutinin (HA) and Neuraminidase (NA)**. There are about 18 HA subtypes and 11 NA subtypes.
- Several combinations of these two proteins are possible e.g., **H5N1, H7N2, H9N6, H17N10, H18N11 etc.**
- All known subtypes of influenza A viruses can infect birds, **except subtypes H17N10 and H18N11**, which have only been found in bats.

India, EU explore ways to resolve 'carbon border tax'

- India and the EU are working to resolve a looming hurdle in their trade relationship, the EU's Carbon Border Adjustment Mechanism (CBAM), with the two sides discussing it during a Minister-level meeting in Brussels this week. The EU is India's second-largest trading partner as well as its second-largest export market.
- The CBAM regulations came into effect on May 16 and will begin their transitional phase of implementation on October 1.

'Steel, aluminium'

- There are about six-seven commodities on which the EU has proposed carbon taxes, of which the two sectors where India is likely to feel some impact is **steel and aluminium**
- The ministry is still calculating the likely monetary impact as the EU has prescribed different mechanisms of imposing carbon tax. "For example, in steel manufacturing through electric arc furnace and blast furnace, the carbon border tax will be different. So an assessment of how much of steel is going out of which furnace – that segregation has to be done. That will take some time. It will definitely impact to some degree
- While the move will likely impact less than 2% of India's exports, the government is examining the extent to which the overall carbon tax and the differential tax treatment proposed for instance, for steel using different furnace technologies, is compatible with WTO (World Trade Organisation) norms, said another official. The verification process could be very complex and tedious and mutual recognition agreements will be vital.

Carbon Border Tax

- A carbon border adjustment tax is **a duty on imports based on the amount of carbon emissions** resulting from the production of the product in

question. As a price on carbon, it discourages emissions. As a trade-related measure, it affects production and exports.

- The proposal is part of the European Commission's European Green Deal that endeavours to make Europe the first climate-neutral continent by 2050.
- A carbon border tax is **arguably an improvement from a national carbon tax**.
 - A national carbon tax is a fee that a government imposes on any company within the country that burns fossil fuels.

Causes Behind Imposing Carbon Tax

- **EU and Climate Change Mitigation:** The EU has declared to cut its carbon emissions by at least 55% by 2030 compared to 1990 levels. Till date, these levels have fallen by 24%.
 - However, emissions from imports contributing to 20% of the EU's CO₂ emissions are increasing.
 - Such a carbon tax would incentivise other countries to reduce GHG emissions and further shrink the EU's carbon footprint.
- **Carbon Leakage:** The Emissions Trading System of the EU makes operating within the region expensive for certain businesses.
 - The EU authorities fear that these businesses might prefer to relocate to countries that have more relaxed or no emission limits.
 - This is known as 'carbon leakage' and it increases the total emissions in the world.

Issues

- **Response of the BASIC Countries:** The **BASIC (Brazil, South Africa, India and China) countries'** grouping had opposed the EU's proposal in a joint-statement terming it "discriminatory" and against the principles of equity and '**Common but Differentiated Responsibilities and Respective Capabilities' (CBDR-RC)**.
 - These principles acknowledge that richer countries have a responsibility of providing financial and technological assistance to developing and vulnerable countries to fight climate change.
- **Impact on India:** By increasing the prices of Indian-made goods in the EU, this tax would make Indian goods less attractive for buyers and could shrink demand.
 - The tax would create serious near-term challenges for companies with larger greenhouse gas footprint.
- **Non-Consensual with Rio Declaration:** The EU's notion of having a uniform standard all over the world for the environment is not borne out by the global consensus contained in the **Article 12 of the Rio Declaration** which says that the standards applicable to developed countries cannot be applied to developing countries.
- **Change in the Climate-Change Regime:** The greenhouse content of these imports would also have to be adjusted in the greenhouse gas inventories of the importing countries which essentially implies that GHG inventories would

have to be reckoned not on the production basis but at the point of consumption basis.

- This would turn the entire climate change regime upside down.
- **Protectionist Policy:** The policy can also be regarded as a disguised form of protectionism.
 - Protectionism refers to government policies that restrict international trade to help domestic industries. Such policies are usually implemented with the goal of improving economic activity within a domestic economy.
 - There is the risk that it becomes a **protectionist device, unduly shielding local industries from foreign competition** in so-called 'green protectionism'.

Elephant census begins in Sathyamangalam Tiger Reserve in TN

- It is located at the **junction of the Eastern and the Western Ghats** in the Nilgiri Biosphere Reserve, in the **Erode District of Tamil Nadu**.
- Its area is **contiguous with the Mudumalai Tiger Reserve, Bandipur Tiger Reserve (Karnataka) and BR Tiger Reserve and Wildlife Sanctuary (Karnataka)**.
- Together, these reserves — **forming the Nilgiris biosphere landscape — have the biggest tiger population in the world**, at over 280 tigers.
- **Terrain:** It is **hilly and undulated** with altitude ranging between 750m and 1649m.
- **Vegetation:** It consists of **southern tropical dry thorn forests, mixed deciduous forests, semi-evergreen forests, and Riparian forests**.
- **Flora:** Common Species of trees and shrubs found are **Albizia amara Chloroxylon swictenia, Gyrocarpus jacquini, Neem, Tamarind, Sandalwood, Randi dumetorum, Zizyphus** and associates.
- **Fauna:** The major species are **Elephant, Tiger, Panther, Sloth bear, Gaur, Black Buck, Spotted deer**, Wild boar, Black napped hare, Common langur Nilgiri langur, Striped neck mongoose and Bonnet macaque

Indian Railways Likely To Shift Rail Tracks Out Of Palamu Tiger Reserve To Save Wildlife

- **Location:**
 - It is located in the western side of Latehar district on the **Chhotanagpur plateau in Jharkhand**.
 - The reserve forms a **part of the Betla National Park**.
- It is **one of the first 9 tiger reserves created** in the country at **the inception of 'Project Tiger'**.
- It is the **first reserve in the world** in which a **tiger census was carried out as a pugmark count**, as early as 1932 under the supervision of J.W.

- Nicholson
- **Terrain:** It is **undulating** with **valleys, hills and plains**.
 - **Rivers:**
 - Three rivers namely **North Koyal, Auranga and Burha** flow through the valleys.
 - The area is draught prone with **Burha being the only perennial river**.
 - The Reserve is very **rich in minerals like Bauxite and Coal**.
 - **Vegetation:**
 - It is primarily dominated by **Northern Tropical Dry Deciduous Sal forest** and its associates.
 - Smaller patches of **Northern tropical Moist Deciduous forests** exist too in the Reserve.
 - **Flora:** **Shorea robusta, Acacia catechu, Madhuca indica, Terminalia tomentosa**, Butea monosperma, Pterocarpus marsupium, Anogeisus latifolia, Indigofera pulchella etc.
 - **Fauna:** Some keystone and principal species found in the reserve include **Tiger, Asiatic Elephant, Leopard, Grey wolf, Wild dog, Gaur**, Sloth bear and Four horned antelope.

Operation Karuna: INS Gharial delivers medical supplies for people of cyclone-hit Myanmar

- INS Gharial is a **Magarclass amphibious warfare vessel** of the Indian Navy.
- It was built by Hindustan Shipyard Limited and Garden Reach Shipbuilders and Engineers.
- It was commissioned in **1997**.

Operation Karuna:

- India launched "Operation Karuna" to provide **humanitarian assistance for people in Myanmar**, which is affected by Cyclone Mocha.
- The ships are carrying emergency food items, tents, essential medicines, water pumps, portable generators, clothes, sanitary and hygiene items, etc.
- Indian Navy remains committed to ensuring **Security and Growth for All in the Region (SAGAR)** and being the first responders in providing support to our neighbours during such calamities.

Bhupender Yadav inaugurates Pashmina Certification Centre set up in Wildlife Institute of India (WII) Dehradun

- The Minister of Environment, Forest and Climate Change and Labour and Employment termed PCC as a boost for Atmanirbhar Bharat, adding that it will **provide certification for the purity of Pashmina products**.
- The **Export Promotion Council for Handicrafts (EPCH)** collaborated with

WII to establish a Pashmina Certification Center (PCC) for its associated members **involved in Pashmina Trade.**

- **Purpose of setting:**
- To streamline the Pashmina Trade.
- To provide a **one-stop testing facility** to certify genuine Pashmina Product **free from any prohibited fibres** to the associated manufacturers, exporters, and traders.
- All the tested products will be **labelled with a traceable unique id tag** with individual e-certificates, enabling a seamless trade of such products in national and international markets.

Wildlife Institute of India:

- It was established in **1982 in Dehradun.**
- It's an **autonomous institute** managed by the **Ministry of Environment Forest and Climate Change.**
- **Aims & Objectives:**
 - Build up scientific knowledge on wildlife resources.
 - Train personnel at various levels for conservation and management of wildlife.
 - Carry out research relevant to management including the development of techniques appropriate to Indian conditions.
 - Provide information and advice on specific wildlife management problems.
 - Collaborate with international organizations on wildlife research, management and training.
- It carries out wildlife **research in areas of study like:** Biodiversity, Endangered Species, Wildlife Policy, Wildlife Management, Wildlife Forensics, Eco-development, Climate Change etc.

Jumbo census in Seshachalam hills, Koundinya Wildlife Sanctuary hints at sizeable presence

Koundinya Wildlife Sanctuary:

- It is located in Palamner - Kuppam forest ranges of **Chittoor district of Andhra Pradesh.**
- It is the **only sanctuary** in the whole state **housing Asian elephants.**
- This Sanctuary comes **under Project elephant** a Country wide Elephant Conservation Project taken up by Government of India.
- **River Kaigal and River Kaundinya** flow through this sanctuary and is characterized by **high hills, deep valleys.**
- **Flora:**
 - **Forest type: Southern tropical dry deciduous forest**, with patches of thorn, scrub and grassy plains.
 - Plants like *Albizia amara*, *Ficus glomerata*, *Zizyphus xylocarpus*,

Gymnosporia Montana, etc; make this a **green panoramic place** with a breathtaking floral diversity.

- **Fauna:**
 - Insects like Painted grasshopper, Plain tiger butterfly, Common grass yellow butterfly etc.
 - **Reptiles** like Common cobra, Rat snake, Indian rock python, Forest calotes, Skinks, etc.
 - **Birds** like Partidges, quails, storks, Cotton teal, etc; make this Sanctuary their domicile.
 - **Mammals** like **Indian Elephant**, Panther, Sloth bear, Wild boar, **Chowsingha, Nilgai, Hyena, Jackal**, etc.

Tiger cub found dead with injuries in Bandhavgarh reserve

Bandhavgarh Tiger Reserve:

- **Location:**
 - It is located in the **Umariya district of Madhya Pradesh**.
 - It is spread over the **Vindhya hills**.
- Bandhavgarh was **declared a national park in 1968** and then became **Tiger Reserve in 1993**.
- It **derives its name from the most prominent hillock of the area**, which was said to be given by Hindu Lord Rama to his brother Lakshmana to keep a watch on Lanka. Hence the name Bandhavgarh (Sanskrit: **Brother's Fort**).
- It is **known for the Royal Bengal Tigers**. The **density of the tiger** population at Bandhavgarh **is the highest known in India** as well as in the world.
- **Topography:** Varies between **steep ridges, undulating forests and open meadows**.
- **Flora:**
 - The vegetation of Bandhavgarh is specially **filled with Sal forest in the valleys**, and **Bamboo stretches on the lower slopes of the region**.
 - Some of the most famous **floral species include Saj (Terminaliatomentosa), Dhaora (Anogeissus latifolia)**, Tendu, Arjun (Terminalia arjuna), Amla (Emblica officinalis), Palas (Butea monosperma) etc.
- **Fauna:**
 - The important **prey species consists of chital, sambhar, barking deer, nilgai**, chinkara, wild pig, chowsingha, langur and rhesus macaque.
 - Dependent upon them are the **major predators like tiger, leopard, wild dog, wolf** and jackal.

Sebi proposes institutional mechanism for AMC's for deterrence of possible mkt abuse, fraudulent transaction

Asset Management Companies (AMCs):

- It is a **firm that invests the funds pooled from individual investors in securities** with the objective of optimal return for investors in exchange for a fee.
- **AMC maintains the diversity of portfolio** by investing in both high-risk and low-risk securities such as stock, debt, real- estate, shares, bonds, pension funds, etc.
- Because they have a **larger pool of resources** than the individual investor could access on their own, **AMCs provide investors with more diversification and investing options.**
- AMCs are **colloquially referred to as money managers or money management firms.**
- Those that **offer public mutual funds or ETFs are also known as investment companies or mutual fund companies.**
- **SEBI is the Indian Capital Market Regulator which governs and controls every AMC in India.**

Forest guards suspended for failing to halt encroachment in Bhimgad Wildlife Sanctuary

- It is located in the **Western Ghats**, in **Belgaum District** near Jamboti Village, **Karnataka.**
- It **shares its boundary with** the north of **Dandeli Wildlife Sanctuary**, north-west of the **Bhagwan Mahaveer Sanctuary** and **Mollem National Park**, north of **Netravali Wildlife Sanctuary** and east of **Mhadei Wildlife Sanctuary.**
- It was **declared as a wildlife sanctuary in December 2011.**
- **Rivers:** Sanctuary **forms the headwaters of** a number of rivers like **Tillari, Malaprabha and Mhadei** and several perennial streams.
- At the western boundary of the sanctuary **many geo-morphological lime stone formations and caves are situated.**
- **Vegetation: Tropical and subtropical moist broadleaf forests.**
- The sanctuary has been **named after the Bhimgad Fort, constructed** and commanded **by Shivaji in the 17th century** as a defence from Portuguese troops.
- It is **famed for its Barapede caves** which serve as the **only known breeding area of** a threatened species on the verge of extinction called **Wroughton's free-tailed bat.**
- **Flora:** The area is also home to several endemic plant species such as **Ancistrocladus heyneanus, Diospyros paniculata, Euonymus indicus, Myristica arborea,** etc.
- **Fauna:** Major animals found here include **Elephants, King Cobras, Wild**

Dogs, Foxes, Chitals, Spotted Deer, Sambar, Sloth Bear, Gaur, Leopards and Tigers.

European Union official seeks to allay India's concerns on 'carbon tax'

- The Carbon Border Adjustment Mechanism (CBAM) is not intended to be “protectionist” and only meant to avoid the problem of ‘carbon leakage,’ European Union
- Indian industries will have nothing to worry if the carbon-intensity of goods, for eg. steel, aluminium and iron, made in India and exported to the EU matches that of the goods made in the bloc.
- ‘Carbon leakage,’ refers to cheaper, more carbon-intensive goods making their way into the EU at the expense of domestically manufactured products that have been manufactured using costlier, renewable energy.
- To check such leakage, the EU brought into force this month the CBAM that, after 2026, will require EU companies to annually declare the quantity of goods imported into the EU in the preceding year and their embedded greenhouse gas emissions and effectively pay for excessive emissions via CBAM certificates that could reflect as taxes paid by importers to the EU.
- *Steel, iron exports*
- Indian manufacturers have raised concerns that the tax will mean a 20-35% tariff on India's exports of steel, aluminium and cement, that currently attract a duty of less than 3%.
- As much as 27% of India's exports of steel, iron and aluminium products, or \$8.2 billion, head to the EU.
- The CBAM will initially apply to imports of certain goods and selected precursors whose production is carbon-intensive and at most significant risk of carbon leakage: cement, iron and steel, aluminium, fertilizers, electricity and hydrogen.

Carbon border tax

- A carbon border tax is a tax imposed on imported goods to equalize the cost of carbon emissions between domestic and foreign producers.
- The tax aims to address the issue of carbon leakage, where companies move their emissions-intensive operations to countries with less stringent regulations, resulting in a net increase in emissions.
- As a cost on carbon, it discourages emissions. It has an impact on exports and production as a trade-related measure.
- As a price on carbon, it discourages emissions. As a trade-related measure, it affects production and exports.

EU's Carbon Border Adjustment Mechanism

- CBAM EU's plan to reduce greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels, in line with the European Climate Law.

- The EU's primary mechanism for incentivizing industry to decarbonize is through carbon pricing and to meet its 2050 targets; these prices will need to rise substantially.

SCIENCE & TECHNOLOGY

Solar panels set to become more efficient following South Korean breakthrough

- It **consists of solar cells on top of each other.**
- There are **several types of tandem cells** that can be grouped mainly **depending on materials used.**
- Tandem cells are **stacks of p-n junctions**, each of which is **formed from a semiconductor of different bandgap energy. Each responds to a different section of the solar spectrum.**
- They are **able to improve the efficiency** of standard solar panels **by splitting the light spectrum** and optimising the harvesting of energy from each section into electricity.

Perovskite

- A perovskite is a **material that has the same crystal structure as the mineral calcium titanium oxide**, the first-discovered perovskite crystal.
- Generally, **perovskite compounds have a chemical formula ABX_3** , where 'A' and 'B' represent cations and X is an anion that bonds to both.
- A large number of **different elements can be combined together to form perovskite structures.**
- Using this compositional flexibility, scientists can **design perovskite crystals to have a wide variety of physical, optical, and electrical characteristics.**
- Perovskite crystals are **found today in ultrasound machines, memory chips**, and now – solar cells.

Researchers Reveal How Vitamin K May Help Prevent Diabetes

- It is a **fat-soluble vitamin that comes in two forms.**
- The **main type is called phylloquinone**, found in **green leafy vegetables** like collard greens, kale, and spinach.
- The **other type, menaquinones**, are **found in some animal foods** and fermented foods. Menaquinones can also be produced by bacteria in the human body.
- Vitamin K **helps to make various proteins that are needed for blood clotting** and the building of bones.
- Vitamin K is **found throughout the body including the liver, brain**, heart, pancreas, and bone.

- It is **broken down very quickly and excreted in urine or stool**. Because of this, **it rarely reaches toxic levels** in the body even with high intakes, as may sometimes occur with other fat-soluble vitamins.

After sugar, it is time to regulate how much salt is being consumed

- Recently, the Indian Council for Medical Research tweeted about the ways to reduce salt intake by avoiding the addition of salt while cooking and going in for salt substitutes. It rightly pointed out that children, younger than 12 years, require only three grams of salt per day.
- The World Health Organization had cautioned a couple of months ago that the world is off track to achieve its global target of reducing salt intake by 30% by 2025.
- The report shows that only 5% of the WHO member states have mandatory and comprehensive sodium-reducing policies. Additionally, seventy-three per cent of the WHO member states lack the full range implementation of the policies.
- Implementing highly cost effective sodium reducing policies could save an estimated seven million lives globally by 2030.

Reducing sodium in diet

- WHO has suggested the following measures — reformulation of food to contain less salt; controlled procurement of high sodium food in public institutions like schools, workplaces and hospitals; labelled promotion of packed foods with low sodium choices and achieving behavioural changes in population through campaigning in media.
- The WHO has also established a scorecard for various countries. According to that card, India does not have a national policy but it does have voluntary measures to reduce sodium.
- Only persons who have hypertension or kidney disease are advised by their personal physicians to reduce salt in the diet.
- The population at large is still not aware of the danger of hidden salt — salt that is present in ready-made and packed foods.

The effects of excess salt

- Sodium labelling is not mandatory in India. A recent study from Sweden has shown a connection between salt consumption and atherosclerosis, even in the absence of hypertension.
- **Atherosclerosis** is a disease which blocks the blood vessels. The study included 10,788 individuals between 50 to 64 years. Every gram of extra sodium was associated with a 9% occurrence of plaques in the carotid arteries which supplies blood to the brain; and a 17% increase in coronary artery plaques.

To reduce salt consumption

- The U.K. has been the leading country in the world to have reduced salt consumption in the population. This has resulted in preventing thousands of strokes and cardiovascular events. According to a Cochrane review, reducing salt in the diet in diabetic patients is associated with slower progression of kidney disease, with fewer drugs required to control blood pressure.
- During the COVID-19 pandemic, there were notable studies from China and Germany which pointed out the association between high salt intake and decreased immunity in the body. Salt reduction in the diet is the most cost-effective measure to control non-communicable diseases. India should wake up to this reality. Improving the quality of life by avoiding strokes and heart attacks is the goal — not just prolonging longevity.

How lasers are helping calcium-41 break into radiometric dating

- Since its invention in 1947, carbon dating has revolutionised many fields of science by allowing scientists to estimate the age of an organic material based on how much carbon-14 it contains. However, carbon-14 has a half-life of 5,700 years, so the technique can't determine the age of objects older than around 50,000 years.
- In 1979, scientists suggested using calcium-41, with a half-life of 99,400 years, instead.
- Calcium-41 produced when cosmic rays from space smash into calcium atoms in the soil, and is found in the earth's crust, opening the door to dating fossilised bones and rock.

Radiometric dating

- When an organic entity is alive, its body keeps absorbing and losing carbon-14 atoms. When it dies, this process stops and the extant carbon-14 starts to decay away. Using the difference between the relative abundance of these atoms in the body and the number that should've been there, researchers can estimate when the entity died.
- A significant early issue with carbon dating was to detect carbon-14 atoms, which occur once in around 10¹² carbon atoms. Calcium-41 is rarer, occurring once in around 10¹⁵ calcium atoms.
- In the new study, researchers at the University of Science and Technology of China (USTC), Hefei, pitched a technique called **atom-trap trace analysis (ATTA)** as a solution. ATTA is sensitive enough to spot these atoms; specific enough to not confuse them for other similar atoms; and fits on a tabletop.

ATTA:

- It is based on **laser manipulation and detection** of neutral atoms.
- The sample is vaporized, and the atoms are laser-cooled and loaded into a

- light and magnetic field cage.
- By tuning the laser's frequency**, Calcium-41 atoms can be detected through electron transitions.**
 - **Electron transition:** In an atom, an electron in one orbital **can transition to the next if it's given a specific amount of energy;** then it jumps back by releasing that energy.
 - The researchers reported being able to spot one **calcium-41 atom in every 1016 calcium atoms** with 12% precision in seawater.
 - It is selective and avoids confusion with potassium-41 atoms.
 - *Applications of ATTA:*
 - The successful application of a calcium isotope opens the **possibility of extension to other metal isotopes.**
 - ATTA can be adapted to study other isotopes, such as argon-39, krypton-81, and krypton-85.
 - In warmer climates, glaciers retreat and allow rock below to accumulate calcium-41. In colder climates, glaciers advance and block the calcium-41 from reaching the rock. This way, scientists **hope to use ATTA to study how long some rock has been covered by ice.**

India set to triple speed of its fastest supercomputers

- India is set to dramatically scale up its supercomputing prowess and install an 18-petaflop system over the course of this year
- Flops (floating point operations per second) are an indicator of processing speed of computers and a petaflop refers to a 1,000 trillion flops. Processing power to such a degree greatly eases complex mathematical calculations required, for, among other things, forecasting how the weather will be over the next few days all the way up to two or three months ahead.
- Currently India's most powerful, civilian supercomputers — **Pratyush** and **Mihir** — with a combined capacity of 6.8 petaflops are housed at the Indian Institute of Tropical Meteorology, Pune, and the National Centre for Medium Range Weather Forecasting (NCMRWF), Noida, respectively.

Imported from France

- The new supercomputers, yet to be named, are imported from French corporation, ATOS — an information technology service and consulting company. India had signed a deal in December 2018 with France to procure high-performance computers worth ₹4,500 crore by 2025.
- The new MoES computers are likely to cost ₹900 crore.
- The fastest high-performance computing system in the world is currently the **Frontier-Cray system** at Oakridge National Laboratory, United States. This has a peak speed of **one exa-flop** (or about 1,000 petaflops).

History of Supercomputers in India

- Supercomputing in India **began in 1980** when the Indian government set up an indigenous development programme as there were several issues to procure supercomputers from abroad.
- The **National Aerospace Laboratories started the project "Flosolver MK1"**, a parallel processing system operating in December 1986. Following this, multiple projects were commissioned from different organisations, including C-DAC, C-DOT, NAL, BARC, and ANURAG.
- C-DOT created "CHIPPS", the C-DOT High-Performance Parallel Processing System, and BARC created the Anupam series of supercomputers. ANURAG created the PACE series of supercomputers.
- Although the C-DAC mission released the "PARAM" series of the supercomputer, it was only in 2015 that the **launch of the National Super Computing Mission boosted the Indian supercomputers**. NSM announced a seven-year programme worth Rs 4,500 crore to install 73 indigenous supercomputers by 2022.

PARAM SERIES

- PARAM is a series of supercomputers designed and assembled by the Centre for Development of Advanced Computing (C-DAC) in Pune. (Started in 1987 1987).
 - PARAM means "supreme" in the Sanskrit language, whilst also creating an acronym for "PARAllel Machine".
 - The **fastest machine in the series is the PARAM Siddhi AI** which ranks 89th in world with an Rpeak of 5.267 petaflops.
1. PARAM 8000: The first machine built from scratch unveiled in 1991.
 2. PARAM 8600
 3. PARAM 9000
 4. PARAM 10000
 5. PARAM Padma: The **first Indian supercomputer to enter the Top500 list of supercomputers in the world**, it ranked 171 in June 2003.
 6. PARAM Yuva
 7. Param Yuva II
 8. PARAM ISHAN
 9. PARAM Brahma
 10. PARAM Siddhi-AI- ranked 63 among the most powerful supercomputers in the world.

Supercomputers under the National Supercomputing Mission:

1. PARAM Shivay
2. PARAM Sanganak
3. PARAM Pravega
4. PARAM PORUL

About Supercomputer

- A supercomputer is a computer with a high level of performance as compared

to a general-purpose computer because its architectural and operational model depends on the parallel and grid processing.

- Primary motive to design of supercomputer was to be used in large scale organizations where need more computing power.
- Supercomputer has a power to execute many processes simultaneously on thousand of processors, because these types of processors can execute billions and trillion of instructions per seconds, so its computing performance matrix is FLOPS (that is floating-point operations per second).
- The performance of a supercomputer is commonly measured in floating-point operations per second (FLOPS) instead of million instructions per second (MIPS). Supercomputers were started in 1960s.

The first supercomputer was designed by Seymour Cray in 1960 in Control Data Corporation (CDC)

Petaflop

- A petaflop is the ability of a computer to do one quadrillion floating point operations per second (FLOPS).
- Floating-point numbers have decimal points in them. The number 2.0 is a floating-point number because it has a decimal in it. The number 2 (without a decimal point) is a binary integer.
- Specific to floating-point numbers, a floating-point operation is any mathematical operation (such as +, -, *, /) or assignment that involves floating-point numbers (as opposed to binary integer operations).

Petascale

- Petascale computing refers to computing systems capable of calculating at least 10¹⁵ floating point operations per second (1 petaFLOPS).
- Petascale computing allowed faster processing of traditional supercomputer applications. The first system to reach this milestone was the IBM Roadrunner in 2008.

Categories of Supercomputers

- The supercomputer has to divide into three categories such as Vector processing machines, tightly connected cluster computer and in finally commodity computer.
1. **Vector processing machines:** This machine was invented in 1980 to 1990s. In which arrange the all processor in the array form, and its CPU is capable to execute all huge mathematical operations in a few time.
 2. **Tightly connected cluster computer:** In these types of system, connect all groups of computers and assigned the task to all group equally so the reason of this clustering enhanced the speed of computer. There are four types of cluster like as Director-based clusters, Two-node clusters, Multi-node

- clusters, and massively parallel clusters.
3. **Commodity Cluster:** In this system, high-bandwidth low-latency local area networks were interconnected by the Commodity computer.

Applications

- Supercomputers have a wide variety of applications such as **weather forecasting, aerospace engineering, automobile crash and safety modeling, quantum physics, physical simulations, molecular modeling, oil and gas exploration, defense applications and many more.**
- Other applications include **virtual reality, computational chemistry, finance, transportation**, etc.

There are many **application areas where to use of supercomputer** such as

Biology Areas

- Mostly, supercomputer used to diagnose for various diseases, and provide the assistance for producing good result in strokes, brain injuries and other blood flow issues in your body

Military and Defense Missions

- Supercomputing help to provide virtual testing for nuclear explosion and weapon ballistics

Climate Patterns

- Supercomputer application is able to study and understand climate patterns.

Airlines Industry

- With the help of supercomputer, designed the flight simulators for newbie pilots and this simulator help to training for new pilots.

Weather Forecasting

- To gather the information related to weather forecasting, supercomputer run in the NOAA's system, means National Oceanic and Atmospheric Administration. NOAA system is able to execute all types of simple and logically instructions.

Scientific Research areas

- In the weather and science research areas depend on the supercomputer because for analyzing data from the exploring solar system, satellites that rounding earth, and other area such as nuclear research.

Advance database (Data Mining)

- Some large scale companies need the supercomputer for extracting useful information from data storage house or in the cloud system. Such as insurance companies.

Financial Market Place

- Supercomputer plays vital role in the real financial success in the emerging online currency world such as bit coin and stock market

Simulated Environment in Automobile

- Supercomputer provides the help to people for buying vehicle because before purchasing the vehicle customer can test through simulation environment that is created by supercomputer.

Smog Control System

- Scientists use supercomputers in own laboratory for predicting the fog and other pollution level on the particular areas, and then take final step to prevent them.

India's National Supercomputing Mission

- The National Supercomputing Mission was **launched in 2015 for over a period of seven years.**

Development and Implementation

- The Mission is being **jointly steered by the Department of Science and Technology (DST) and the Ministry of Electronics and Information Technology (MeitY).**
- It is being **implemented by the Centre for Development of Advanced Computing (C-DAC), Pune, and the Indian Institute of Science (IISc),**

Objectives

- To make India one of the world leaders in Supercomputing and to enhance India's capability in solving grand challenge problems of national and global relevance
- To empower our scientists and researchers with state-of-the-art supercomputing facilities and enable them to carry out cutting-edge research in their respective domains
- To minimize redundancies and duplication of efforts, and optimize investments in supercomputing
- To attain global competitiveness and ensure self-reliance in the strategic area

of supercomputing technology

Union Food Ministry counters opposition says fortified rice is safe

- The Union Food Ministry on Friday countered the Opposition allegation that the distribution of fortified rice through fair price shops is being done despite multiple warnings by experts and institutions such as NITI Aayog and the Food Safety and Standards Authority of India (FSSAI).
- The Ministry has been maintaining, citing various studies, that consumption of fortified rice resulted in significant improvement in **haemoglobin** levels and reduction in the prevalence of **anaemia**.
- The Ministry said rice fortification has been adopted by seven countries, including the U.S., since 1958.
- “Concurrent evaluation is being done by NITI Aayog in association with the Indian Council of Medical Research. Evaluation study of some pilot districts are also under way,” the official said.
- Meanwhile, the Alliance for Sustainable & Holistic Agriculture (ASHA) said in a statement that the Centre, in a unilateral decision, has been supplying **iron-fortified rice** in public safety net programmes such as the PDS, mid-day meals, and anganwadis, reaching crores of Indians.
- These are mostly poor citizens who rely on State subsidised food and for whom iron-fortified rice has become mandatory since they cannot afford to buy other (non-fortified) rice in the open market.
- The scaling up of this programme came before a pilot scheme in 15 States was completed, or evaluated independently and rigorously. The evaluation of these pilots was due in late 2022 as per an RTI response by the government

Fortification:

- Fortification is the **addition of key vitamins and minerals** such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content.
- These nutrients may or may not have been originally present in the food before processing.

Fortification of Rice:

- According to the Food Ministry, **fortification of rice is a cost-effective and complementary strategy** to increase vitamin and mineral content in diets.
 - **According to FSSAI norms**, 1 kg fortified rice will contain iron (28 mg-42.5 mg), folic acid (75-125 microgram) and Vitamin B-12 (0.75-1.25 microgram).
- In addition, **rice may also be fortified with micronutrients**, singly or in combination, with zinc, Vitamin A, Vitamin B1, Vitamin B2, Vitamin B3 and Vitamin B6.

Testing breakthrough challenges 'world's worst wildlife disease'

For the past 40 years, a devastating fungal disease has been ravaging frog populations around the world, wiping out 90 species. Unlike the global COVID-19 pandemic, you may not even be aware of this “**panzootic**” – a pandemic in the animal world.

Recently published has now developed a method to detect all known strains of this disease, caused by the amphibian **chytrid fungus**.

An extreme mortality rate

- **Chytridiomycosis**, or “chytrid” for short, has driven severe declines in over 500 frog species and caused 90 extinctions, including seven in Australia.
- The extreme rate of mortality, and the high number of species affected, makes **chytrid unequivocally the** deadliest animal disease known to date.
- Chytrid infects frogs by reproducing in their skin. The single-celled fungus enters a skin cell, multiplies, then breaks back out onto the surface of the animal.
- This damage to the skin affects the frog's ability to balance water and salt levels, and eventually leads to death if infection levels are high enough.
- Chytrid originated in Asia. It's believed that global travel and trade in amphibians led to the disease being unwittingly spread to other continents.
- Frogs in regions such as Australia and the Americas did not have the evolutionary history with chytrid that could grant them resistance.
- In the 1980s, amphibian biologists began to notice sharp population declines, and in 1998, the chytrid fungal pathogen was finally recognised.

An imperfect swab

- To find out if a frog is carrying chytrid, researchers swab the animal and run the same type of test you might recognise from COVID-19 testing – a **qPCR**.
- It stands for quantitative polymerase chain reaction, and simply put, is a way to measure the volume of DNA from a species of interest. The test was developed at CSIRO in 2004; unlike a COVID test, however, scientists swab the frog's skin, not the nose.
- Because this test was developed from chytrid in Australia, decades after the pathogen's arrival in the country, a divergence between the Australian and Asian strains meant this test could not detect chytrid in its region of origin. This has been a major limitation to the past two decades of chytrid research.
- Over the past several years, a team led by researchers at the Council of Scientific and Industrial Research – Centre for Cellular and Molecular Biology in India has been working on a new qPCR test that can detect strains of chytrid from Asia. In collaboration with researchers in Australia and Panama, we have now verified the new test also reliably detects chytrid in these countries.
- Furthermore, the test can detect another closely related species of chytrid

that infects salamanders. The test is also more sensitive, meaning it can detect very low infection levels – thereby broadening the scope of species we can study.

Natural immunity

- The most puzzling thing about chytrid is that some amphibian species – even those that have not evolved with the pathogen – don't become sick when they carry the fungus. These species have some form of natural immune resistance.
- However, frog immunity is extremely complex. Immunity might come from anti-microbial chemicals within the skin, symbiotic bacteria on the skin, white blood cells and antibodies in the blood, or combinations of these mechanisms.

11 dead after inhaling toxic gas in Ludhiana

11 people died due to a gas leak in the Giaspura area of Ludhiana, Punjab, while four people fell ill and were hospitalised. Hydrogen Sulphide gas, have been detected and it is being ascertained how this gas might have led to the incident.

Hydrogen sulphide is so toxic that even one breath of it taken inside can kill a person. Probably some acidic waste was thrown into sewer which reacted with methane, carbon monoxide and other sewerage gases to produce hydrogen sulphide

Hydrogen Sulphide:

- Hydrogen sulphide (H₂S) is a colourless chalcogen hydride gas with a characteristic foul odour.
- It is very poisonous, corrosive, and flammable.
- The gas can irritate the eyes, nose, throat, and lungs.
- Too much H₂S can halt the breathing centre in the brain, which can cause death.
- It dissolves in water and oil, and it may be released when these liquids are heated, depressurized, or agitated. Because it is heavier than air, it may settle in low spots.
- It occurs in volcanic gases, natural gas, and in some sources of well water.

Uses

- Hydrogen sulphide is used primarily to produce sulfuric acid and sulphur.
- It is also used to create a variety of inorganic sulphides used to create pesticides, leather, dyes, and pharmaceuticals.
- Hydrogen sulphide is used to produce heavy water for nuclear power plants.

Production

- **Hydrogen sulfide** is often produced from the microbial breakdown of organic matter in the absence of oxygen gas, such as in swamps and sewers. This process is commonly known as anaerobic digestion.
- It occurs naturally in crude oil, natural gas, and hot springs.
- H₂S also occurs in volcanic gases, natural gas and in some sources of well water.
- The human body also produces small amounts of H₂S and uses it as a signalling molecule.

neurotoxins

- Neurotoxins are poisonous substances which can directly affect the nervous system. Neurotoxicity occurs when exposure to natural or man-made toxic substances alters the normal activity of the nervous system.
- These substances can eventually disrupt or even kill neurons or nerve cells, which are important for transmitting and processing signals in the brain and other parts of the nervous system.
- They directly attack the respiratory tract of the body, thereby overpowering the oxygen concentration of the body and then the nervous system as well
- Methane, hydrogen sulphide, carbon monoxide and carbon dioxide are common neurotoxic gases. While methane and carbon monoxide are odourless gases, hydrogen sulphide has a pungent odour and in higher concentration it can be fatal for humans

To remove gases such as hydrogen sulphide from wastewater, chemical oxidation is done, where oxidants such as hydrogen peroxide are added to the wastewater.

Growth of Ethanol sector is an example for the world: Goyal

- Ethanol is an agricultural by-product which is mainly obtained from the processing of sugar from sugarcane, but also from other sources such as rice husk or maize.
- Since ethanol is produced from plants that harness the power of the sun, it is also considered as renewable fuel.
- In India, ethanol is mainly produced from sugarcane molasses by fermentation process.
- Ethanol blending is the process of combining ethanol and petrol to use less fossil fuel while driving a vehicle.
- To supplement ethanol supplies, the Government of India has permitted the procurement of ethanol produced from sources other than molasses, which is known as first generation ethanol or 1G.
- Aside from molasses, ethanol can be derived from rice straw, wheat straw, maize cobs, corn stover, bagasse, bamboo and woody biomass, which are known as second generation ethanol sources or 2G.

Ethanol Blended Petrol (EBP) Programme:

- The EBP programme was launched by the Ministry of Petroleum and Natural Gas in 2003, to promote the use of alternative and environment friendly fuels.
- Under this programme, starting with 5% blending, the government later increased the target of 10% ethanol blending by 2022.
- India's goal is to grow this ratio to 20% by 2030, but when the NITI Aayog released the ethanol roadmap in 2021, that deadline was advanced to 2025.

Deja vu: The speculation and the science behind the experience

- Deja vu is literally a person's subjective experience of repeating a particular set of events, activities, thoughts and feelings, even though that has never in reality occurred before
- In 1876, Emile Boirac, a French philosopher and researcher, coined the term, which means "already seen."
- Around 90 percent of the population has experienced deja vu and the frequency of it decreases as we age.

What Causes?

- Phenomenon could have to do with an area in the middle of the brain called the thalamus. All information such as hearing, taste, touch etc. must pass through the thalamus to the brain's cerebral cortex (the outermost layer) for further interpretation and processing.
- And if the speed of those interactions is a bit different, it then feels to us as if we're experiencing the present, as though we remember it. So what our brain has done is literally confused the present with the past
- According to the dual processing theory, when there is a slight delay in the brain while processing one of these inputs, it interprets the experience as two separate events, giving you the feeling of familiarity.

Deja vu as a symptom of stress

- The brain works better when it is rested and energized. When you are under excessive stress, or worrying a lot, the brain gets tired. So what can happen is the pattern of our brain activity changes a bit. Given those changes, it is not uncommon to experience deja vu

The pendant is 20,000 years old. Ancient DNA shows who wore it

- Inside a Siberian (Denisova Cave) cave that has been an archeological treasure trove, an elk's canine tooth – pierced to become a pendant – was unearthed by scientists with care to avoid contaminating this intriguing artifact made roughly 20,000 years ago.

- Scientists on Wednesday said a new method for extracting ancient DNA identified the object's long-ago owner – a Stone Age woman closely related to a population of hunter-gatherers known to have lived in a part of Siberia east of the cave site in the foothills of the Altai Mountains in Russia.

New method

- The method can isolate DNA that was present in skin cells, sweat or other bodily fluids and was absorbed by certain types of porous material including bones, teeth and tusks when handled by someone thousands of years ago.
- It became the first prehistoric artifact linked by genetic sleuthing to a specific person.
- Denisova Cave long ago was inhabited at different times by the extinct human species called Denisovans, Neanderthals and our species
- By linking objects with particular people, the technique could shed light on prehistoric social roles and division of labor between the sexes or clarify whether or not an object was even made by our species.

Highly pathogenic bird flu virus puts Centre on alert

Housing one of the largest livestock reserves across the world, India is at “risk and vulnerable” to the ongoing outbreaks of avian influenza (H5N1) worldwide, a worry compounded by the threat of mammalian transmission.

Across the world, the virus is being detected among wild birds and other species, which makes the chance of it mutating and becoming harmful greater

H5N1, a highly pathogenic subtype of avian influenza, was detected by the ICAR-National Institute of High Security Animal Disease, Bhopal in the samples received from the Government Poultry Farm at Bokaro, Jharkhand

H5N1 Avian Influenza

- **Avian influenza** or bird flu refers to the disease caused by **infection with avian influenza Type A viruses**.
 - Infrequently, the **virus can infect mammals from birds**, a phenomenon called spillover, and rarely can spread between mammals.
- **H5N1, a subtype of avian influenza**, has the potential to infect other mammals such as **minks, ferrets, seals, domestic cats**, and others through contact with infected **birds, their faeces, or infected bird carcasses**.
- **Symptoms in Humans:**
 - Range from mild to severe influenza-like illnesses such as **fever, cough, sore throat, muscle aches, nausea, abdominal pain, diarrhea, vomiting**.
 - People can also develop severe respiratory illness (e.g., **difficulty breathing, pneumonia, acute respiratory distress, viral pneumonia**)

and altered mental status, seizures etc.

- **Avian Influenza in India:**
 - In 2019, India has been declared free from **Avian Influenza (H5N1)**, which has also been notified to the **World Organization for Animal Health (OIE)**.
 - **However**, in December 2020 and early 2021, **outbreaks of avian influenza H5N1 and H5N8** were reported in **poultry in 15 states in India**.
- **Treatment:**
 - Evidence suggests that some **antiviral drugs** can reduce the duration of viral replication and improve prospects of survival, however ongoing clinical studies are needed.
- **Concerns:**
 - The widespread H5N1 outbreaks have substantial economic impact, **resulting in significant losses to the poultry industry** and threatening **food and vaccine security**, apart from **raising animal welfare and environmental concerns**.

Types of Influenza Virus

- There are four types of influenza viruses: **influenza A, B, C, and D**
- Influenza A and B are the two types of influenza that **cause epidemic seasonal infections nearly every year**.
- Influenza C mainly occurs in humans, but has been known to also occur in dogs and pigs.
- Influenza D is found mainly in cattle. It's not known to infect or cause illness in humans yet.

Avian influenza Type A Viruses

- Type A viruses are classified based on two proteins on their surfaces – **Hemagglutinin (HA) and Neuraminidase (NA)**. There are about 18 HA subtypes and 11 NA subtypes.
- Several combinations of these two proteins are possible e.g., **H5N1, H7N2, H9N6, H17N10, H18N11 etc.**
- All known subtypes of influenza A viruses can infect birds, **except subtypes H17N10 and H18N11**, which have only been found in bats.

“India has been dealing with influenza since 2006-07 and there is no vaccine for high-pathogenic avian influenza. Currently we have checked 1,500 samples from hotspots such as waterbodies and poultry farms. Out of this only one case was found positive from Alappuzha in Kerala. There is nothing to panic about, but we need to be vigilant. We must strengthen our bio-security measures,” added Dr. Mitra.

COVID pandemic is no longer an emergency, declares WHO

The World Health Organization said on Friday that COVID-19 no longer qualifies as a global emergency, marking a symbolic end to the devastating coronavirus pandemic.

The UN health agency's officials said that even though the emergency phase was over, the pandemic hasn't ended. They pointed to the recent spikes in cases in Southeast Asia and the West Asia to support their case.

Public health emergency of international concern

As per WHO, it is “**an extraordinary event**” that constitutes a “**public health risk to other States through the international spread of disease**” and “**to potentially require a coordinated international response.**” Previous emergencies have included Ebola, Zika and H1N1.

*The responsibility of declaring an event as an emergency lies with the *****Director-General of the WHO and requires the convening of a committee of members.

Implications:

- Declaring the coronavirus a public health emergency of international concern would allow WHO to better coordinate the international response and hold nations to account if they overstep the organization's standards — which may pertain to travel, trade, quarantine or screening.
- Also lead to boosting public health measures, funding and resources to prevent and reduce global spread. It could include recommendations on trade and travel, although the WHO generally tries to avoid disruptive trade restrictions.
- The **Emergency Committee**, made up of international experts, provide technical advice to the WHO Director-General in the context of a PHEIC.
- The WHO has declared five global emergencies in the past decade, including the **Ebola epidemic**.

The International Health Regulations (2005)

- IHR (2005), represents a **binding international legal agreement** involving 196 countries across the globe, including all the Member States of the WHO.
- Their aim is to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.

FDA approves first vaccine for respiratory syncytial virus

Food and Drug Administration (FDA) approved the first vaccine — Arexvy — for

respiratory syncytial virus (RSV) to lower respiratory tract disease in people older than 60 years. This is the first RSV vaccine to be approved anywhere in the world.

The trial showed that a single dose of the vaccine reduced the risk of people, older than 60 years, developing lower respiratory tract disease caused by the RSV virus by 82.6% and reduced the risk of developing severe disease by 94.1%.

- **Respiratory Syncytial Virus** is a common respiratory virus. It is characterized by its **highly contagious nature** i.e., it has a high potential to infect people.
- It exacerbated the seasonal lung infection. It commonly infects children especially under **2 to 6 years** of age.
- In most of the cases it has symptoms like the **common cold** but in advanced stages it converts into **phenumonia** and **bronchiolitis**.
- *Findings**:***
 - In the year 2019, over **45000 infant fatalities** under the **age of six** were reported.
 - One child out of every **five RSV infected children** died in the entire world.
 - Children **six months and younger** are most vulnerable to this virus.
 - According to the research, the **annual incidence rate** in India is **53 per 1,000 children (5.3%)**, with an estimated **61,86,500 cases of RSV associated with acute lower respiratory infection** in children under the **age of five**.
 - **RSV killed 97 percent** of children under the **age of five in low- and middle-income nations**.

Cure

- There is no reliable cure available for RSV infection.
- Scientists, Government and concerning authority are promoting research and development in this domain to find out appropriate medicine and vaccination to save the life of infants and children.

Early diagnosis, treatment of diabetes in pregnant women benefit infants, finds study

Early diagnosis and treatment of gestational diabetes mellitus results in additional protection for babies and mothers from pregnancy complications, as per the results of a multi-centric, randomised controlled trial published recently

- **Gestational diabetes mellitus (GDM)** is defined as any degree of glucose intolerance with onset or first recognition **during pregnancy**.
- GDM not only **influences immediate maternal (preeclampsia, stillbirths, macrosomia, and need for cesarean section)** and **neonatal outcomes (hypoglycemia, respiratory distress)**, but also increases the risk of future

- Type 2 diabetes** in mother as well as the baby.
- Prevention at the earliest stage of development of the foetus is essential to prevent children from becoming predisposed to diabetes or other non-communicable diseases (NCD) in future.
 - Higher glucose transfer to the foetus, when the mother has high blood sugar, stimulates the foetal pancreatic cells to start secreting insulin earlier and in higher quantities. Once initiated, it becomes self-perpetuating.
 - In addition, when the maternal glucose reading is high (over 110 mg/dl), the amniotic fluid becomes glucose enriched, and after 20 weeks, when the foetus begins to swallow the amniotic fluid, which further stimulates production of insulin.

Gestational Diabetes in India

- India has an estimated 62 million people with Type 2 diabetes mellitus (DM); this number is expected to go up to 79.4 million by 2025.
- In parallel with the increase in diabetes prevalence, there seems to be an increasing prevalence of gestational DM (GDM), that is, diabetes diagnosed during pregnancy.
- India has a **very high prevalence of GDM by global standards**. Conversion rates to Type 2 diabetes are also very high.
- Healthcare resources are insufficient. There is inadequate awareness among public. This results in a large population being hesitant to access healthcare system for diseases with not so “obvious” implications like GDM.
- Interventions during and immediately after pregnancy provide important opportunities to improve the lives of mothers and children today and reducing diabetes in future generations.
- Screening and appropriate management of diabetes during pregnancy provides a unique opportunity to prevent Type 2 diabetes in two generations.
- Lack of awareness in society is one of the reasons that GDM is given low priority in public health delivery system in India.
- Therefore, the Ministry of Health has developed national guidelines for testing, diagnosis and management of hyperglycaemia in pregnancy, and they recommend early testing at the time of contact (during the first trimester) and if the test is negative, yet another test should be done between 24-28 weeks.

World Thalassaemia Day 2023: History, theme, and significance

- It is the name for a group of **inherited conditions that affect a substance in the blood called haemoglobin**.
- People with thalassaemia **produce either no or too little haemoglobin**, which is used by red blood cells to carry oxygen around the body.
- Thalassaemia can **cause anaemia, leaving you fatigued**.
- It **mainly affects people of Mediterranean, south Asian, southeast Asian and Middle Eastern origin**.

- **Cause:**
 - It is caused by **faulty genes that affect the production of haemoglobin.**
 - A child can only be born with thalassaemia **if they inherit these faulty genes from both parents.**
 - It's **also possible to be a "carrier"** of thalassaemia, also known as **having the thalassaemia trait.**
- **Symptoms:** The main health conditions associated with thalassaemia are,
 - **Anaemia**– severe tiredness, weakness, shortness of breath, pounding, fluttering or irregular heartbeats (palpitations) and pale skin caused by the lack of haemoglobin.
 - **Too much iron in the body**– this is caused by the regular blood transfusions used to treat anaemia and can cause problems with the heart, liver and hormone levels if untreated
 - Some people may also have **delayed growth, weak and fragile bones**(osteoporosis), and reduced fertility.
- **Treatments:**
 - **Blood transfusions**– regular blood transfusions treat and prevent anaemia; in severe cases these are needed around once a month.
 - **Chelation therapy** – treatment with medicine to remove the excess iron from the body that builds up as a result of having regular blood transfusions
 - The only possible cure for thalassaemia is **a stem cell or bone marrow transplant**, but this is not done very often because of the risks involved.

New treatment strategy for damaged cartilage discovered

- It is a **strong, flexible connective tissue that protects your joints and bones.**
- It **acts as a shock absorber** throughout your body.
- **Cartilage at the end of your bones reduces friction and prevents them from rubbing together** when you use your joints.
- It's also the **main tissue in some parts of your body** and gives them their structure and shape.
- There are **three types** of cartilage in the body,
 - *Hyaline cartilage:*
 - It is the **most common type** of cartilage.
 - It **lines the joints and caps at the ends of your bones.** Hyaline cartilage at the ends of your bones is **sometimes referred to as articular cartilage.**
 - Hyaline cartilage is **slippery and smooth** which helps the bones move smoothly past each other in your joints.
 - *Fibrocartilage:*
 - It is **tough cartilage made of thick fibers.**
 - It's the **strongest and least flexible** of the three types. It's tough enough to **hold parts of your body** in place and absorb impacts.

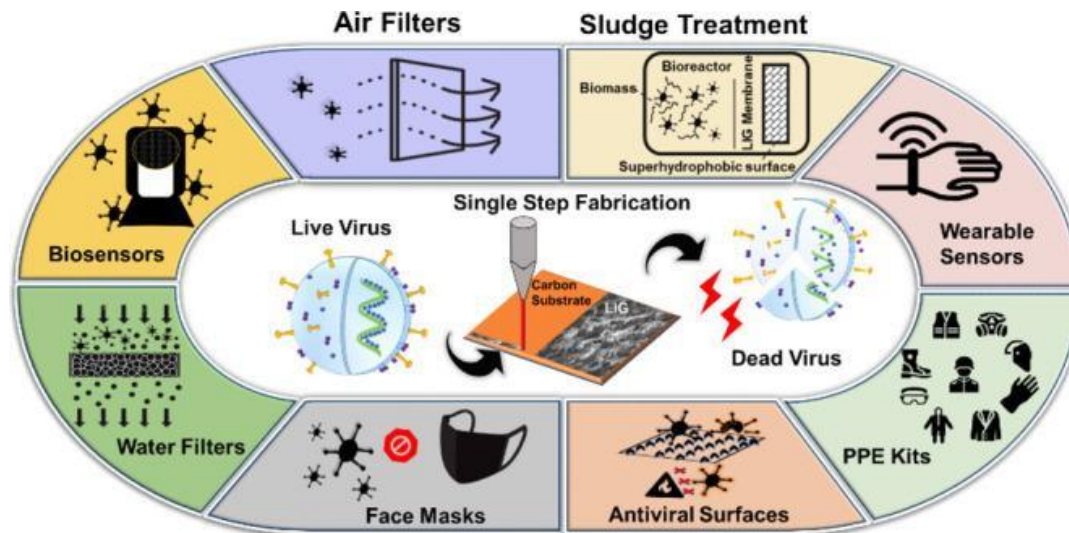
- *Elastic cartilage:*
 - It is the **most flexible cartilage**.
 - It **supports parts of your body that need to bend** and move to function.
 - Elastic cartilage **can bounce back to its original shape**, even after a strong force.

BITS-Pilani Hyderabad develops illness-detecting mask with sensor

- Face mask can also be used as a non-invasive device to check one's health as has been successfully demonstrated by researchers at the Micro-Electro-Mechanical Systems, Microfluids and Nanoelectronics Lab on the BITS-Pilani Hyderabad campus.
- The team, developed a Kirigami-based stretchable, flexible **Laser induced Graphene (LIG)** a 3-D carbon nanomaterial, for real-time attachments with surgical masks.
- LIG is a widely used material for monitoring vital physiological signs such as breath rate (BR) or respiratory rate (RR), body temperature, pulse rate, and blood oxygen saturation.
- Researchers used the sensor attached to a gas mask to analyse the breath pattern of the subject seated on a chair by validating the change in resistance during inhalation and exhalation. The rate of breathing generally varies based on age unless the person is diseased. Fitness of a person can be determined by Breath Index or simply, by measuring RR and BR
- Applications in various scenarios have been carried out demonstrating potential in healthcare, disease diagnosis, e-skin, and so on with the detection capacity being less than one second.

Laser induced Graphene (LIG)

- Laser-induced graphene (LIG) is a three-dimensional carbon-based nanomaterial fabricated in a single step on a wide variety of low-cost to high-quality carbonaceous materials without using any additional chemicals potentially used for antiviral, antibacterial, and sensing applications.
- LIG has extraordinary properties, including high surface area, electrical and thermal conductivity, environmental-friendliness, easy fabrication, and patterning, making it a sustainable material for controlling SARS-CoV-2 or similar pandemic transmission.



- LIG's antiviral, antibacterial, and antibiofouling properties were mainly due to the thermal and electrical properties and texture derived from nanofibers and micropores.
- Graphene, a widely used material in numerous technologies, is majorly prepared from a chemical reduction route called "**Hummer's method**".

ICMR conducts trial run of blood bag delivery by drone

The Indian Council of Medical Research (ICMR) successfully conducted a trial run of delivery of blood bags under its iDrone initiative.

The inaugural trial flight carried 10 units of whole blood samples from the GIMS and the LHMC in visual line of sight.

The i-DRONE was first used during the COVID-19 pandemic by the ICMR for distributing vaccines to remote areas. Today, we are transporting blood and blood-related products which are supposed to be kept at a low temperature.

After the experiment, they found that not only can we maintain the temperature, there was also no damage to the products transported.

More drone flights will be conducted to validate the quality of blood products transported.

- *Significance:*
 - It will help in **overcoming the gaps in current vaccine delivery mechanisms** and can be used in delivering important **life-saving medicines**, collecting blood samples etc.
 - This technology can also be **used in critical situations**. It can be a game changer **in addressing the challenges in health care delivery**,

- particularly health supplies in difficult areas.
- *Other Projects Using Drones:*
 - Telangana government has selected 16 Primary Healthcare Centres (PHCs) for pilot testing the ambitious '**Medicine from the sky**', the **first-of- its-kind project**.
 - The **International Crops Research Institute (ICRISAT)** was permitted to deploy **drones for agricultural research activities**, apart from some agriculture universities and educational institutions.

Allahabad High Court orders carbon dating of 'Shivling' at Gyanvapi

- Carbon dating is a widely-used method to establish the age of organic materials, things that were once living.
- Living things have carbon in them in various forms. The dating method is based on the fact that Carbon-14 (C-14), an isotope of carbon with an atomic mass of 14, is radioactive, and decays at a well-known rate.
- The most abundant isotope of carbon in the atmosphere is C-12. The ratio of C-12 to C-14 in the atmosphere is almost static, and is known.
- Plants and animals acquire C-12 and C-14 in roughly the same proportion as is available in the atmosphere.
- When they die, their interactions with the atmosphere stops. While C-12 is stable, the radioactive C-14 reduces to one half of itself in about 5,730 years — known as its 'half-life'.
- The changing ratio of C-12 to C-14 in the remains of a plant or animal after it dies can be measured, and can be used to deduce the approximate time when the organism died.
- Carbon dating cannot be used to determine the age of non-living things like rocks. Also, the age of things that are more than 40,000-50,000 years old cannot be arrived at through carbon dating.

Radiometric dating methods:

- These are used to calculate the age of inanimate things. Instead of carbon, decays of other radioactive elements that might be present in the material become the basis for the dating method. Two commonly employed methods for dating rocks are
- Potassium-argon dating: The radioactive isotope of potassium decays into argon, and their ratios can give a clue about the age of rocks.
- Uranium-thorium-lead dating: Uranium and thorium have several radioactive isotopes, and all of them decay into the stable lead atom. The ratios of these elements present in the material can be measured and used to make estimates about age.
- Cosmogenic nuclide dating: It is used to determine how long an object has remained exposed to sunlight. It is regularly applied to study the age of ice cores in polar regions.

Explaining mitochondrial donation treatment: how a baby has three parents

Baby was born using three persons' DNA in the U. K. The baby, technically, has three parents, deriving the mitochondria from a donor apart from the genetic material (DNA) from biological parents. Pioneering technology was used to facilitate this, in order to prevent the child from inheriting the mother's mitochondrial disease.

Three parents?

The baby carried most of its DNA from its parents, and a minor per cent from the donor, whose mitochondria has been used while fertilising the egg.

Mitochondria

- Mitochondria are basically the powerhouses of the cells. They generate energy, and thus are also responsible for cell function in the human body.
- Certain defects might occur impacting the way the mitochondria produces energy for the cells (especially in the 'energy-hungry' tissues of the brain, nerves, muscles, kidneys, heart, liver), and thereby impacting cell function. The diseases that arise out of such mitochondrial mutations are called mitochondrial diseases.
- When the mitochondria are impaired and do not produce sufficient energy, it affects how organs function, leading to a broad assortment of symptoms across the body, including brain damage, organ failure and muscle wastage. The symptoms get more and more debilitating as a child grows, and have no cure, but can be treated.
- In this case, the mother had a mitochondrial disease she was intent on not passing on to her baby. She also did not want to have a donor egg, for the baby would carry the genetic material of the donor.

scientific process?

- Mitochondrial diseases are only passed on by the mother, and research has been attempting to find a way for protecting the infant from inheriting the disease.
- Here, through an advanced in vitro fertilisation technique, the baby's biological father's sperm was used to fertilise the eggs from the biological mother, who has a mitochondrial disease, and a third, female donor with clear mitochondria, separately.
- Then, the nuclear genetic material from the donor's egg is removed and replaced with the genetic material from the biological parents'.
- The final product — the egg — which has the genetic material (DNA) from the parents, and the mitochondria from the female donor, is implanted in the uterus, and carried to full term to yield a baby who will be free from the mother's mitochondrial disease. This process is termed Mitochondrial

Donation Treatment (MDT).

Draft of Digital India Bill to be released in June: Minister

A full-fledged draft of the Digital India Bill, set to be the biggest revamp of laws governing the Internet in India since the Information Technology Act, 2000, and subsequent amendments, will be published in the first week of June, Minister of State for Electronics and Information Technology Rajeev Chandrasekhar said

Regulating AI

“Our approach right now in the draft is about regulating [AI] through the prism of user harm,” the minister noted.

So there are ‘no go areas’ for these technologies. The approach would be to create “guardrails” for high risk AI systems

The act which is a successor to the Information Technology (IT) Act, 2000, will impact a host of entities on the Internet, including social media, e-commerce, and artificial intelligence-based platforms.

The IT Act, 2000

- It is the primary law in India for *matters related to cybercrime and e-commerce*, giving *legal sanction to e-commerce and transactions*, enabling e-governance, and preventing cybercrime.
- Under the law, for any crime involving a computer or network located in India, foreign nationals can also be charged.
- The act gives legal recognition to digital signatures.

Section 66A of the IT Act.

New law for the Internet

- The IT Act needs an update since it was framed for an Internet era that looked very different from the Internet of today.
- **Objectives** – To ensure an open and safe Internet in the country, to ensure users’ rights and reduce risks for them online, accelerate the growth of technology innovation.
- The Bill is a key pillar of an overarching framework of technology regulations the Centre is building, including:
 1. Draft Digital Personal Data Protection Bill, 2022
 2. Indian Telecommunication Bill, 2022
 3. Policy for non-personal data governance

Safe harbour

- **Safe harbour** – As given under *Section 79 of the IT Act, 2000*, it is the *legal immunity* that online intermediaries enjoy against content posted by users on their platforms.
- **Due diligence** – This is available as long as these platforms abide by certain due diligence requirements, such as censoring content when asked by the government or courts.
- **Origin** – The concept originally came from *Section 230 of the United States' Communications Decency Act*, which has been termed one of the foundational laws behind the modern Internet.
- **Web 2.0** – It is one of the main reasons behind the meteoric rise of Internet giants such as Facebook that have defined the Web 2.0 era where users can post content on the internet.

Revisit the norm

- **Complex intermediaries** – The idea behind revisiting the concept of the safe harbour is that the intermediaries have become more complex.
- Hence, there is a need to classify different types of intermediaries and form relevant regulations for each of them.
- **IT Rules of 2021** – The government has reined in the safe harbour by introducing additional due diligence requirements.
- Such requirements include, appointing India-based employees to cooperate with the government and address users' queries.

Digital India Bill deal with

- **Cybercrimes** – The proposed law will also regulate a range of crimes include cyberbullying, doxxing, and identity theft.
- **Misinformation** – The weaponisation of misinformation under the garb of free speech will not be entertained and will be regulated under the Bill.
- **Adjudicatory mechanism** – An effective mechanism that is easily accessible, deliver timely remedies, resolve cyber disputes, and create cyber jurisprudence will also be explored under the Digital India Bill.

ART & CULTURE

Uttrakhand's ancient Tungnath temple to be declared a national monument

- It is the **highest Shiva temple in the world** nestled at an altitude of **3680 meters**.
- It is **one of the Panch Kedars** and is believed to have belonged to an ancient era **almost 1000 years old**.
- It was built in the **North Indian style of architecture** and has a dozen **shrines of other Gods surrounding the temple**.

Panch Kedars

- Panch Kedar is a **group of five sacred shrines of Lord Shiva located in the Garhwal Himalayas, Uttarakhand**.
- The five temples are the **Kedarnath Temple** at an altitude of 3,583 m (11,755 ft), the **Tungnath Temple** (3,680 m or 12,070 ft), the **Rudranath Temple** (3,559 m or 11,677 ft), the **Madhyamaheshwar Temple or Madmaheshwar** (3,490 m or 11,450 ft) and the **Kalpeshwar Temple** (2,200 m or 7,200 ft).

Santiniketan may be added to World Heritage List

- Santiniketan, associated with Nobel laureate Rabindranath Tagore, has been recommended for inclusion on UNESCO's World Heritage List
- The quaint town in West Bengal's Birbhum district is also home to the Visva-Bharati University built by Tagore.
- The recommendation was made by the International Council on Monuments and Sites (ICOMOS), which is the advisory body to the UNESCO World Heritage Centre, based on a file moved by the Centre.
- Santiniketan, if selected, would be the second cultural symbol from West Bengal, to make it to the UNESCO list.
- In 2021, UNESCO had included 'Durga Puja in Kolkata' on its list of Intangible Cultural Heritage of Humanity.

Visva-Bharati University

- It is located in Shantiniketan, West Bengal, India. When founded in **1921**, it was named after **Nobel Laureate Rabindranath Tagore** until **Visva-Bharati Society** was registered as an organization in May 1922.
 - Rabindranath believed in **open-air education and introduced that system at the university**, which prevails to date.
- According to **UNESCO**, in 1922, **Visva-Bharati was inaugurated as a Centre for Culture with exploration into the arts, language, humanities, music** and these are reflected in diverse institutes that continue in their educational programmes like including Hindi studies, Sino-Asian studies, humanities, fine arts, and music.

- They are based on the founding principles of **excellence in culture and culture studies.**
- Until Independence, it was a college and the institution was given the status of **Central University in 1951 through a Central Act.**
- The **structures within the institutes** of Visva-Bharati University are diverse in architectural expression.
 - **Examples** include the
 - **Kalo Bari** (a mud structure with coal tar finish and sculpture panels)
 - **Mastermoshai studio** (a single-story structure built for the first principal of Kala Bhavan, Nandalal Bose)
 - **Murals and paintings on Cheena and Hindi Bhavan**

Fresh excavation reveals pre-Mauryan era signs in Delhi's Purana Qila site

- A fresh round of excavations at the site of Delhi's Purana Qila (Old Fort) have uncovered evidence of the continuous history of the city since the pre-Mauryan era. The findings include shards of Painted Gray Ware pottery which are usually dated to around 1200 BC to 600 BC.
- Sources said that the site could host one of the accompanying events during the G-20 leadership summit in September. The **Purana Qila**, built by Sher Shah Suri and Mughal emperor Humayun, is believed by many to be the site of **Indraprastha**, as mentioned in the Mahabharat.
- The new excavations have also found remains of a 900-year-old Vaikuntha Vishnu from the Rajput period, a terracotta plaque of Goddess Gaja Lakshmi from the Gupta period, the structural remains of a 2,500-year-old terracotta ring well from the Mauryan period, and a well-defined four-room complex from the Sunga-Kushan period dating back to 2,300 years ago, besides beads, seals, copper coins and a bone needle.

SOCIETY

Curfew in eight districts of Manipur over tribal stir

A curfew was imposed in eight districts of Manipur and mobile Internet services were suspended in the entire northeastern State over the violence during a tribal agitation

Violence broke out during a “tribal solidarity march” called by the All Tribal Student Union Manipur (ATSUM) in Torbung area to protest against the demand of non-tribal Meiteis, who dominate the Imphal Valley, for Scheduled Tribe (ST) status.

Meitei

- Meitei, also spelt **Meetei or Meithei**, also called **Manipuri**, dominant population of **Manipur in northeastern India**.
- **They are predominantly Vaishnavite Hindus.**
- They are divided into clans, the members of which do not intermarry.
- An interesting aspect of the village socio-economic organization in Meitei society is the **Marup system** (literally means friendship association), a type of **cooperative saving and credit institution**.
- **Culture**
 - **They speak a Tibeto-Burman language**, they differ culturally from the surrounding hill tribes by following Hindu customs.
- **Economy**
- Rice cultivation on irrigated fields is the basis of their economy. They are keen horse breeders, and polo is a national game.
- Field hockey, boat races, theatrical performances, and dancing—well known throughout India as the Manipuri style—are other pastimes.

MyGov collaborates with IHM Pusa to launch 'YUVA PRATIBHA - Culinary Talent Hunt' tomorrow

- The purpose of this competition is to bring out the lost recipes and promote the culinary talents of young and aspiring chefs and home cooks.
- The aim to create awareness and increase the production and consumption of millet, the year 2023 has been declared as the International Year of the Millets by the United Nations.
- The fusion of millets in this competition provides a unique opportunity for participants to showcase their creativity and innovation in cooking with healthy and sustainable ingredients.
- This will create awareness of the contribution of nutri-cereals (millets) for food security and nutrition.
- The contest is open to the citizens of India within the age group of 18 to 40 years.

- The dish should be home-cooked, wherein 50 percent of the ingredients should be of millet.

India moves closer to getting its first indigenous vaccine against dengue

Moving a step closer to developing India's first vaccine against dengue, drug-makers Serum Institute of India and Panacea Biotech have submitted their responses to the call by the Indian Council of Medical Research (ICMR) for an Expression of Interest for collaborative Phase 3 clinical trials for indigenous manufacturers.

The Phase 3 trial is being done for evaluation of efficacy, along with safety and immunogenicity of tetravalent dengue vaccine candidate developed by Indian manufacturers.

Dengue

- Dengue is a mosquito-borne tropical disease caused by the **dengue virus (Genus Flavivirus)**, transmitted by several species of female mosquito within the genus Aedes, principally Aedes aegypti.
 - This mosquito also transmits **chikungunya**, yellow fever and **Zika infection**.
- There are 4 distinct, but closely related, serotypes (separate groups within a species of microorganisms that all share a similar characteristic) of the virus that cause dengue (DEN-1, DEN-2, DEN-3 and DEN-4).
- *Symptoms:*
 - Sudden high fever, severe headaches, pain behind the eyes, severe bone, joint, and muscle pain, etc.
- *Diagnosis and Treatment:*
 - Diagnosis of dengue infection is done with a blood test.
 - There is no specific medicine to treat dengue infection.
- *Status of Dengue:*
 - **Incidence of dengue has grown dramatically** around the world in recent decades, with a vast majority of cases under-reported, according to the **World Health Organization (WHO)**.
 - WHO estimates 39 crore dengue virus infections per year, of which 9.6 crore show symptoms.
 - According to data shared by the **National Center for Vector Borne Diseases Control**, India recorded 63,280 dengue cases as of September, 2022
- *Controlling Dengue Using Bacteria:*
 - Recently researchers from the World Mosquito Program have used mosquitoes infected with Wolbachia bacteria to **successfully control dengue** in Indonesia.
 - **Method:**
 - The scientists infected some mosquitoes with Wolbachia and then released them in the city where they bred with local

mosquitoes, until nearly all mosquitoes in the area were carrying Wolbachia bacteria. This is called the **Population Replacement Strategy**.

- At the end of 27 months, the researchers found that the incidence of dengue was 77% lower in areas where Wolbachia-infected mosquitoes had been released, as compared to areas without such deployments.
- *Dengue Vaccine:*
 - The dengue vaccine CYD-TDV or **Dengvaxia** was approved by the US Food & Drug Administration in 2019, the first dengue vaccine to get the regulatory nod in the US.
 - Dengvaxia is basically a **live, attenuated dengue virus** which has to be administered in people of ages 9 to 16 who have laboratory-confirmed previous dengue infection and who live in endemic areas.
 - **Vaccine manufacturer Indian Immunologicals Limited (IIL) is developing India's first Dengue vaccine** and has received permission for a Phase-1 trial.
 - The vaccine is being produced in collaboration with the National Institutes of Health in the US.

NHRC notice to States on increase in Child Sexual Abuse Material on social media

The National Human Rights Commission (NHRC) has taken suo motu cognisance of a media report that cited a 250-300% increase in the circulation of Child Sexual Abuse Material (CSAM) on social media in India.

It maintained that it had been concerned with the ill-effects of online CSAM on human rights as it may cause irreparable psychological damage to children, impacting their growth and development.

Legislations against Online child sexual abuse in India:

- **The IT Act 2000:**
 - **Section 67B** of the Information Technology (IT) Act, 2000 provides stringent punishment for publishing, transmitting, or viewing child sexual abuse material online.
 - The Information Technology **(Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021** empower the users of Intermediaries and make the social media platforms accountable for their safety.
 - The Rules require the intermediaries to adopt a robust grievance redressal mechanism including time-bound disposal of grievances.
 - The government periodically blocks the websites containing outer child sexual abuse material (CSAM) based on INTERPOL's "worst of the list" received through the Central Bureau of Investigation (CBI), the

- national nodal agency for Interpol in India.
- The Information Technology Act, of 2000 provides a legal framework for addressing all types of prevailing cybercrimes reported in the country.
- **POCSO Act:**
 - Further, Section 14 of the **Protection of Children from Sexual Offence (POCSO) Act** provides Punishment for using children for pornographic purposes. As per section 14:
 - Whoever uses a child or children for pornographic purposes shall be punished with imprisonment for a term that shall not be **less than five years**.

India's efforts

- **'Aarambh India'**, a Mumbai-based non-governmental organization, partnered with the IWF and launched India's first online reporting portal in September 2016 to report images and videos of child abuse.
- The Supreme Court of India, ***in Shreya Singhal (2015),*** said that **Section 79(3)(b)** of the IT Act means that the ISP, only upon receiving actual knowledge of the court order or on being notified by the appropriate government, shall remove or disable access to illegal contents.
 - Thus, ISPs are exempted from the liability of any **third-party information**.
- In the **Kamlesh Vaswani (WP(C) 177/2013) case**, the petitioner sought a complete ban on pornography.
- As per **Section 88 of the IT Act**, the orders were issued in March 2015 to Internet Service Providers to disable nine (domain) URLs that hosted contents in violation of the morality and decency clause **of Article 19(2)** of the Constitution.

Row over adopting father's surname in matrilineal Meghalaya

A tribal council's order not to issue a Scheduled Tribe (ST) certificate to any Khasi person who adopts the surname of her or his father has triggered a war of words in matrilineal Meghalaya.

The Khasis, numbering about 1.39 lakh, are one of the three indigenous matrilineal communities in the northeastern State. The other two are Garos and Jaintias.

In that order, the KHADC directed the headmen of all villages and urban localities across the Khasi domain not to issue ST certificates to those who adopt their father's surname instead of sticking to tradition by taking their mother's clan name.

"I will fight for my children if there is an attempt to take away their right of being called Khasis," VPP president and MLA, Ardent Miller Basaiawmoit said at a public meeting in the State's Nongpoh recently.

- **Matrilineal System of Inheritance:**
 - The **three tribes of Meghalaya — Khasis, Jaintias, and Garos** — practise a matrilineal system of inheritance.
 - In this system, **lineage and descent are traced through the mother's clan.**
 - In other words, children take the mother's surname, the husband moves into his wife's house, and the **youngest daughter (khatduh)** of the family is entrusted the full share of the ancestral - or the clan's - property.
 - The **khatduh becomes the "custodian" of the land**, and assumes all responsibility associated with the land, including taking care of aged parents, unmarried or destitute siblings.
 - This inheritance tradition **applies only to ancestral or clan/community property**, which has been with the family for years. The **self-acquired property can be distributed equally among siblings.**
 - In this traditional set-up, **if a couple does not have any daughters**, then the **property goes to the wife's elder sister**, and her daughters.
 - If the wife does not have sisters, then the **clan usually takes over the property.**
- **Effect of this System on Women Empowerment:** Women activists have often pointed out that the matrilineal system in Meghalaya rarely empowers women.
 - **Issue in Custodianship:** Custodianship is often misconstrued as ownership vested in just one person, that is the youngest daughter.
 - This custodianship comes with the responsibility to care for aged parents, unmarried or destitute siblings and other clan members.
 - Moreover, the custodian cannot buy or sell the land, without taking permission from her maternal uncle.
 - **Matrilineal is Not Matriarchal:** People often confuse matrilineal with matriarchal, where women function as heads.
 - While women may have freedom of mobility and easier access to education, they are not decision makers in Meghalaya.
 - There are barely any women in positions of power, in politics, or heading institutions.

Khasi Hills Autonomous District Council

- KHADC is a body under the **Sixth Schedule** (of the Constitution).
- It does not have the power to legislate.
- Paragraph 12 A of the Sixth Schedule gives the final right of passing a law to the state legislature.
- The Sixth Schedule of the Constitution provides for the **administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram** to safeguard the rights of the tribal population in these states.
 - This special provision is provided under **Article 244 (2) and Article**

275 (1) of the Constitution.

- It provides for **autonomy in the administration of these areas through Autonomous District Councils (ADCs)**, which are empowered to make laws in respect of areas under their jurisdiction.

Ministry of Education and World Bank organise a one of its kind workshop on School-to-Work Transition under the STARS Program

- School-to-Work Transition workshop under the STARS Program was **co-chaired by** Secretaries of **School Education and Skill Development and Entrepreneurship**.

STARS Program:

- **Strengthening Teaching-Learning and Results for States (STARS)** Project was approved by the Cabinet in October 2020 and to be implemented as a **centrally sponsored scheme**.
- It became effective **since 2021 for a period of five years**. up to FY: **2024-25**.
- STARS project would be implemented under Department of School Education and Literacy, **Ministry of Education** with the financial **support of World Bank**.
- It is being implemented in **six identified States** Himachal Pradesh, Maharashtra, Odisha, Rajasthan, Madhya Pradesh and Kerala. These states will be supported for various interventions for **improving the quality of education**.
- It is carved out of **Samagra Shiksha**, with a focus on those elements of the scheme that will most directly support school education enhancement.
- The **overall focus** and components of the STARS project are aligned with **the objectives of National Education Policy (NEP) 2020 of Quality Based Learning Outcomes**.
- The STARS project also aims to focus on **initiatives of PM e-Vidya**, Foundational Literacy and Numeracy Mission and National Curricular and Pedagogical Framework for Early Childhood Care and Education as part of the **Atmanirbhar Bharat Abhiyan**.

Telangana's gongadi shawls refashioned into shoes

- For generations, the rough wool of the sturdy Deccani sheep has been handcrafted by the Kuruma and Kuruba — pastoral communities spread across the Deccan plateau — into a tough, all-weather shawl called a gongadi in Telangana.
- Now, this resilient fabric has been repurposed into all-weather shoes for farmers by three alumni of the National Institute of Design, Ahmedabad.

Kuruma community

- The Kuruma community having indigenous knowledge of shepherding, blanket weaving and narrating Oggu Kathalu (traditional stories).
- Kuruma community is a pastoral nomad community in India whose traditional caste occupation is sheep rearing and blanket weaving with sheep wool. Shepherd communities in India hail from different tribal communities and castes. For example, Gaddi tribe from Himachal Pradesh, Bharwad from Gujarat, Kuruba from Karnataka, Kurumbar from Tamil Nadu etc., are shepherd communities in India. Kuruma is a shepherd community in Telangana and Andhra Pradesh.
- They have their own indigenous knowledge in sheep rearing, blanket weaving and telling Oggu (traditional) stories.
- Kuruma community livelihood depends on forest and natural resources as they are rearing sheep. Sheep rearing activity is semi-nomadic in nature. This paper describes the indigenous knowledge of shepherding, blanket weaving with sheep wool and Oggu Kathalu (traditional stories) ethnographically.

Rights groups demand questions on disability should remain in NFHS-6

National Family Health Survey (NFHS-6), due to commence in July, could be dropping questions on disability from its survey questionnaire, disability rights activists are demanding immediate correction and inclusion.

The **Disability Rights India Foundation (DRIF)**, a non-profit organisation working in the area of disabilities rights, in its communication, said that “disability disaggregated data is the cornerstone for disability relevant services” in any country.

Countries world over and the United Nations and other international bodies, are now developing toolkits and strategies to broaden their disability database.

“In India, we can use our existing mechanisms and the NFHS is well placed to collect disability-related data. However, it will be an opportunity lost by not including disability in its forthcoming NFHS-6 survey, which is scheduled to commence from July 2023. While NFHS-5 had disability related questions and collected data on disabilities, information from reliable sources confirm that NFHS-6 has dropped questions on disability from its survey questionnaire,” the DRIF said.

The group added that going forward, the NFHS needs to sharpen its questionnaire on the disability front and make it more relevant by consulting people with disabilities, but it has reversed the process by removing disability-related questions altogether.

‘Against principle’

Seeking the immediate intervention of the Ministry of Health, the Ministry of Social

Justice and Empowerment, and NITI Aayog to facilitate the inclusion of questions on disability in the NFHS-6 in consultation with persons with disabilities, the group has said that at the national level, the decision to remove disability-related questions from its survey contradicted its principle of “leave no one behind” under the Rights of Persons with Disabilities Act, 2016.

“It is particularly regressive given that India is also a signatory to the Convention on the Rights of Persons with Disabilities (CRPD) and Sustainable Development Goals (SDGs),” it noted.

Satendra Singh, disability rights activist and doctor at the University College of Medical Sciences and Guru Tegh Bahadur Hospital, Delhi, said that people with disabilities in India experience an average loss of 10-17 years in life expectancy, according to the 2022 Missing Billion Report on ‘Reimagining Health Systems’.

“So closing the life expectancy gap for the world’s largest minority group requires access to comprehensive health data. The recent World Health Organization global report on health equity for persons with disabilities also emphasises the importance of monitoring indicators to promote health equity for our community. It is crucial to ensure that our needs and experiences are acknowledged and accounted for. We must bridge the disconnect between data collection and the effective design of policies,” Dr. Singh said.

National Family Health Survey (NFHS):

- The **NFHS** is a large-scale, multi-round survey conducted in a representative sample of households throughout India.
- Conducted By:
 - The **Ministry of Health and Family Welfare (MoHFW)** has designated the **International Institute for Population Sciences(IIPS) Mumbai**, as the **nodal agency** for providing coordination and technical guidance for the survey.
 - IIPS collaborates with a number of Field Organizations (FO) for survey implementation.
- Goals:
 - Each successive round of the NFHS has had two specific goals:
 - To provide essential data on health and family welfare needed by the Ministry of Health and Family Welfare and other agencies for policy and programme purposes.
 - To provide information on important emerging health and family welfare issues.
 - The survey provides **state and national information** for India on:
 - Fertility
 - Infant and child mortality
 - The practice of family planning
 - Maternal and child health
 - Reproductive health
 - Nutrition

- Anaemia
- Utilization and quality of health and family planning services.
- Funding:
 - The funding for different rounds of NFHS has been provided by **USAID, the Bill and Melinda Gates Foundation, UNICEF, UNFPA, and MoHFW (Government of India).**

DEFENCE & SPACE

BRO celebrates 64th Raising Day

- The Border Roads Organisation (BRO) is a road construction executive force in India that provides support to Indian Armed Forces.
- BRO develops and maintains road networks in India's border areas and friendly neighboring countries.
- This includes infrastructure operations in 19 states and three union territories (including Andaman and Nicobar Islands) and neighboring countries such as Afghanistan, Bhutan, Myanmar, Tajikistan and Sri Lanka.
- BRO is also tasked with maintaining this infrastructure including operations such as snow clearance. BRO is instrumental in significantly upgrading and building new India-China Border Roads.
- Officers and personnel from the General Reserve Engineer Force (GREF) form the parent cadre of the BRO.
- It is also staffed by Officers and Troops drawn from the Indian Army's Corps of Engineers on extra regimental employment (on deputation).
- BRO is also included in the Order of Battle of the Armed Forces, ensuring their support at any time.
- The BRO undertakes projects in India and friendly countries.
- These projects typically include developing roads, bridges, and airfields in hostile environments shunned by private enterprises, whether due to security concerns related to hostilities, or because of environmental challenges.
- BRO has been active during the 1962 war, the conflicts with Pakistan in 1965 and 1971, and has also been active in anti-insurgency operations in North East.

Established:

- The BRO was formed on 7 May 1960 to secure India's borders and develop infrastructure in remote areas of the north and north-east states of the country.
- In order to ensure coordination and expeditious execution of projects, the Government of India set up the Border Roads Development Board (BRDB) with the Prime Minister as Chairman of the Board and Defence Minister as Deputy Chairman.
- The organisation motto is Shramena Sarvam Sadhyam (everything is

achievable through hardwork)

Raksha Mantri approves posting of Women Officers

- It aims to commemorate its raising by the first Governor General C Rajagopalachari on this day in 1949.

History:

- The Territorial Army (TA) was raised by the Britishers in 1920 through Indian Territorial Act of 1920 and it was org into two wings namely - 'The Auxiliary Force' for Europeans & Anglo-Indians and 'The Indian Territorial Force' for Indian Volunteers.
- After Independence Territorial Army Act was passed in 1948 and the Territorial Army was formally inaugurated by the first Indian Governor General Shri C Rajagopalachari on 09 Oct 1949.
- The Territorial Army is part of Regular Army and its present role is to relieve the Regular Army from static duties and assist civil administration in dealing with natural calamities and maintenance of essential services in situations where life of the communities is affected or the Security of the Country is threatened and to provide units for Regulars Army as and when required.

Eligibility:

- Any citizen between the age of 18-42 can be a part of the service.
- The pensionable age for a soldier below officer's rank in the TA is the same as that of a regular soldier — 15 years.

Operations:

- The TA units were also actively involved in operations during the 1962, 1965 and 1971 wars.
- Since 2020, the Indian military has been recalibrating the TA for better operational and intelligence roles, especially in the Andaman Islands to keep an eye out for possible Chinese intrusions in the region.
- The motto of the Territorial Army of India is 'Savdhani Va Shoorta' (Vigilance and Valour).

Chinese boats cross Indian and ASEAN ships during military exercise

Boats belonging to a Chinese maritime militia approached an area where the Navies of India and ASEAN countries were taking part in drills in the South China Sea

ASEAN-India Maritime Exercise (AIME) 2023

The exercise aims to strengthen India's military cooperation with the Association of Southeast Asian Nations (ASEAN).

Location: Singapore and the South China Sea

Vessel: INS Delhi, India's first indigenously-built guided missile destroyer and INS Satpura, an indigenously-built guided missile stealth frigate will take part in the exercise.

Navy Chief will also participate in the **International Maritime Defence Exhibition (IMDEX-23)** and **International Maritime Security Conference (IMSC)** being hosted by Singapore.

Railways' bonanza for Agniveers: Reservation in Level-1, Level-2 non-gazetted posts, exemption from physical test, age criteria relaxed

- The features and benefits offered under Agniveer Salary Package are similar to the Defence Salary Package.
- The first batch of Agniveers under the "Agnipath Scheme" will be joining Training Centres by January 2023.

Agnipath scheme

- Defence Minister Rajnath Singh recently announced the "Agnipath" scheme, for recruitment of youth in the armed forces for four years.
- **Enrolment:** Enrolment to all three services will be through a centralised online system, with special rallies and campus interviews at recognised technical institutes.
- **Eligibility criteria:** The new system is only for personnel below officer ranks
- **Recruitment:** It will be carried out on an 'All India All Class' basis with the eligibility age ranging from 17.5 to 21 years, with medical and physical fitness standards in accordance with existing norms.
- **Salary package:** Agniveers will receive Rs 33,000 in the second year, Rs 36,500 in the third year and Rs 40,000 in the fourth year. They will get Rs 11.71 lakh as Seva Nidhi Package after four years.
- **Qualification:** The required educational qualification will be Class X-XII.
- **Reselection:** For those who are re-selected, the initial four-year period will not be considered for retirement benefits.
- **Permanent Commission:** Up to 25% of each batch will be enrolled as regular cadre as under permanent commission and would be required to serve for a further minimum period of 15 years.

Defence Ministry's iDEX reaches milestone

Innovations for Defence Excellence (iDEX), the flagship initiative of the Ministry of

Defence (MoD), has reached a milestone with the signing of the 250th contract, the first one under the Mission DefSpace, and the 100th SPRINT (Navy) contract, on Monday.

- iDEX is an initiative taken by the government to contribute towards **modernization of the Defence Industry**.
- It was launched by the Government in April 2018.
- iDEX aims to promote **innovation** and **technology development** in **Defence and Aerospace** by engaging Industries (which includes **MSMEs**, start-ups, individual innovators, R&D institutes & academia).
 - iDEX will provide the engaging industries with funding and other support to carry out Research & Development.
- iDEX will be funded and managed by **Defence Innovation Organization (DIO)**, and will function as the **executive arm of DIO**.

Russia's New 'Armor-Piercer' Missile Approved For Use In Ukraine Ops;S-80FP

- It is an **80mm unguided rocket** developed primarily for the **Armed Forces of the Russian Federation**.
- It is an **air-to-surface rocket** intended **for both fixed- and rotary-wing aircraft**.
- It was **designed by Splav Corporation, Russia**.
- It is designed to **hit sole and multiple targets, unarmored and lightly-armored military hardware**, as well as surface ships.
- The S-80FP can **detonate before hitting the target**, on impact or after penetrating the target.
- It has a **total weight of 17 kg and its warhead of 9.5 kg**.

Indian Navy begins sea trials of Kalvari class submarine Vaghsheer

- INS Vaghsheer (S26) is the **sixth submarine of the first batch of six Kalvari-class submarines** for the Indian Navy.
- It is **named after the sand fish**, a deadly deep-sea predator of the Indian Ocean.
- It is **designed by French naval defence** and energy group Naval Group and **manufactured by Mazagon Dock Limited**.
- It is **designed to operate in all theatres** of operation, showcasing interoperability with other components of a Naval Task Force.

Kalvari-class submarines

- The Kalvari class is a class of **diesel-electric attack submarines based on the Scorpène-class submarine** being built for the Indian Navy.
- The submarines are **designed by French naval defence** and energy company DCNS and are being manufactured by Mazagon Dock Limited in Mumbai.

- It has been **constructed with technology transfer from French firm Naval Group** under a programme called Project 75.
- The state-of-the-art technology used in Scorpene-class **has superior stealth features** such as advanced acoustic silencing techniques, low radiated noise levels and ability to launch crippling attacks with precision-guided weapons on board.
- They **can attack through launching the torpedoes and anti-ship missiles** while underwater or on the surface.

India's Himalayan Telescope observes one of the most energetic objects in universe

Himalayan Chandra Telescope:

- It is a **2 meter optical-infrared telescope named after Nobel laureate Subramaniam Chandrasekhar.**
- **Location:** It is at the **Indian Astronomical Observatory (IAO) in Hanle near Leh in Ladakh.**
- It is currently the **tenth highest optical telescope** in the world, situated at an **elevation of 4,500 meters.**
- The telescope **remotely operated using a dedicated satellite communication link from the Centre for Research & Education in Science & Technology (CREST), Indian Institute of Astrophysics (IIA), Bangalore.**
- **Imaging instruments include a Faint Object Spectrograph, a near infrared and an optical CCD camera.**

Blazer

- It is a **type of galaxy that is powered by a humongous black hole** and is among one of the **brightest and most powerful objects in the universe.**
- They are known for **emitting highly energetic particles and radiation, including gamma rays, X-rays, and radio waves.**

SpaceWERX collaborates with Rhea Space Activity to bring Spitzer Telescope back to life

- It is a **S. satellite the fourth and last of the NASA fleet of "Great Observatories" satellites.**
- It was the **third space telescope that was dedicated to infrared imaging and was launched in 2003.**
- The satellite telescope **orbits the Sun about one astronomical unit (AU) in an Earth-trailing orbit.**
- It **studied the cosmos at infrared wavelengths.**
- It **spent more than 16 years** gathering information on the origin, evolution,

and composition of planets and smaller bodies, stars, galaxies, and the universe as a whole.

- It was **named in honour of Lyman Spitzer, Jr., an American astrophysicist** who in a seminal 1946 paper foresaw the power of astronomical telescopes operating in space.

Spitzer Resurrector Mission

- It is designed to **“restart” the telescope.**
- **Right now**, the telescope is **about two AU away from the Earth.** In its current location, **direct communications with Earth are not possible.**
- The **Mission will confirm that Spitzer has been restored to its original performance capabilities.**
- After that, **it will remain near the telescope to act as a high-rate data relay to our planet.** This can restore Spitzer to its full efficiency.
- The telerobotic Spitzer-Resurrector spacecraft **would travel around 300 million kilometres to the telescope to restore its service.**
- This will **act as a demonstration for the “In-space Service Assembly and Manufacturing” ISAM techniques that are being explored by the US Air Force and Space Force.**

DRDO light tank 'Zorawar' to be ready for trials by year-end along China border

- It is an **indigenously designed and developed Light Tank.**
- Developed by **Defence Research and Development Organisation (DRDO)** in collaboration with **Larsen & Toubro Limited.**
- **Features:**
 - It is designed to **operate in varying terrain** from high altitude areas and marginal terrains to island territories.
 - It will be **highly transportable for rapid deployment** to meet any operational situation.
 - It will be **equipped with all the modern technologies such as Artificial Intelligence, Drone Integration**, a high degree of situational awareness, and amphibious operation capability.
 - It will weigh **less than 25 tonnes with a high power-to-weight ratio** as well as superior firepower and protection.

Zorawar

- He was a **military general — Zorawar Singh Kahluria**, and had **served under Jammu's Raja Gulab Singh in the 19th Century.**
- He is **honoured for his conquests in the Himalayas** including Ladakh, Tibet, Baltistan and Skardu.

INSV Tarini to Return to Indian Shores After 17000NM Voyage

- INSV Tarini is **returning home after** successfully completing the 17000-nautical miles trans-ocean inter-continental voyage **in seven months**.
- The 'flag in' event will showcase the **exemplary valour, courage and perseverance of the crew**, especially the two women officers, who participated in the entire expedition. The two women officers undertook the voyage **from Goa to Rio de Janerio via Cape Town and back, spanning over 188 days** of sailing on the vessel.
- The current sailing expedition of INSV Tarini is **part of the run-up** towards the Navy's next big project to **send a woman to circumnavigate the globe solo**.
- The officers that participated in this expedition were shortlisted from volunteers after rigorous selection at the **Ocean Sailing Node (OSN)**.
 - Ocean Sailing Node was established on 24 Aug **2016** with the **aim of promoting and undertaking ocean sailing activities** and is **located at INS Mandovi**.

INS Tarini

- It is the **second sailboat of Indian Navy** after INSV Mhedi.
- It is known for circumnavigating the globe with an all-women officer crew in the historic expedition titled '**Navika Sagar Parikrama**' in **2017**.

Border Roads Organisation rescues over 70 people stranded at HP's Baralacha La Pass

- It is a **high mountain pass** located along the **Leh-Manali highway** that **connects Leh district in Ladakh and Lahaul district in Himachal Pradesh**.
- It is situated in the **Zaskar range**.
- It lies **close to River Bhaga**, which **originates from the Surya Taal Lake** & is a **tributary of the River Chenab**.
- **Elevation**: It is located at the height of **16,040 feet** above the sea level and is one of the **highest motorable passes in India**.
- It also finds **mention in Rudyard Kipling's celebrated novel 'Kim'**, wherein the source of the Suraj Tal is used by the novel's character Lama to enter into India from Tibet.

Border Roads Organisation (BRO)

- It is a **road construction executive force** in India that provides **support to Indian Armed Forces**.
- It was **formed on 7 May 1960 to secure India's borders and develop infrastructure** in remote areas of the north and north-east states of the country.

- **Motto:** The organisation motto is **Shramena Sarvam Sadhyam (everything is achievable through hardwork).**
- BRO **develops and maintains road networks in India's border areas** and friendly neighboring countries.
- This includes **infrastructure operations** in 19 states and three union territories (including Andaman and Nicobar Islands) **and neighboring countries** such as Afghanistan, Bhutan, Myanmar, Tajikistan and Sri Lanka.
- Officers and personnel from the General Reserve Engineer Force (GREF) form the parent cadre of the BRO.
- It is also **staffed by Officers and Troops drawn from the Indian Army's Corps of Engineers** on extra regimental employment (on deputation).

India, U.S. to hike technology cooperation; co-production of jet engines on the table

India and the U.S. are discussing possibilities of co-producing jet engines, long-range artillery and infantry vehicles under the Initiative on **Critical and Emerging Technologies (iCET)** announced earlier this year

Ahead of the visit, the launch of **INDUS-X** under the iCET to promote partnerships between the two countries' defence innovation ecosystems is scheduled in Washington.

Enhancing cooperation

- Officials from both sides confirmed that the jet engine collaboration was discussed during DPG along with other collaboration mechanisms within co-production and co-development.
- Among proposals being discussed is to jointly produce a jet engine for India's future indigenous jets for which General Electric is competing with Safran of France and Rolls-Royce of U.K.
- If the U.S. agrees to transfer jet engine [technology] to India, which China doesn't at present have the capability for, it sends a very strong message
- Earlier efforts at co-developing a jet engine has failed to take off owing to U.S. domestic legislation.

iCET Initiative

- The iCET initiative was launched by India and the US in May 2022, and is **being run by the National Security Councils of both countries.**
- Under iCET, the both countries have identified **six areas of cooperation which would include co-development and co-production**, that would gradually be expanded to **QUAD**, then to **NATO**, followed by Europe and the rest of the world.
- Under iCET, India is ready to share its core technologies with the US and expects Washington to do the same.

- **Six Areas of Cooperation:**
 - The six areas for cooperation are scientific research and development; **quantum** and **artificial intelligence**, defense innovation, space, advanced telecom which would include things like 6G and semiconductors.

China constructing model villages opposite the LAC

China is continuing to expand the network of model villages, or Xiaokang (moderately prosperous) villages, opposite the Line of Actual Control (LAC) in the Middle and Eastern sectors, according to official sources.

Opposite **Barahoti**, the Chinese are building villages at a rapid pace, sometimes 300 to 400 houses within 90 to 100 days, a source said. Small patrols are being seen in the Mana, Neeti and Thangla areas.

In Arunachal Pradesh, opposite the **Kameng** area, two villages have come up in Cuna country consisting of 41 dwelling units and there are about 200 inhabitants from the **Menba** ethnic community, the source said.

As reported earlier, a large number of **Xiaokang** villages are under construction all along the LAC, including at the **Chumbi valley** facing the strategically crucial Siliguri corridor.

XPoSat, India's first polarimetry mission

The Indian Space Research Organisation is collaborating with the Raman Research Institute (RRI), Bengaluru, an autonomous research institute, to build the X-Ray Polarimeter Satellite (XPoSat) that is scheduled to be launched later this year.

XPoSat mission

- According to ISRO, “XPoSat will study various dynamics of bright astronomical X-ray sources in extreme conditions.”
- It has been billed as India's first, and only the world's second polarimetry mission that is meant to study various dynamics of bright astronomical X-ray sources in extreme conditions. The other such major mission is NASA's Imaging X-ray Polarimetry Explorer (IXPE) that was launched in 2021.
- IXPE carries three state-of-the-art space telescopes. Each of the three identical telescopes hosts one light-weight X-ray mirror and one detector unit. These will help observe **polarized X-rays from neutron stars and supermassive black holes**. By measuring the polarisation of these X-rays, we can study where the light came from and understand the geometry and inner workings of the light source

How are X-Rays witnessed in space?

- X-rays have much higher energy and much shorter wavelengths, between 0.03 and 3 nanometers, so small that some x-rays are no bigger than a single atom of many elements. The physical temperature of an object determines the wavelength of the radiation it emits. The hotter the object, the shorter the wavelength of peak emission.
- X-rays come from objects that are millions of degrees Celsius — such as **pulsars, galactic supernova remnants, and black holes**.
- Like all forms of light, X-rays consist of moving electric and magnetic waves. Usually, peaks and valleys of these waves move in random directions. Polarised light is more organised with two types of waves vibrating in the same direction.
- (Fishermen use polarised lenses to reduce glare from sunlight when they are near water.)
- The field of polarimetry studies the measurement of the angle of rotation of the plane of polarised light (that is, a beam of light in which the vibrations of the electromagnetic waves are confined to one plane) that results upon its passage through certain transparent materials

XPoSat's payloads

- The spacecraft will carry two scientific payloads in a low earth orbit. The primary payload **POLIX** (Polarimeter Instrument in X-rays) will measure the polarimetry parameters (degree and angle of polarisation).
- The payload is being developed by RRI in collaboration with ISRO's U R Rao Satellite Centre (URSC) in Bengaluru. POLIX is expected to observe about 40 bright astronomical sources of different categories during the planned lifetime of XPoSat mission of about 5 years. This is the first payload in the medium X-ray energy band dedicated for polarimetry measurements.
- The **XSPECT (X-ray Spectroscopy and Timing) payload** will give spectroscopic information (on how light is absorbed and emitted by objects). It would observe several types of sources, such as X-ray pulsars, blackhole binaries, low-magnetic field neutron star, etc.

Scientist team discovers new exoplanet with mass 13 times that of Jupiter

- A new Jupiter-size exoplanet with the highest density known till this date and mass 13 times than that of Jupiter, has been discovered
- An exoplanet is any planet beyond the solar system and the one discovered by scientists from India, Germany, Switzerland and the U.S. is with a density of ~14 g/cm³.
- Massive giant exoplanets are those having mass greater than four times that of Jupiter.
- The Indian Space Research Organisation (ISRO) said that the discovery of this massive exoplanet was made using the indigenously made **PRL Advanced**

Radial-velocity Abu-sky Search spectrograph (PARAS) at the 1.2 m telescope of PRL at its Gurushikhar Observatory in Mt. Abu by measuring the mass of the planet precisely.

- The newly discovered exoplanet was found around the star called **TOI4603 or HD 245134**. NASA's The Transiting Exoplanet Survey Satellite initially declared TOI4603 as a possible candidate to host a secondary body of unknown nature.

Buland Bharat exercise conducted at High Altitude Artillery Ranges of Eastern Theatre

- It is an **integrated surveillance and firepower training exercise** conducted by the **Indian Army**.
- It was **conducted in** the recently operationalised **longest High Altitude Artillery Ranges of Eastern Theatre** located in **Arunachal Pradesh**.
- The exercise **involved the synergised application of surveillance and firepower capabilities of the Artillery** and the Infantry **in close coordination with Special Forces, Aviation, and Central Armed Police Forces** deployed in West Kameng and Tawang districts of Arunachal Pradesh.
- The exercise **validated plans for bringing down integrated firepower** by orchestrating synchronised firing by artillery guns and fire support components of the Infantry aimed toward the destruction of designated targets.
- The month-long training culminated in the test exercise in which **troops and equipment were tested in simulated war conditions in the high-altitude area** and extreme weather conditions.
- **Synergised surveillance and firepower from Infantry and Artillery radars**, weapon systems and direction of fire from the air were practised during the exercise.
- **Uninterrupted communication on multiple media was also tested** at long distances.

Indian Air Force's MiG-21 crashes in Rajasthan

- The MiG-21 is India's longest-serving fighter plane. It was designed by the Mikoyan-Gurevich Design Bureau (OKB) of the erstwhile Soviet Union.
- The Soviet Union was willing to sell this fighter aircraft to India on extremely favourable terms and even agreed for licensed production by Hindustan Aeronautics Limited (HAL).
- The 1962 war with China and growing hostility from Pakistan had lent urgency to efforts to rapidly scale up India's military capability.
- India got its first single-engine MiG-21 in 1963, and progressively inducted 874 variants of the Soviet-origin supersonic fighters.

- The plane has seen several updates and modifications since then.

MiG-21 Bison:

- The MiG-21 Bison is an upgraded version of the MiG-21bis which had been first inducted into service in 1976.
- The MiG-21 FL, which was an older version of the aircraft and which joined service in 1963, had been phased out of IAF in 2013.
- The IAF received the first upgraded MiG-21 Bison in 2001 and the last of these upgraded fighters was received in 2008.
- There are four squadrons of MiG-21 Bison aircraft currently in service in the IAF with each squadron comprising 16-18 aircraft, including two trainer versions.
- These four squadrons will retire from service, one by one, by the end of 2025.

FACTS FOR PRELIMS

60th Foundation Day of Indian Institute of Foreign Trade

- The Indian Institute of Foreign Trade (IIFT) was established in 1963 as an autonomous body under the Ministry of Commerce & Industry to contribute in the skill building for the external trade sector of India.
- The Institute was granted “Deemed to be University” status in 2002.
- The Institute was granted the prestigious AACSB accreditation on 17th November, 2021.
- With this the IIFT figures amongst 900+ Business School of the world which have earned this accreditation.
- The National Assessment and Accreditation Council (NAAC) has recognized IIFT as Grade ‘A’ Institution in 2005 as well as in 2015.

India criticises USCIRF report, calls it misrepresentation of facts

- It is an **independent, bipartisan federal government entity** created by the 1998 **International Religious Freedom Act (IRFA)**.
- **Functions:**
 - **Reviews the facts** and circumstances of **violations of religious freedom internationally;**
 - Make policy **recommendations to the President, the Secretary of State, and the Congress;**
- It **uses international standards** to monitor religious freedom violations globally.
- It is **required to issue its own annual report** setting forth its independent recommendations for U.S. policy

- **Composition:** USCIRF has **nine commissioners, appointed by either the President or Congressional leaders of each political party**, supported by a non-partisan professional staff.

More than 15,000 people joined the 'Yoga Mahotsav' in Jaipur

- The Yoga Mahotsav was a celebration to commemorate 50 days to upcoming International Day of Yoga, 2023.
- The participants performed Common Yoga Protocol (CYP) in complete rhythm and harmony with a mesmerising outcome.
- The Ministry of Ayush, is organising the "Yoga Mahotsav".

International Day of Yoga:

- The United Nations declared June 21 as the International Day of Yoga in 2014 after PM Modi called for the day to be adopted as a global celebration of yoga.
- The date of 21 June was suggested as it is the longest day of the year in the Northern Hemisphere and shares a special significance in many parts of the world.
- The first International Yoga Day celebration was organised at Rajpath in New Delhi on June 21, 2015.
- The World Health Organization (WHO) mentions yoga as a means to improve health in its Global Action Plan on Physical Activity 2018–2030: More active people for a healthier world.

President of India Pays Floral Tributes to Giani Zail Singh on his Birth Anniversary

- **Name:** He was born as Jarnail Singh, but later changed his name to Zail Singh. He was given the title of Giani as he was educated and learned about Guru Granth Sahib and other Sikh scriptures.
- **Political career:** Prior to his presidency, he was a politician with the Indian National Congress party, and had held several ministerial posts in the Union Cabinet, including that of Home Minister. He also served as the Chief Minister of Punjab (1972–77).
- **NAM:** He served as the Secretary-General of the Non-Aligned Movement from 1983 to 1986.

World Environment Day 2023 with a thrust on the Mission LiFE.

- **Objective of the day:** World Environment Day is the United Nations day for encouraging worldwide awareness and action to protect our environment.

- **Date of observance:** Every year on 5th of June.
- **June 5** to mark the first day of The United Nations Conference on the Human Environment which was held in Stockholm, Sweden from June 5–16 in 1972.
- **First year of observance of WED:** In 1974 the first WED was held with the theme "Only One Earth".
- The **theme** for World Environment Day on 5 June 2023 will focus on solutions to plastic pollution under the campaign #BeatPlasticPollution.

PM hails inaugural run of vessel from Syama Prasad Mookerjee Port to Sittwe Port Myanmar developed under Kaladan Multi Modal Transit Transport Project

Kaladan Multi-Modal Transit Transport Project:

- Kaladan Project would **link India and Myanmar via the Bay of Bengal.**
- It was jointly identified by India and Myanmar to **create a multi-modal mode of transport** for the shipment of cargo **from the eastern ports of India to Myanmar** as well as **to the North-Eastern part of India through Myanmar.**
- It is being **constructed by India under the Grant in Aid Scheme.**
- Once completed, it will **link Kolkata with the Sittwe seaport in Rakhine state in Myanmar, primarily over the Bay of Bengal – covering over 500 km.**
- The project envisaged **four important stages:**
 - **Kolkata to Sittwe waterway;**
 - **Sittwe to Paletwa inland (River Kaladan) waterway;**
 - **Paletwa to India-Myanmar border post in Myanmar;**
 - **Finally, linking the road to Lawngtlai in Mizoram** as part of the project's last leg;
- **Benefits:**
 - The project is expected to contribute to the **economic development of the North-Eastern States** of India.
 - It also **provides a strategic link to the North-East, thereby reducing pressure on the Siliguri Corridor.**

PM praises initiative by Border Roads Organisation Project Dantak to commemorate 64th Raising Day

- Project Dantak is an **overseas project of the Border Roads Organisation (BRO)** under the Ministry of Defence of India.
- It was **established on 24 April 1961** as a result of an **agreement between Jigme Dorji Wangchuck, the third king of Bhutan** and then Prime Minister of India **Jawahar Lal Nehru.**
- It is primarily focused on **developing infrastructure and providing connectivity in remote areas of Bhutan.**
- It was tasked **to construct the pioneering motorable roads in Bhutan.**
- It **completed the road connecting Samdrup Jongkhar to Trashigang in**

1968. In the same year, Thimphu was connected to Phuentsholing by Dantak.

- Some other **notable projects** executed by the project include the **construction of Paro Airport, Yonphula Airfield, Thimphu** – Trashigang Highway, Telecommunication & Hydro Power Infrastructure, Sherubtse College, Kanglung and India House Estate.
- The **project recruits local workers from Bhutan as well as Indian workers from adjoining districts** along the India-Bhutan border.

PM Modi to attend France's Bastille Day Parade as guest of honour on July 14

France's Bastille Day parade

- July 14 is marked as France's National Day.
- One of the revolutionary days in Paris and now a national holiday, the July 14 ("Bastille Day") is celebrated with a mixture of solemn military parades and easygoing dancing and fireworks.
- The storming of the **Bastille on July 14, 1789** has been commemorated in France for more than a century.
- Every Bastille Day, Paris' famous avenue des Champs-Élysées hosts a military parade - similar to India's Republic Day parade on Kartavya Path.
- French heads of state have been the Republic Day guests of honour five times since 1951.
- Prime Minister Narendra Modi will be the 2nd Indian PM to be the guest of honour at Bastille Day, after Manmohan Singh in 2009.

Pheromone deters migratory locusts from cannibalism

- Swarming migratory locusts — which threaten food security across the globe — avoid being eaten by other locusts by producing a smelly **Pheromone called phenylacetone nitrile (PAN)**, according to a new study (*Science*).
- The discovery of an anti-cannibalistic signalling pathway in locusts could provide a target for locust management strategies. Among species of locusts, cannibalism is common, and cannibalistic interactions have been implicated in the formation of damaging swarms.

Arab League readmits Syria after 11 years

- Arab League, also called **League of Arab States (LAS)** is a regional **organization of Arab states in the Middle East and parts of Africa**.
- **Formation:** It was formed in Cairo on 22 **March 1945.** **The founding member states were Egypt, Syria, Lebanon, Iraq, Transjordan (now Jordan), Saudi Arabia, and Yemen.**

- **Headquarters: Cairo, Egypt.**
- **Objective:** To strengthen ties among member states, coordinate their policies and direct them towards a common good.
- **Members:**
 - Currently it has **22 members including Palestine**, which the League regards as an independent state.
 - **Syria's participation has been suspended since November 2011**, as a consequence of government repression during the Syrian Civil War.
- **Council:**
 - The **highest body of the league is the Council, composed of representatives of member states**, usually foreign ministers, their representatives or permanent delegates.
 - The League **makes decisions on a majority basis**, but there is **no mechanism to compel members to comply with resolutions**.
 - **Each member has one vote** on the Council, **decisions being binding only on those states that have voted for them**.

Title 42 is ending at the U.S.-Mexico border. What is it and what happens now?

- The COVID restrictions, known as Title 42, were first implemented under Republican then-President Donald Trump in March 2020 at the beginning of the pandemic.
- At the time, the U.S. Centers for Disease Control and Prevention (CDC) said the order was needed to stem the spread of the coronavirus in crowded detention settings.
- Title 42 allowed border agents to rapidly expel many migrants to Mexico.
- Since its inception, migrants have been expelled more than 2.7 million times under Title 42, although the total includes many repeat crossers and Mexico has generally only accepted certain nationalities.

US State Department Approves Potential Sale of Chinook Helicopters to Germany, Pentagon

- It is the **U.S. Army's primary heavy troop and supply transport aircraft**.
- It is an **advanced multi-mission helicopter**.
- It is **manufactured by** American aerospace and defence firm **Boeing** for the US Army and international defence forces.
- It is used for the **transportation of troops, artillery, supplies, and equipment** to the battlefield.
- **India has about 15 CH-47** Chinook helicopters.
- **Features:**
 - It contains a **fully integrated digital cockpit management system**.
 - It **advanced cargo-handling capabilities** that complement the aircraft's mission performance and handling characteristics.

- It has a **monolithic airframe with vibration reduction.**
- **Maximum Speed: 160 knots (296 kmph).**

6th Indian Ocean Conference to begin in Dhaka on Friday

- It will discuss aspects strengthening cooperation between the countries of the Indian Ocean region.
- The 6th edition of the Conference is being organised by India Foundation in association with the Ministry of Foreign Affairs, Bangladesh and S. Rajaratnam School of International Studies.
- **Theme:** "Peace, Prosperity and Partnership for a Resilient Future"
- The Conference endeavours to bring critical states and principal maritime partners of the region together on a common platform to deliberate upon the prospects of regional cooperation for Security And Growth for All in the Region (SAGAR).
- The first edition of the Conference was held in Singapore in 2016.

Indian Railways' One Station One Product scheme covers 728 railway stations with over 700 outlets

- Ministry of Railways launched this scheme in March, 2022.
- The objective is to promote 'Vocal for Local' vision of the government, providing a market for local or indigenous products and create additional income opportunities for the marginalized sections of society.
- Under the scheme, OSOP outlets at railway stations are allotted for showcasing, selling and giving high visibility to indigenous or local products.
- These OSOP stalls are designed through National Design Institute for uniformity.

New species of gecko, *Hemidactylus quartziticolus*, has been discovered from the scrub habitats of Vallanadu and Kurumalai reserves forest areas in Tamil Nadu.

- The **common name** suggested by the authors for the new gecko is **Quartzite brookish gecko or Thoothukudi brookish gecko.**
- It is the **53rd species of Hemidactylus found in India** and the **seventh** that is endemic to **Tamil Nadu.**
- **It has been named** *Hemidactylus quartziticolus* **because it was found over the quartz rocks.**
- **It is unique** in various aspects, including **dorsal scalation**, the **number and arrangement of precloacal-femoral pores**, the **number of dorsal tubercle rows** at midbody, the **number of lamellae** under digit I and IV of manus and pes.

- It **has the most densely packed tubercles among Indian Hemidactylus**, almost resembling the most tuberculate Indian Cyrtopodian.
- Three morphological characteristics of Hemidactylus quartziticolus that make it distinct are its **enlarged tubercles, continuous series of 34-38 precloacal-female pores** and the **few lamellae (four) under digit I of manus and pes**.

Gecko

- Geckos are **small, nocturnal lizards found in all the warm parts** of the world.
- There are approximately 1**,500 gecko species**, and they vary in size.
- Geckos are **found on every continent except Antarctica** and live in almost every habitat, including rainforests, deserts and mountains.
- They also **possess a short, stout body, a large head, and typically well-developed limbs**.

The Closest Living Relative of the First Animal Has Finally Been Found

Comb Jelly:

- It is **any of the numerous marine invertebrates constituting the phylum Ctenophora**.
- It is a **beautiful, oval-shaped animal with eight rows of tiny comblike plates** that it beats to move itself through the water.
- As it swims, the **comb rows break up (diffract) light to produce a shimmering rainbow effect**.
- Some ctenophores live in somewhat brackish water, but **all are confined to marine habitats**.
- They **live in almost all ocean regions**, particularly in **surface waters near shores**.
- They are **frequently swept into vast swarms**, especially in bays, lagoons, and other coastal waters.
- They are **carnivorous, eating myriads of small planktonic animals**.

Cough syrups for export to be tested from June 1

- Cough syrup exporters will have to undertake testing of their products at specified government laboratories from June 1 before getting permission for the outbound shipments.
- The direction has come after quality concerns were raised globally for cough syrups exported by Indian firms.
- The World Health Organization said last year the syrups, made by Indian manufacturer Maiden Pharmaceuticals Ltd, contained lethal toxins ethylene glycol (EG) and diethylene glycol (DEG) – used in car brake fluid. These

ingredients can be used by unscrupulous actors as a substitute for propylene glycol (PG), which is a key base of syrupy medicines.